
USMLE STEP 2 CK NOTES

STEP 2 CK NOTES THAT I COMPILED USING UWORLD QBANK FOR STEP 2 CK. PLEASE REFER TO UPTODATE OR UWORLD QBANK FOR THE MOST RECENT TREATMENT GUIDELINES.

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Question Id	Main Division	Sub Division	Notes
2386	Medicine	Allergy & Immunology	<p>PPSV23:induces T-cell-INDEPENDENT B-cell response.Less effective in young children & elderly</p> <p>PCV13:induces T-cell-DEPENDENT B-cell response.Causes improved immunogenicity due to formation of higher-affinity antibodies & memory cells</p> <p>NK cells:lymphocytes that recognize stressed & abnormal cells.They attack cancer cells & virus infected cells</p> <p>MMR & intranasal influenza vaccine:CD8+ T cell response</p> <p>Oral polio vaccine:secretion of anti-poliovirus IgA antibodies in GI tract</p>
2770	Medicine	Allergy & Immunology	<p>Angioedema from ACE inhibitors can occur at ANYTIME, not just within weeks of starting the medication</p> <p>One adverse effect of beta-blockers(metoprolol) is male sexual dysfunction</p> <p>The most significant adverse reaction caused by Clopidogrel is thrombotic thrombocytopenic purpura</p> <p>Aspirin & NSAIDs can cause allergic angioedema. It typically happens immediately after exposure & is accompanied by itching & skin rash (urticaria)</p>
3980	Medicine	Allergy & Immunology	<p>Cyclosporine & Tacrolimus are both calcineurin-inhibitors. Side effects of both are nephrotoxicity, hyperkalemia, hypertension, & tremor.</p> <p>Gum hypertrophy & hirsutism seen w/ Cyclosporine toxicity.</p> <p>Gum hypertrophy & hirsutism NOT seen w/ Tacrolimus toxicity.</p> <p>Azathioprine toxicity- diarrhea, leukopenia, hepatotoxicity</p> <p>Mycophenolate toxicity- marrow suppression</p>
3993	Medicine	Allergy & Immunology	<p>IgA deficiency: consider in pts w/ mild immunodeficiency consisting of recurrent sinopulmonary & GI infections, & anaphylactic transfusion reaction. Dx confirmed by measurement of low serum IgA concentraion w/ normal serum IgM & IgG levels</p> <p>Hyper-IgM syndrome: elevated IgM & depressed IgG & IgA. Susceptible to both Giardia & recurrent sinopulmonary infection. Lymphoid hyperplasia is common</p>
4080	Medicine	Allergy & Immunology	<p>Hepatitis A:</p> <p>most common vaccine preventable disease among tavelers</p> <p>give hepatitis A vaccine to pts traveling to developing countries like egypt</p>
4301	Medicine	Allergy & Immunology	<p>Recurrent bacterial infections in an adult pt may indicate a humoral immunity defect. Quantitative measurement of *serum immunoglobulin levels* help to establish the diagnosis</p>
2135	Medicine	Biostatistics & Epidemiology	<p>Raising the cut-off point (e.g., The criteria 2 out of 4 positive responses to CAGE questions considered positive for alcoholism is changed so that 3 out of 4 positive responses labels pt as alcoholic) of a screening test results in an *increase in specificity & decrease in sensitivity*</p>
2136	Medicine	Biostatistics & Epidemiology	<p>Lowering the test cutoff point -> Increase in # of false positives & true positives -> *Decrease positive predictive value*</p> <p>[Refer to a diagram]</p>
2138	Medicine	Biostatistics & Epidemiology	<p>Lowering the cutoff value will increase sensitivity and decrease specificity</p> <p>Increasing the cutoff value will decrease the sensitivity and increase the specificity</p>
3076	Medicine	Biostatistics & Epidemiology	<p>False negatives will increase when the cut-off level of a diagnostic test is raised</p>
3646	Medicine	Biostatistics & Epidemiology	<p>Sample distortion bias is seen when the estimate of exposure & outcome association is biased because the study sample is not representative of the target population w/ respect to the joint distribution of exposure & outcome</p> <p>Information bias occurs due to the imperfect assessment of association between the exposure and outcome as a result of errors in the measurement of exposure and outcome status</p>
3650	Medicine	Biostatistics & Epidemiology	<p>The critical distinction between case control & retrospective cohort studies is the order in which outcomes & risk factors are assessed. Case control studies determine the outcome first & then look for associated risk factors; retrospective cohort studies first ascertain risk factor exposure & then determine the outcome</p>
3708	Medicine	Biostatistics & Epidemiology	<p>Relative risk > 1= postitive ass. between the risk factor and the outcome</p> <p>Relative risk < 1= negative ass. between the risk factor and the outcome</p>
3880	Medicine	Biostatistics & Epidemiology	<p>Lead time bias example: prolongation of apparent survival in pts to whom a test is applied, w/o changing the prognosis of the disease</p> <p>Lead time bias should always be considered while evaluating any screening test</p> <p>USMLE tip: think of lead-time bias when you see "a new screening test" for poor prognosis diseases like lung or pancreatic cancer</p>

3886	Medicine	Biostatistics & Epidemiology	PPV increases and NPV decreases w/ an increase in prevalence. The greater the prevalence, the greater the PPV.
3915	Medicine	Biostatistics & Epidemiology	Observer bias occurs when investigator's decision is adversely affected by knowledge of the exposure status Respondent bias is present when the outcome is obtained by the pt's response, and not by objective diagnostic methods (e.g., migraine headache)
3922	Medicine	Biostatistics & Epidemiology	Cross-sectional study: exposure & outcome are measured simultaneously at a particular point of time (remember: snapshot study) Case-control study is designed by selecting pts w/ a particular disease (cases), & w/o that disease (controls), & then determining their previous exposure status
3931	Medicine	Biostatistics & Epidemiology	The main measure of association is the *exposure odds ratio*, in which the exposure of people w/ the disease (cases) is compared to the exposure of those without the disease (controls)
3934	Medicine	Biostatistics & Epidemiology	The p-value is the probability of observing a given (or more extreme) result due to chance alone, assuming the null hypothesis is true. A result is generally considered statistically significant when $p < 0.05$
3941	Medicine	Biostatistics & Epidemiology	Latency period: Applied to both disease pathogenesis and exposure to risk modifiers. Exposure to risk factors and the initial steps in disease pathogenesis sometimes occur years before clinical manifestations are evident. Exposure to risk modifiers may need to be continuous over a certain period before influencing the outcome.
3947	Medicine	Biostatistics & Epidemiology	Effect modification example: Oral contraceptives significantly increased the risk of breast cancer in pts w/ a positive family hx of breast cancer but not in pts w/ a negative family hx of breast cancer. Positive family hx acts as an effect modifier to increase the risk of breast cancer in pts taking oral contraceptives
3960	Medicine	Biostatistics & Epidemiology	Generalizability or external validity pertains to the applicability of study results to other populations (eg, the results of a study in middle-aged women would not be expected to be applicable to elderly men). External validity answers the question, "How generalizable are the results of a study to other populations?" Within the cohort(eg, middle aged women), the study could be valid. This property is called internal validity, or validity
3961	Medicine	Biostatistics & Epidemiology	The null hypothesis is always the statement of no relationship between the exposure & the outcome Alternate hypothesis opposes the null hypothesis. It states that there is a relationship between the exposure & outcome
3982	Medicine	Biostatistics & Epidemiology	Median is the value that is located in the middle of a dataset Mode is the most frequent value of a dataset
3992	Medicine	Biostatistics & Epidemiology	A normal distribution is symmetric & bell shaped. Mean = Median = Mode Positively skewed: mean greater than median greater than mode Negatively skewed: mean less than median less than mode
3998	Medicine	Biostatistics & Epidemiology	The *two-sample t test* is a statistical method that is commonly employed to compare the means of two groups of subjects The two sample z test can also be used to compare two means, but population (not sample) variances are employed in the calculations. Because population variances are not usually known, the test has limited applicability
4001	Medicine	Biostatistics & Epidemiology	Randomization is used to control for confounders during the design stage of a study Effect modification: when external variable positively or negatively impacts the effect of a risk factor on the disease of interest (eg, venous thrombosis increased w/ estrogen therapy & this effect is augmented by smoking) Post-hoc analysis: performing unplanned statistical tests on patterns that were identified after the fact in data from a completed study
4002	Medicine	Biostatistics & Epidemiology	An outlier is an extreme & unusual value observed in a dataset. *The mean is very sensitive to outliers & easily shifts toward them*. The median & mode are more resistant to outliers
4019	Medicine	Biostatistics & Epidemiology	Increasing the sample size increases the power of a study & consequently narrows the confidence interval surrounding the point estimate A wider confidence interval is due to a smaller sample size, which decreases the study's power
4079	Medicine	Biostatistics & Epidemiology	Chi-square test is used to compare proportions. 2 x 2 table may be used to compare the observed values w/ the expected values Two-sample z-test & two-sample t-test are used to compare two means, not proportions ANOVA is used to compare means of three or more variables Meta-analysis is an epidemiologic method of pooling the data from several studies to do an analysis having a relatively big statistical power

4107	Medicine	Biostatistics & Epidemiology	The tighter the confidence interval, the more precise the result
4109	Medicine	Biostatistics & Epidemiology	In a case-control study, if the outcome is uncommon in the population, *disease incidence(# of new cases) is low* & the *odds ratio is a close approximation of the relative risk*. This is called the rare disease assumption
4121	Medicine	Biostatistics & Epidemiology	Randomization is said to be successful when a similarity of baseline characteristics of the pts in the treatment & placebo groups is seen
4157	Medicine	Biostatistics & Epidemiology	Attributable risk percent (ARP) or etiologic fraction is an imp measure of the impact of a risk factor being studied. ARP represents the excess risk in the exposed population that can be attributed to the risk factor. It can be easily derived from the relative risk using the following formula: $ARP = (RR - 1) / RR$
4172	Medicine	Biostatistics & Epidemiology	An increasing prevalence & stable incidence can be attributed to factors which prolong the duration of a disease (e.g., improved quality of care-this scenario is typical for USMLE) Incidence:measure of the appearance of new cases Prevalence:measure of those w/ the disease in the population at a particular point in time
4178	Medicine	Biostatistics & Epidemiology	Loss to follow-up in prospective studies creates a potential for attrition bias, a subtype of *selection bias*
4182	Medicine	Biostatistics & Epidemiology	Matching is frequently used in case-control studies because it is an efficient method to control confounding. Remember: matching variables should always be the potential confounders of the study(eg;age,race). Cases & controls are then selected based on the matching variables, such that both groups have a similar distribution in accordance w/ the variables
4189	Medicine	Biostatistics & Epidemiology	If a test result is negative, the probability of having the disease is 1 - negative predictive value
4262	Medicine	Biostatistics & Epidemiology	Changing the cutoff point to increase the true-positive rate (directly proportional to sensitivity) will also increase the false-positive rate (inversely proportional to specificity)
4686	Medicine	Biostatistics & Epidemiology	A cohort study design is best for determining the incidence of a disease. Comparing the incidence of the disease in 2 populations (with and without a given risk factor)
7686	Medicine	Biostatistics & Epidemiology	Hazard ratios are proportions that indicate the chance of an event occurring in the tx group compared to the chance of the event occurring in the control group
7689	Medicine	Biostatistics & Epidemiology	Factorial design studies involve randomization to different interventions w/ additional study of 2 or more variables Cluster analysis:grouping of different data point into similar categories Crossover study:group of participants is randomized to 1 tx & other group is given alternate tx for same time period.At end of time period, the 2 groups switch tx for another set period of time Parallel study:randomizes 1 tx to one group & diff tx to other group
7690	Medicine	Biostatistics & Epidemiology	Hazard ratio < 1 indicates that the treatment group had a lower event rate Hazard ratio > 1 indicates that the treatment group had a higher event rate
7691	Medicine	Biostatistics & Epidemiology	When the treatment regimen selected for a pt depends on the severity of the pt's condition, a form of selection bias known as susceptibility bias (confounding by indication) can result
7708	Medicine	Biostatistics & Epidemiology	When comparing the effects of a treatment on a composite outcome, it's important to note any differences between the individual endpoints
7709	Medicine	Biostatistics & Epidemiology	The number needed to treat (NNT) is defined as the number of people that need to receive a treatment to prevent 1 additional adverse event. It's calculated as the inverse of the absolute risk reduction (ARR).
7711	Medicine	Biostatistics & Epidemiology	A shift in the receiver operating characteristic curve upward for a given cutoff indicates increased sensitivity. A shift of the curve to the right for a given cutoff point indicates a decrease in specificity
7712	Medicine	Biostatistics & Epidemiology	Changing the cutoff value of a test in a way that alters the proportion of true-positive & false-negative results will change the sensitivity. Likewise, a change in the test that modifies the proportion of false-positive & true-negative results will change the specificity. Alterations in test sensitivity & specificity, as well as changes in disease prevalence, will affect the positive & negative predictive values
9634	Medicine	Biostatistics & Epidemiology	In order to prevent medical error, interventions that target pharmacy personnel and high risk pt's appear to have the most impact on quality of pt care
2141	Medicine	Cardiovascular System	Pts w/ symptomatic sinus bradycardia(fatigue, dizziness, light-headedness, hypotension, syncope, angina, and/or chf) should be tx initially w/ iv *atropine.* If inadequate response, tx w/ iv epinephrine or dopamine or transcutaneous pacing IV glucagon increases levels of CAMP & is effective in tx beta blocker or calcium channel blocker toxicity Norepinephrine tx severe hypotension & shock (eg septic shock)

			<p>Acute coronary syndrome: sx- abdominal pain, nausea/vomiting are atypical presentations Cardiac causes must be excluded (eg. w/ electrocardiogram) prior to pursuing other etiologies</p>
2148	Medicine	Cardiovascular System	<p>Abdominal ultrasound: useful for diagnosing acute cholecystitis</p> <p>Serum amylase & lipase: helpful tests for supporting diagnosis of pancreatitis</p> <p>Upper gi endoscopy: use in pts w/ evidence of acute gi blood loss or peptic ulcer disease</p> <p>Upright abdominal xray: use in diagnosing PUD w/ perforation</p>
2153	Medicine	Cardiovascular System	<p>Aortic stenosis: sx- dizziness, syncope, delayed & diminished carotid pulse, diminished S2, S4 present, Harsh ejection (crescendo-decrescendo) systolic murmur in second right intercostal space w/ radiation to carotids management-obtain a transthoracic echocardiogram in pts w/ syncope due to suspected structural heart disease (like aortic stenosis) to confirm dx If pt has severe, symptomatic AS, tx is aortic valve replacement</p> <p>Upright tilt table test-to dx vasovagal syncope</p>
2156	Medicine	Cardiovascular System	<p>Right ventricular myocardial infarction (RVMI) presents w/ hypotension, elevated jugular venous pressure, & clear lung fields in the setting of acute inferior MI. Affected pts require increased RV preload to maintain cardiac output & may need intravenous fluid support(eg, *normal saline bolus*). NITRATES, diuretics, & opioids can reduce RV preload & should be avoided</p>
2157	Medicine	Cardiovascular System	<p>Hemodynamic compromise 3-7 days after a MI raises suspicion for mechanical complications of MI. The three major mechanical complications of MI include *mitral regurgitation due to papillary muscle rupture*, left ventricle free wall rupture, & interventricular septum rupture. While all three of these developments can result in hypotension, *a pansystolic murmur heard loudest at the apex w/ radiation to the axilla is the classic characterization of mitral regurgitation*</p>
2159	Medicine	Cardiovascular System	<p>Pts initially dx w/ htn should have a detailed h&p. In addition, perform urinalysis for occult hematuria & urine protein/creatinine ratio, chemistry panel, lipid profile, baseline electrocardiogram</p> <p>Primary hyperaldosteronism: low plasma renin, hypokalemia, and htn</p> <p>Renal ultrasound identifies asymmetrical kidney size or small atrophic kidneys, which suggests primary renal disease</p> <p>Duplex doppler ultrasound is useful in screening for renal artery stenosis in pts w/ severe htn</p>
2164	Medicine	Cardiovascular System	<p>Loop diuretics cause hypokalemia & hypomagnesemia. These electrolyte abnormalities can cause ventricular tachycardia, & also potentiate the side effects of digoxin. Ordering *serum electrolytes* & serum digoxin level is best next step.</p> <p>Metolazone is a thiazide diuretic</p>
2172	Medicine	Cardiovascular System	<p>Fibromuscular dysplasia: affects women age 15-50, can cause hypertension, tia, *amaurosis fugax*, stroke, headache, pulsatile tinnitus, dizziness. Look for woman w/ transient vision loss, family hx of stroke, & carotid bruit. Dx confirmed w/ *CT angiography of the abdomen* or duplex ultrasound. Aldosterone concentration to renin activity ratio is ~10 (<20)</p> <p>Dexamethasone suppression test can diagnose Cushing's syndrome</p>
2224	Medicine	Cardiovascular System	<p>Uremic pericarditis results from inflammation of the visceral & parietal membranes of the pericardial sac. The typical electrocardiographic features of acute pericarditis are absent in uremic pericarditis due to lack of involvement of the epicardium. The primary tx is *hemodialysis*</p>
2310	Medicine	Cardiovascular System	<p>Atheroembolism (cholesterol embolism): complication of cardiac catheterization & other vascular procedures, characterized by cutaneous findings (eg, "blue toe syndrome," livedo reticularis), cerebral or intestinal ischemia, acute kidney injury, & Hollenhorst plaques. Tx- supportive & includes statin therapy for risk factor reduction & prevention of recurrent cholesterol embolism. Combo of cyanotic toes, abdominal pain, & renal failure post-cardiac catheterization.</p>
2659	Medicine	Cardiovascular System	<p>Torsades de pointes (TdP): Immediate defibrillation in hemodynamically unstable pts. *IV magnesium* is 1st line tx for stable pts</p> <p>Amiodarone used both for atrial & ventricular tachycardia(VT). Occasionally used in pts w/ polymorphic VT due to myocardial ischemia or infarction</p> <p>Atropine used in tx symptomatic sinus bradycardia or av nodal block</p> <p>Sodium bicarbonate used for pts w/ TdP due to quinidine use, cardiac arrest due to metabolic acidosis, hyperkalemia, tca overdose</p>
2663	Medicine	Cardiovascular System	<p>Beta blocker overdose: Wheezing is a feature! Also get bradycardia, hypotension, hypoglycemia, delirium, seizures, & cardiogenic shock. Management- first give iv fluids and atropine. If hypotension doesn't improve, give iv *glucagon*!</p> <p>Digoxin toxicity: Wheezing is NOT a feature. Also get life threatening arrhythmias, color vision alterations, anorexia, nausea & vomiting, abdominal pain, fatigue, confusion, weakness.</p>

2666	Medicine	Cardiovascular System	<p>Acute arterial occlusion (limb ischemia): sx- pain, pallor, pulselessness, paresthesia, and paralysis tx- immediate anticoagulation and referral for emergency vascular surgery</p> <p>Carotid artery atherosclerosis: screen with doppler examination of carotid arteries</p>
2686	Medicine	Cardiovascular System	<p>1st line medical tx for hypertrophic cardiomyopathy is either *B-blockers(slow heart,prolongs diastole->more time for heart to fill,less outflow obstruction.Anti-anginal effect as well)* or a cardiac acting calcium channel blocker such as diltiazem since they promote diastolic relaxation.[Amlodipine is a peripherally acting calcium channel blocker,so it doesn't have the diastole-prolonging effects of a drug such as diltiazem.It acts primarily as an arterial vasodilator]</p>
2687	Medicine	Cardiovascular System	<p>Hypertrophic cardiomyopathy (HCM) is an *autosomal dominant* genetic disorder</p>
2692	Medicine	Cardiovascular System	<p>Congestive heart failure due to alcoholic dilated cardiomyopathy: Look for CHF sx, along w/ thrombocytopenia, macrocytosis, & elevated transaminases(all of which suggest alcoholism). Management-abstinence from alcohol may reverse this condition if employed earlier in the course of disease</p> <p>Digitalis:for heart failure pts w/ systolic dysfunction & rapid ventricular rates due to a-fib or atrial flutter</p> <p>ACE inhibitors:for heart failure pts w/ systolic dysfunction</p>
2695	Medicine	Cardiovascular System	<p>Displaced apical impulse, holosystolic murmur, & 3rd heart sound are consistent w/ chronic severe mitral regurgitation(MR). Mitral valve prolapse(MVP) is the mcc of chronic MR in developed countries. MVP occurs due to *myxomatous degeneration of the mitral valve leaflets & chordae* & causes a mid-systolic click followed by a mid-to-late systolic murmur. Chronic severe MR can cause left atrial dilation, which can eventually lead to atrial fibrillation(sx of palpitations)</p>
2696	Medicine	Cardiovascular System	<p>Cardiac auscultation in pts w/ mitral valve prolapse typically shows a systolic click &/or mid to late systolic murmurs of mitral regurgitation. Squatting from a standing position increases preload & left ventricular volume, decreasing the intensity of the murmur</p>
2698	Medicine	Cardiovascular System	<p>*A bicuspid aortic valve is the cause of aortic stenosis in the majority of pts under 70 years old*. Senile calcific aortic stenosis is the mcc of aortic stenosis in pts who are older than 70 years old. (Rheumatic heart disease is also a cause of aortic stenosis BUT it's a much less common cause than either a bicuspid aortic valve or senile calcific aortic stenosis)</p>
2699	Medicine	Cardiovascular System	<p>*Cardiac dysfunction ass. w/ hemochromatosis can be reversed w/ early identification of the disease & treatment*</p> <p>Restrictive cardiomyopathy: can eventually result in CHF. May be caused by sarcoidosis, amyloidosis, hemochromatosis, endomyocardial fibrosis, or idiopathic. Diastolic dysfunction. Wall thickness normal or symmetrically thickened. Signs of right sided heart failure predominate (JVD, bilateral ankle edema, tender hepatomegaly)</p> <p>Hemochromatosis tx- phlebotomy</p>
2700	Medicine	Cardiovascular System	<p>Mitral stenosis -> left atrial dilatation -> atrial fibrillation</p> <p>ECG w/ an irregularly irregular rhythm & loss of 'P' waves describes atrial fibrillation. Atrial fibrillation causes a lack of an "atrial kick", which could cause worsening flow thru the stenotic mitral valve & increased congestion in the lungs, thus leading to the pt's acute onset of dyspnea</p>
2701	Medicine	Cardiovascular System	<p>Mitral stenosis:can be due to rheumatic fever(rheumatic fever common in developing countries like Cambodia). Causes left atrial dilation & risk of atrial fibrillation(palpitations/irregular heartbeats) & cardiac emboli(thrombus in left atrium cuz of untreated a-fib which can eventually embolize to cerebral circulation to eventually cause stroke & eg, left sided weakness). The pressure is also transmitted to pulmonary vasculature -> dyspnea, cough & hemoptysis</p>
2707	Medicine	Cardiovascular System	<p>*Cardiac amyloidosis* should be suspected in pts w/ unexplained CHF(predominantly *diastolic dysfunction*), echocardiogram findings of *increased ventricular wall thickness w/ normal left ventricular cavity dimensions* (esp in the absence of HTN), & low voltage on electrocardiogram</p> <p>Amyloidosis can present w/ waxy skin, macroglossia, hepatomegaly, & peripheral(carpal tunnel syndrome) &/or autonomic neuropathy(orthostatic hypotension).Tissue biopsy(ab fat pad) confirms dx</p>
2711	Medicine	Cardiovascular System	<p>The primary mitral valve abnormality in pts w/ hypertrophic cardiomyopathy is the presence of systolic anterior motion of the mitral valve, leading to *anterior motion of mitral valve leaflets* toward the interventricular septum. Contact between the mitral valve & the thickened septum during systole leads to left ventricular outflow tract obstruction</p>
2713	Medicine	Cardiovascular System	<p>Myxoma:benign "primary cardiac tumor".80% located in left atrium.Constitutional sx(fatigue,fever,weight loss),systemic embolization(TIA,stroke,splenic infarcts,left sided weakness),& cardiovascular sx simulating mitral valve disease(dyspnea,orthopnea,cough,pulmonary edema,hemoptysis).Tx-surgical resection [Don't confuse this w/ 'myxomatous valve degeneration' which is the pathologic cause of mvp,which causes midsystolic click,& no systemic sx or mass on echocardiography]</p>
2717	Medicine	Cardiovascular System	<p>Abdominal ultrasound is the study of choice for diagnosis and followup of abdominal aortic aneurysms</p>
2722	Medicine	Cardiovascular System	<p>Prinzmetal's angina/variant angina: Caused by temporary spasm of the coronary arteries, young women classically affected, *greatest risk factor is smoking*, absence of cardiovascular risk factors, ass. w/ other vasospastic disorders like *Raynaud's phenomenon* & migraine headaches</p>

			Variant/Prinzmetal's angina tx: calcium channel blockers and/or nitrates to prevent coronary vasoconstriction(NONSELECTIVE B-BLOCKERS & ASPIRIN SHOULD BE AVOIDED BECAUSE THEY CAN PROMOTE VASOCONSTRICTION!)
2723	Medicine	Cardiovascular System	<p>Variant/Prinzmetal's angina: typically occurs in young females. Greatest risk factor is smoking</p> <p>Digoxin is also used as a rate control agent in pts w/ atrial fibrillation or flutter</p> <p>Streptokinase: used for thrombolysis in tx of STEMI if PCI not available</p>
2726	Medicine	Cardiovascular System	<p>Right ventricular myocardial infarction: sx- hypotension, jugular venous distension chest pain, autonomic signs(diaphoresis, vomiting), ST elevation in inferior leads II,III, & aVF, Kussmaul's sign (increase in JVD w/ inspiration) -these are signs of RV failure- These pts are preload dependent so treat w/ iv fluids(Do NOT give preload reducing meds such as nitrates & diuretics!)</p>
2728	Medicine	Cardiovascular System	*Rupture of the ventricular free wall* is a mechanical complication that usually occurs within *5 days to 2 weeks* after an acute myocardial infarction (usually anterior)
2729	Medicine	Cardiovascular System	<p>Acute pericarditis: occurs in the first several days after MI, sharp pleuritic pain that's worse in supine position & improves by sitting up & leaning forward, diffuse ST elevations esp w/ PR depressions on ECG</p> <p>Interventricular free wall rupture & papillary muscle rupture occur 3-7 days after MI & present w new onset systolic murmur</p> <p>Right ventricular infarction is most common w/ inferior wall MI</p>
2731	Medicine	Cardiovascular System	<p>Ventricular aneurysm (VA) ECG findings: persistent ST-segment elevation after a recent MI and deep Q waves in the same leads</p> <p>Extension of aortic dissection frequently involves the right coronary artery & results in acute inferior MI w/ ST-segment elevation in leads II, III, & aVF</p> <p>Right ventricular infarction occurs in the setting of inferior wall MI w/ occlusion of the proximal right coronary artery. Pts usually develop hypotension, elevated jvp, & clear lung fields</p>
2732	Medicine	Cardiovascular System	<p>Ventricular remodeling in the weeks to months following myocardial infarction can lead to dilatation of the ventricle w/ thinning of the ventricular walls. *This process is lessened by ACE inhibitors*(so give ACE inhibitors within 24 hours of MI in all pts w/o contraindication)</p> <p>Aspirin: given after MI to inhibit platelet aggregation & prevent recurrence of coronary artery blockage. Favored over warfarin in post MI pts</p> <p>Digoxin:sx relief in pts w/ systolic heart failure</p>
2735	Medicine	Cardiovascular System	<p>*Hypertension* is the MOST COMMON predisposing factor to Aortic dissection!!! (Pts w/ Marfan syndrome & Ehlers-Danlos syndrome are also at risk for aortic dissection, however they are NOT the strongest risk factor & tends to cause aortic dissection in younger pts)</p>
2737	Medicine	Cardiovascular System	<p>Premature discontinuation of antiplatelet therapy/*medication noncompliance* is the strongest predictor of stent thrombosis after intracoronary stent implantation. Such pts should be aggressively screened for, & counseled regarding, medication compliance to reduce the risk of stent thrombosis</p> <p>Atherosclerotic plaque rupture w/ thrombotic occlusion would be unlikely at the site of a recent intracoronary stent (in the LAD)</p>
2739	Medicine	Cardiovascular System	<p>Electrical alternans:when amplitudes of QRS complexes vary from beat to beat.Fairly specific for pericardial effusion(pericardial effusions are often secondary to viral pericarditis.Look for hx of upper resp infection)</p> <p>Presence of 'F' waves,or flutter waves is dx of atrial flutter</p> <p>New onset right bundle branch block can sometimes be seen in PE</p>
2741	Medicine	Cardiovascular System	In otherwise young healthy pts who develop CHF, myocarditis should be considered. *Viral infection* esp. w/ Coxsackie B virus is the mcc!
2742	Medicine	Cardiovascular System	Ischemic cardiac pain can sometimes be mistaken for epigastric pain, but should remain high on the differential, esp in the setting of sx worsened w/ exertion. An *exercise stress test/exercise EKG* w/o imaging is the most reasonable first step if the baseline resting EKG is normal
2743	Medicine	Cardiovascular System	<p>Diuretics(eg,*furosemide*) are rec for acute pulmonary edema(S3,basilar crackles extending halfway up the lung fields bilaterally) that is caused by an ischemic heart failure secondary to an acute myocardial infarction. B-blockers are a standard therapy in myocardial infarction but should be avoided in pts w/ decompensated congestive heart failure or bradycardia</p> <p>Although Spironolactone is sometimes used for CHF & is shown to have a mortality benefit,its still a weak diuretic</p>
2744	Medicine	Cardiovascular System	<p>Tobacco & alcohol are reversible risk factors for premature atrial complexes.</p> <p>Beta blockers are often helpful in pts who are symptomatic. Beta blockers are the standard tx for symptomatic PAC's</p>

			Strongest influence on long-term prognosis after an ST-elevation MI is the duration of time that passes before coronary blood flow is restored. 2 primary options for restoring coronary blood flow are PTCA & fibrinolysis. PTCA has superior outcomes compared to fibrinolysis & should be used when available
2745	Medicine	Cardiovascular System	<p>Meds that reduce myocardial oxygen demand used for angina</p> <p>Arrhythmias should be tx only as they arise</p> <p>Benefits of reperfusion outweigh the consequences of reperfusion injury</p>
3056	Medicine	Cardiovascular System	<p>Beta-blockage(eg, w/ labetalol) is the most appropriate initial intervention for acute aortic dissection. Type A dissections involve the ascending aorta and are treated w/ medical therapy & surgery, while Type B dissections involve only the descending aorta & are usually treated w/ medical therapy alone</p> <p>Nifedipine & Hydralazine shouldn't be used to treat aortic dissection. But vasodilators can be considered if further BP lowering is needed after beta-blockers have been given</p>
3065	Medicine	Cardiovascular System	Chagas disease: causes megaesophagus, megacolon, & cardiac dysfunction. The *protozoan* Trypanosoma cruzi, endemic to Latin America, is responsible.
3069	Medicine	Cardiovascular System	<p>In Wolff Parkinson White syndrome (WPW) an accessory pathway conducts depolarization directly from atria to ventricles w/o traversing the AV node. A-fib occurs in a few pts w/ WPW and is a life threatening emergency. Persistent AF can deteriorate into VF. Goal of tx A-fib in WPW pts is aimed at control of ventricular response and termination of A-fib:</p> <p>Hemodynamically unstable pts tx- electrical cardioversion</p> <p>Stable pts- rhythm control w/ iv ibutilide or *procainamide*</p>
3090	Medicine	Cardiovascular System	<p>Pts w/ severe aortic stenosis can have anginal chest pain due to increased myocardial oxygen demand</p> <p>high pitched systolic murmur heard at the second right intercostal space describes aortic stenosis(occurs in young pts due to congenitally bicuspid aortic valve)</p>
3092	Medicine	Cardiovascular System	Aortic regurgitation(AR): wide pulse pressure(increased systolic bp & decreased diastolic bp), "water hammer" pulse, & LV enlargement. The left lateral decubitus position brings the enlarged left ventricle closer to the chest wall & causes a pounding sensation & increased awareness of the heartbeat. Mcc of AR in developing countries is rheumatic heart disease. In developed countries it's due to aortic root dilation or congenital bicuspid valve
3093	Medicine	Cardiovascular System	<p>Murmur of aortic regurgitation (AR) is best heard along the left sternal border at the third & fourth interspaces. May be heard by applying firm pressure w/ the diaphragm of stethoscope while pt is sitting up, leaning forward, & holding the breath in full expiration. *Congenital bicuspid aortic valve is the mcc of AR in young adults in developed countries.* Rheumatic heart disease is the mcc in developing countries</p> <p>Atrial septal defect: wide, fixed, & split second heart sound</p>
3094	Medicine	Cardiovascular System	<p>Lifestyle modification should be the first-line intervention for newly diagnosed stage I hypertension. The most effective lifestyle intervention for reducing blood pressure is weight loss in obese pts. All pts should be encouraged to follow the *DASH diet*(rich in fruits, vegetables, & low fat dairy products), restrict dietary salt intake, engage in regular aerobic exercise to maintain normal body weight, & limit alcohol intake</p> <p>DASH(Dietary Approaches to Stop Hypertension)</p>
3096	Medicine	Cardiovascular System	<p>*Atrial tachycardia w/ AV block* is the arrhythmia most specific for digitalis toxicity! (its due to the increased ectopy & increased vagal tone caused by digitalis toxicity)</p> <p>Atrial tachycardia is distinguished from atrial flutter by its somewhat slower atrial rate (150-250 bpm as opposed to 250-350 bpm)</p>
3158	Medicine	Cardiovascular System	<p>Elevated creatine phosphokinase (CPK) points towards muscle injury, a side effect of statins. The muscle injury can progress to rhabdomyolysis w/ renal failure, so *statin medications should be stopped* in these pts</p> <p>Losartan: an ARB. Side effects-hyperkalemia, hypotension, renal failure</p> <p>N-acetylcysteine uses: dissolution of mucus, protection against contrast induced renal failure, & therapy for acetaminophen overdose</p>
3188	Medicine	Cardiovascular System	<p>Cocaine induced vasospasm: can cause ST elevation myocardial infarctions (STEMIs). tx- with PTCA or thrombolysis. Aspirin and nitrates also appropriate Avoid beta blockers because they allow unopposed alpha agonist activity, which worsens vasospasm</p> <p>Acute pericarditis: can cause ST elevations on EKG, accompanied by PR depressions</p> <p>Pleurodynia: chest pain of pulmonary etiology. Worse w/ deep breathing</p>
3504	Medicine	Cardiovascular System	Chest x-ray should be obtained in all pts who undergo central venous catheterization to confirm proper placement of the catheter tip and absence of complications before administering drugs or other agents thru the catheter

3506	Medicine	Cardiovascular System	<p>*Pulmonary toxicity* is a serious adverse effect of long-term *amiodarone* use that can occur months to several years after the initiation of amiodarone therapy. *A baseline chest radiograph & pulmonary function testing should be obtained prior to initiating therapy w/ amiodarone*</p>
3521	Medicine	Cardiovascular System	<p>Pts w/ Dressler's syndrome(a pericarditis) present weeks after a myocardial infarction w/ chest pain that is improved by leaning forward. Tx-*NSAIDs*</p> <p>[EKG findings in pericarditis-diffuse ST elevation w/ the exception of reciprocal depression in aVR]</p> <p>"EKG shows ST segment elevations in all limb & precordial leads except in aVR, where ST depression is seen"</p>
3526	Medicine	Cardiovascular System	<p>Acute limb ischemia after MI suggests possible arterial embolus from left ventricular (LV) thrombus. Management includes immediate anticoagulation, vascular surgery consultation, & transthoracic *echocardiogram* to screen for LV thrombus & evaluate LV function</p>
3529	Medicine	Cardiovascular System	<p>Carotid endarterectomy (CEA) is recommended for men & women w/ symptomatic carotid stenosis of 70%-99% & is also beneficial for men w/ asymptomatic carotid stenosis of 60%-99%(some experts recommend CEA for asymptomatic women w/ high grade stenosis [70%-99%] but the data are less convincing)</p> <p>Lesions <50% are monitored w/ annual Duplex ultrasound. Surgery is not indicated at this stage & pts are medically managed w/ pharmacotherapy & risk factor optimization</p>
3635	Medicine	Cardiovascular System	<p>Constrictive pericarditis:</p> <p>Tuberculosis is a common cause in developing countries like africa, india, & china.</p> <p>sx- dyspnea, fatigue, pedal edema, elevated jvp, ascites, pericardial thickening & calcification, jvp tracings show x & y descents, early heart sound after S2(pericardial knock)</p>
3697	Medicine	Cardiovascular System	<p>In atrial fibrillation (AF) w/ rapid ventricular response, rate control should be attempted initially w/ beta blockers or calcium channel blockers(*Diltiazem*)</p> <p>Attempting cardioversion in pts w/ AF for an unknown duration or >48 hours w/o adequate anticoagulation increases risk of systemic thromboembolism</p> <p>Lidocaine:antiarrhythmic used for tx ventricular arrhythmias</p>
3698	Medicine	Cardiovascular System	<p>In Ventricular fibrillation (VF) & pulseless Ventricular tachycardia (VT), *defibrillation* is of primary importance! Time to defibrillation is strongly correlated w/ survival! Once defibrillation has been attempted, epinephrine should be given. After a repeated attempt at defibrillation, use of antiarrhythmics(amiodarone,lidocaine,magnesium) is warranted.[Look at & compare EKGs for both ventricular fibrillation & atrial fibrillation]</p> <p>Digoxin used for atrial tachycardia</p>
3699	Medicine	Cardiovascular System	<p>Atrial fibrillation (AF):common complication of CABG,occurring in up to 40% of pts.In CABG w/ aortic valve replacement,the incidence jumps to over 50%. Features on EKG(google it)- irregularly irregular R-R interval w/ absent P waves & narrow QRS complexes.In UNSTABLE pts,immediate *DC cardioversion* should be performed.[Digoxin for rate control in hemodynamically stable AF]</p> <p>Transcutaneous pacing:for symptomatic bradycardia</p> <p>Lidocaine:for ventricular arrhythmias</p>
3700	Medicine	Cardiovascular System	<p>Most pts w/ atrial premature beats (APBs) do not require any specific therapy & should be reassured about the benign nature of the arrhythmia. Management of pts w/ frequent APBs should focus primarily on evaluation for the presence or absence of underlying structural heart disease w/ a *transthoracic echocardiogram*</p>
3763	Medicine	Cardiovascular System	<p>Sustained monomorphic ventricular tachycardia (SMVT) [google ecg]:</p> <p>Wide-complex tachycardia w/ 2 fusion beats. Presence of AV dissociation. Mcc is myocardial scarring from previous MI. Electrical cardioversion for SMVT pts who are hemodynamically unstable(hypotensive,respiratory distress), pulseless, or severely symptomatic(altered mental status,pulmonary edema). Antiarrhythmics are given for hemodynamically stable SMVT pts(*Amiodarone* is the preferred antiarrhythmic*)</p>
3765	Medicine	Cardiovascular System	<p>Most cases of 1st-degree AV block(PR interval prolonged/>200 msec)w/ NORMAL QRS duration are due to delayed AV nodal conduction & require no further evaluation.Best approach is *observation*</p> <p>Pts w/ 1st-degree AV block & PROLONGED QRS duration have a conduction delay below AV node & should have electrophysiology testing to determine its nature</p> <p>24 hour ECG (Holter) monitoring used in symptomatic pts(dizzy,syncope) suspected of having bradyarrhythmias or tachyarrhythmias</p>

			<p>Mobitz type 1 av block: progressive prolongation of the PR interval leading to a non-conducted P wave and a "dropped" QRS complex</p> <p>Mobitz type 2 av block: PR interval is always constant w/ no progressive prolongation & QRS complexes drop suddenly</p>
3766	Medicine	Cardiovascular System	<p>Atrial fibrillation:irregularly irregular rhythm,no discrete P waves</p> <p>3rd degree/complete av block:P waves unrelated to QRS complexes,can be found before,after,or buried in QRS complex</p> <p>1st degree av block:prolonged PR interval</p>
3768	Medicine	Cardiovascular System	<p>A pt w/ dizziness & worsening angina, and ECG showing P-wave activity which is temporally unrelated to QRS complexes(can be found before, after, or buried in the QRS complex) suggests third-degree or complete AV block. Manage w/ temporary *pacemaker* insertion while looking for reversible causes to correct(myocardial ischemia is a reversible cause,represented by T wave inversion & chest discomfort). If no reversible causes of heart block found, we give a permanent pacemaker.</p>
3769	Medicine	Cardiovascular System	<p>*Amiodarone* is a class III antiarrhythmic agent, well known for causing *pulmonary fibrosis*. Thyroid dysfunction (hypothyroidism 85% of the time & hyperthyroidism 15% of the time), hepatotoxicity, corneal deposits & skin discoloration are other potential side effects</p>
3777	Medicine	Cardiovascular System	<p>Pressors such as *norepinephrine* can cause ischemia of the distal fingers & toes secondary to vasospasm. The dx is suggested by symmetric duskeness & coolness of all fingertips(google pic)</p> <p>Cholesterol emboli can occur in pts w/ atherosclerosis & can affect the distal portions of the digits "blue toe syndrome". However symmetrical involvement of all digits would be unusual</p> <p>Endocarditis can spread septic emboli thru out the body but wouldn't be expected to affect all fingers</p>
3820	Medicine	Cardiovascular System	<p>ACE inhibitors, ARBs, beta-blockers, & spironolactone all confer a survival benefit in CHF. While *digoxin & furosemide (loop diuretics)* can reduce CHF sx & hospitalizations, *they DO NOT improve survival*</p> <p>The only class of diuretics w/ a demonstrated survival benefit in pts w/ heart failure is aldosterone antagonists like spironolactone & eplerenone</p>
3822	Medicine	Cardiovascular System	<p>*Diabetic pts age 40-75 should be treated w/ statin therapy in addition to lifestyle modification & glucose control*</p> <p>Niacin is effective in raising HDL & lowering triglycerides & has a modest effect in lowering very low density lipoprotein & low density lipoprotein cholesterol. However it may worsen glucose control in diabetic pts</p>
3823	Medicine	Cardiovascular System	<p>Lipid lowering therapy w/ *statin* medications is rec for primary prevention in pts age 40-75 w/ a 10 year risk of atherosclerotic cardiovascular disease >7.5%</p>
3826	Medicine	Cardiovascular System	<p>PCI is recommended within 90 min for acute, STEMI. Additional stabilization measures include oxygen, full dose aspirin, platelet P2Y12 receptor blockers, nitroglycerin for pain control, beta blockers, & anticoagulation. Fibrinolysis may be administered within 12 hours of symptom onset for STEMI pts who can't undergo PCI but is ass. w/ higher rates of recurrent myocardial infarction, intracranial hemorrhage, & mortality compared to PCI</p>
3828	Medicine	Cardiovascular System	<p>Acute limb ischemia: pain, pulselessness, paresthesias, poikilothermia(coldness), & pallor. Angiography will show an abrupt cutoff of arterial blood flow. Start IV heparin upon suspicion. Tx- surgical embolectomy or intra-arterial fibrinolysis/mechanical embolectomy via interventional radiology</p> <p>Pts w/ acute limb ischemia are tx w/ direct intra-arterial(not IV) administration of a fibrinolytic agent on the clot using an angiographic catheter</p>
3881	Medicine	Cardiovascular System	<p>Syncope due to arrhythmia: sudden onset of syncope w/o warning signs, presence of structural heart disease, frequent ectopic beats, use of thiazide diuretic(causes electrolyte disturbances predisposing to ventricular arrhythmia)</p> <p>Vasovagal syncope is precipitated by emotional reaction & preceded by presyncopal dizziness, weakness, & nausea</p> <p>Clonic jerks may occur during any syncope if it is prolonged(due to brain hypoxia). Don't immediately assume its a seizure!</p>
3920	Medicine	Cardiovascular System	<p>Dihydropyridine Ca-channel antagonists (like amlodipine) can cause peripheral edema Discontinue drug if edema is significant!</p> <p>Congestive heart failure: sx- dyspnea, orthopnea, elevated neck vein pulsation & liver enlargement</p> <p>Liver disease: sx- ascites dominates over peripheral edema, hypoalbuminemia, hyperbilirubinemia</p>
3921	Medicine	Cardiovascular System	<p>Situational syncope: when a middle age or older male loses his consciousness immediately after urination, or a man who loses his consciousness during coughing fits</p>
3924	Medicine	Cardiovascular System	<p>Coarctation of the aorta (COA) occurs in pts w/ Turner's syndrome. COA can lead to Rib notching!</p>

3933	Medicine	Cardiovascular System	<p>Renovascular hypertension: sx- resistant hypertension(persistent hypertension despite using >3 treatments) & diffuse atherosclerosis, asymmetric kidney size, recurrent flash pulmonary edema, or elevation in serum creatinine > 30% from baseline after starting ACE inhibitor or ARBs continuous abdominal bruit highly specific for renovascular hypertension</p> <p>Primary aldosteronism: also causes resistant hypertension but you won't have diffuse atherosclerosis</p>
3945	Medicine	Cardiovascular System	Nitroglycerin relieves anginal pain by dilation of veins(*capacitance vessels*) & decrease in ventricular preload
3950	Medicine	Cardiovascular System	<p>Cholesterol crystal embolism (atheroembolism): can occur in pt w/ atherosclerosis risk factors who undergoes cardiac catheterization, recent arteriography, or vascular procedure sx- livedo reticularis, blue toe syndrome, acute kidney injury, hollenhorst plaques, eosinophilia, eosinophiluria</p> <p>Contrast induced nephropathy (CIN): pts undergoing coronary angiography are at risk urinalysis shows muddy-brown granular and epithelial cells casts</p>
3956	Medicine	Cardiovascular System	<p>Acute aortic dissection: For rapid dx, use *Transesophageal echocardiogram (TEE)*. CT can also be used just as effectively for dx but requires contrast and normal renal function in patient.</p> <p>TEE and CT are less invasive modalities for rapid dx</p>
3958	Medicine	Cardiovascular System	The increased BUN/creatinine ratio is a sensitive indicator of hypovolemia leading to orthostatic hypotension as a cause of syncope in an elderly pt
3962	Medicine	Cardiovascular System	<p>vasovagal/neurocardiogenic syncope: caused by emotional/orthostatic stress, micturition, cough & defecation upright tilt table testing can be used to establish diagnosis</p> <p>24 hour (Holter) monitoring indicated for pts w/ arrhythmia</p>
3973	Medicine	Cardiovascular System	High-dose niacin therapy to treat lipid abnormalities frequently produces cutaneous flushing & pruritus. This is due to *prostaglandin-induced peripheral vasodilatation* & can be reduced by low-dose aspirin
3977	Medicine	Cardiovascular System	<p>Hypertensive emergency: severe htn ass. w/ 1)malignant htn or 2)hypertensive encephalopathy. 1)Malignant htn- *retinal hemorrhages, exudates, papilledema* 2)Hypertensive encephalopathy- cerebral edema</p> <p>Hypertensive urgency: severe htn >180/120 w/ no sx of acute end-organ damage</p>
3979	Medicine	Cardiovascular System	<p>Uremic pericarditis: sx- sharp & pleuritic chest pain, pericardial friction rub, uremia tx- hemodialysis</p> <p>NSAIDs are used in uremic pericarditis pts not responding to dialysis. Glucocorticoids can be used in pts w/ inadequate response to initial dialysis(low success rate and high risk of recurrence)</p>
3994	Medicine	Cardiovascular System	Isolated systolic hypertension is an important cause of hypertension in elderly pts. It's caused by decreased elasticity of the arterial wall(As people age, the elastic properties of the arterial wall diminish & the *arteries become more rigid*)
4042	Medicine	Cardiovascular System	Pts w/ cocaine-ass. chest pain should be tx initially w/ IV *benzodiazepines*. These improve sx of psychomotor agitation, reduce myocardial oxygen demand, & alleviate cardiovascular sx. Aspirin, nitroglycerin, & calcium channel blockers are also effective in the initial management of cocaine-ass chest pain. Beta blockers are contraindicated(their use causes unopposed alpha adrenergic stimulation & worsens coronary vasoconstriction!)
4054	Medicine	Cardiovascular System	*Dipyridamole* can be used during myocardial perfusion scanning to reveal the areas of restricted myocardial perfusion. The redistribution of the coronary blood flow to 'non-diseased' segments induced by this drug is called *coronary steal phenomenon*
4061	Medicine	Cardiovascular System	Hx of recent URI followed by sudden onset of cardiac failure in an otherwise healthy pt is suggestive of dilated cardiomyopathy, most likely secondary to acute viral myocarditis. Dx of dilated cardiomyopathy is made by echocardiogram, which shows *dilated ventricles w/ diffuse hypokinesia* resulting in a low ejection fraction. Tx-supportive,management of CHF sx
4093	Medicine	Cardiovascular System	<p>*Reentrant ventricular arrhythmias* (eg,ventricular fibrillation) are the mcc of sudden cardiac arrest in the immediate post-infarction period in pts w/ acute MI</p> <p>Pulseless electrical activity:presence of electrocardiographic rhythm in absence of adequate cardiac mechanical contraction to generate a palpable pulse</p> <p>Asystole:complete absence of electrical & mechanical cardiac activity</p> <p>Pts w/ prolonged duration of cardiac arrest->pulseless electrical activity or asystole</p>
4101	Medicine	Cardiovascular System	<p>Diastolic & continuous murmurs are usually due to an underlying pathologic cause, & their presence should prompt further evaluation w/ a transthoracic *echocardiogram*</p> <p>Midsystolic murmurs in otherwise young, asymptomatic adults are usually benign & don't require further evaluation</p>

			ST segment elevations in inferior leads II,III,& aVF w/ reciprocal ST depression in leads I & aVL are consistent w/ acute inferior wall MI. Inferior wall MI is usually due to occlusion of the *right coronary artery (RCA)*. RCA occlusion can cause AV block
4108	Medicine	Cardiovascular System	<p>LAD occlusion->ST elevation in all precordial leads but most commonly in V1-V4</p> <p>LCX occlusion->ST elevation in leads I,II,III,aVL</p> <p>Left main coronary artery occlusion->sudden cardiac death</p>
4126	Medicine	Cardiovascular System	*Beta blockers(propranolol)* are rec as initial tx for atrial fibrillation due to hyperthyroidism. Beta blockers help to control heart rate & hyperadrenergic sx. [Anxiety,weight loss,lig lag,fine tremor in hands,atrial fibrillation all suggest hyperthyroidism]
4127	Medicine	Cardiovascular System	<p>*Beta blockers are 1st line tx for controlling sx & improving exercise tolerance in pts w/ stable angina pectoris* (Calcium channel blockers or long acting nitrates are used if beta blockers are contraindicated/not effective on their own)</p> <p>Thiazide diuretics are effective initial tx for pts w/ essential htn</p> <p>ACE inhibitors used for htn, esp in pts w/ diabetes, chronic kidney disease, & chf</p>
4129	Medicine	Cardiovascular System	Ascending aortic aneurysms are most often due to cystic medial necrosis or connective tissue disorders. Descending aortic aneurysms are usually due to *atherosclerosis*. CXR can suggest thoracic aortic aneurysm by showing a widened mediastinal silhouette, increased aortic knob & tracheal deviation(google CXR)
4133	Medicine	Cardiovascular System	Hepatojugular(or abdominojugular) reflux is a useful clinical tool that can differentiate between cardiac & liver disease related causes of lower extremity edema.*Pts w/ peripheral edema due to heart failure have elevated jugular venous pressure & positive hepatojugular reflux*. Those w/ peripheral edema from primary hepatic disease & cirrhosis have reduced or normal jugular venous pressure & negative hepatojugular reflux
4190	Medicine	Cardiovascular System	Hyponatremia in pts with CHF indicates severity of heart failure. Caused by increased renin, norepinephrine, and ADH. tx- fluid restriction, ace inhibitors, & loop diuretics
4191	Medicine	Cardiovascular System	<p>In the tx of a pt using both sildenafil(for erectile dysfunction) & an alpha-blocker (eg, doxazosin, for BPH), it's important to give the drugs w/ at least a 4-hour interval to reduce the risk of hypotension</p> <p>Although diabetics have a high risk for ED, tightening of glycemic control hasn't been shown to improve ED</p> <p>Sildenafil is contraindicated in pts being tx w/ nitrates & in pts that are hypersensitive to sildenafil. It's used w/ precaution in conditions causing priapism</p>
4227	Medicine	Cardiovascular System	Statins inhibit HMG-CoA reductase, a rate-limiting enzyme in the intracellular biosynthesis of cholesterol that converts HMG-CoA to mevalonate, & also increases the number of cell membrane LDL receptors.[Statins mechanism of action is *inhibition of intracellular synthesis pathway*]. Statins also decrease coenzyme Q10 synthesis, which is involved in muscle cell energy production & possibly contributes to statin-induced myopathy
4234	Medicine	Cardiovascular System	*Anaphylaxis* can result from exposure to latex-containing products such as surgical gloves & condoms. Health care workers & pts w/ atopic disease are at higher risk of latex allergy
4235	Medicine	Cardiovascular System	<p>Cardiogenic shock causes a reduced cardiac index & elevated pulmonary capillary wedge pressures due to ventricular pump failure.Systemic vascular resistance is increased to maintain adequate tissue perfusion pressure.Sx-depressed mental status,dyspnea,decreased urinary output & cool extremities</p> <p>Sepsis:compensatory increase in cardiac output/index in early stages of shock.Peripheral vasodilation causes less blood to return to heart. PCWP & SVR are reduced</p>
4237	Medicine	Cardiovascular System	<p>Septic shock: low PCWP & high mixed venous oxygen saturation(due inability of tissues to extract oxygen)</p> <p>Cardiogenic shock: due to left ventricular dysfunction & reduced pump function, low cardiac output, elevated PCWP, increased SVR, low mixed venous oxygen saturation(decreased C.O. decreases tissue perfusion, causing tissues to extract more oxygen from blood)</p>
4238	Medicine	Cardiovascular System	<p>Tachycardia-mediated cardiomyopathy: can develop in pts who have persistent or recurrent tachyarrhythmia w/ prolonged periods of rapid ventricular rate. Initial tx aimed at *restoration of sinus rhythm or aggressive control of ventricular rate* & can lead to significant improvement in left ventricular function</p> <p>Chronic tachycardia causes structural changes in the heart including LV dilation & myocardial dysfunction</p>
4243	Medicine	Cardiovascular System	<p>CHF due to left ventricular systolic dysfunction:</p> <p>decreased cardiac output/index -> increased systemic vascular resistance (due to rise in neurohormonal activation) which maintains bp & vital organ perfusion & increases blood volume -> increase in left ventricular end diastolic volume (LVEDV)</p>

4277	Medicine	Cardiovascular System	<p>Indicators for surgery/aortic valve replacement in pts w/ aortic stenosis are "SAD": "Syncope", "Angina", & "Dyspnea." Onset of any of these three sx indicates that the prognosis w/o surgery is poor</p> <p>Aortic valvotomy is not nearly as effective as aortic valve replacement. It should only be considered as a bridge to surgery in the hemodynamically unstable pt or for poor surgical candidates</p>
4291	Medicine	Cardiovascular System	<p>Excessive alcohol intake(>2 drinks a day)or binge drinking(>5 drinks in a row)is ass. w/ increased incidence of htn compared to nondrinkers.In such pts,reduction in alcohol intake leads to improved bp control</p> <p>If medication for htn is absolutely necessary,calcium channel blockers are preferred over beta blockers unless there are compelling indications for beta blocker use (eg heart failure, asymptomatic left ventricular dysfunction,post MI, hyperthyroidism, a-fib rate control</p>
4298	Medicine	Cardiovascular System	<p>Dual antiplatelet therapy (aspirin & a *P2y12 receptor blocker*[eg,clopidogrel]) leads to a reduction in recurrent MI & cardiovascular death compared to aspirin alone in pts w/ non-ST elevation MI. It also reduces risk of stent thrombosis & is rec in all pts for at least 12 months following drug-eluting stent placement</p> <p>Postinfarction pericarditis(pericardial rub,chest pain) can be tx w/ colchicine</p> <p>Apixaban used for anticoag in nonvalvular afib & mgmt of DVT & PE</p>
4300	Medicine	Cardiovascular System	<p>B-blockers, calcium channel blockers, & nitrates are antianginal agents that should be withheld for at least 48 hours prior to cardiac stress testing.</p> <p>Pt may continue to use ace inhibitors, arbs, digoxin, statins, diuretics</p>
4334	Medicine	Cardiovascular System	<p>Pts presenting to ED w/ chest pain & suspected ACS should be administered *aspirin* ASAP. Early antiplatelet therapy w/ aspirin reduces the rate of MI & overall mortality in pts w/ ACS</p> <p>Lorazepam is a benzodiazepine used for chest pain stemming from an acute panic attack</p>
4345	Medicine	Cardiovascular System	<p>Cardiac tamponade:Beck's triad-hypotension,distended neck veins(internal jugular venous pulsation >3-4 cm),& muffled heart sounds.This is due to shift of interventricular septum toward the left ventricular cavity,which *reduces left ventricular preload*,stroke volume,& cardiac output.Lung exam shows clear lungs to auscultation due to decreased preload.Can be due to an infectious etiology(eg,a viral pericarditis due to possible recent upper resp viral illness)</p>
4346	Medicine	Cardiovascular System	<p>GERD is charac by a retrosternal burning sensation after eating & w/ lying down. It may also be accompanied by hoarseness & chronic cough, esp while recumbent. The initial tx is an H2-receptor antagonist or a proton pump inhibitor</p> <p>[Cardiac chest pain is more typically a squeezing or pressure sensation;NOT A BURNING ONE]</p>
4377	Medicine	Cardiovascular System	<p>Orthostatic hypotension: drop in bp after standing & is preceded by a lightheaded or presyncopal sensation</p> <p>Syncope due to aortic stenosis occurs w/ activity. Hx of exertional dyspnea, chest pain, fatigue</p> <p>Vasovagal syncope: excessive vagal tone, nausea, diaphoresis,& pallor prior to syncope.Occurs due to stress, pain, urination. Common in young women.</p> <p>Hyperventilation: rare cause of syncope</p> <p>TIA: syncope occurs if posterior circulation & brainstem is affected by TIA</p>
4380	Medicine	Cardiovascular System	<p>Cardiac tamponade can occur as a catastrophic complication of acute aortic dissection, w/ rupture of the aorta & *rapid accumulation of blood in the pericardial space*. It should be suspected in pts w/ hypotension, tachycardia, distended neck veins, & pulsus paradoxus(respiratory variation in systolic blood pressure) who have sudden onset of severe tearing chest pain radiating to the back</p>
4390	Medicine	Cardiovascular System	<p>Electrical alternans w/ sinus tachycardia is a highly specific sign for large pericardial effusion. This is due to the swinging motion of the heart in the pericardial cavity causing a beat-to-beat variation in QRS axis & amplitude. Pts w/ cardiac tamponade & hemodynamic compromise should have emergency *pericardiocentesis*</p>
4395	Medicine	Cardiovascular System	<p>Diagnostic testing for coronary artery disease (CAD) shouldn't be performed routinely in low risk patients as they frequently can have false positive test results.</p> <p>Pts w/ intermediate probability of CAD should receive appropriate stress testing based on ECG findings and their ability to exercise</p> <p>High risk pts sohuld be started on appropriate medical therapy w/ expert evaluation to consider coronary angiography</p>
4396	Medicine	Cardiovascular System	<p>Peptic ulcer perforation presents w/ acute abdominal pain w/ radiation to the back or right shoulder & signs of peritonitis. Upright chest radiograph may reveal pneumoperitoneum(gas within peritoneal cavity) w/ free air under the diaphragm</p>

4398	Medicine	Cardiovascular System	<p>IV drug users are at increased risk for bacterial endocarditis involving the right sided heart valves. *Tricuspid regurgitation* is commonly present in pts w/ tricuspid valve endocarditis(intensity of this murmur increases w/ *inspiration*)</p> <p>S4: normal in healthy older adults but abnormal in children/young adults</p> <p>Paradoxical/reversed splitting: A2 follows P2, w/ maximal splitting noted during expiration. Seen in pts w/ fixed left ventricular outflow tract obstruction</p>
4445	Medicine	Cardiovascular System	<p>URI, dyspnea, elevated JVP, increased cardiac silhouette suggests early cardiac tamponade due to large pericardial effusion. *Inability to palpate point of maximal apical impulse* is consistent w/ large pericardial effusion (appears on CXR as enlarged & globular cardiac silhouette "water bottle" heart shape w/ clear lung fields)</p> <p>Viral myocarditis: audible S3, pulm vascular congestion, bibasilar rales</p> <p>Pulsus bisferiens: 2 systolic peaks of aortic pulse separated by midsystolic dip</p>
4450	Medicine	Cardiovascular System	<p>PSVT: re-entry into the *AV node*</p> <p>tx- mechanical & medical therapies that decrease AV node conductivity eg. *immersion in cold water*, valsalva, carotid sinus massage.</p> <p>Adenosine is a short acting AV nodal blocker that is used as well.</p>
4451	Medicine	Cardiovascular System	<p>Acute decompensated heart failure (ADHF): can cause acute pulmonary edema (dyspnea, orthopnea, paroxysmal nocturnal dyspnea, bibasilar crackles, hypoxemia). Can be caused by uncontrolled htn. Manage w/ supplemental oxygen & iv loop diuretics (eg, furosemide). Remember "Not all that wheezes is asthma"</p>
4453	Medicine	Cardiovascular System	<p>Amiodarone: antiarrhythmic agent, ass. w/ hepatotoxicity, hypothyroid sx such as fatigue, memory loss, constipation, weight gain, dry skin,.</p>
4454	Medicine	Cardiovascular System	<p>Digoxin is a cardiac glycoside w/ adverse effects that include nausea, vomiting, diarrhea, vision changes, & arrhythmias. Pts chronically taking digoxin should have close & routine monitoring of their *blood digoxin levels*</p>
4455	Medicine	Cardiovascular System	<p>Aortic stenosis: typical sx are *exertional dyspnea*, syncope, & angina. Physical exam reveals a systolic ejection murmur radiating to the apex & carotid arteries</p> <p>Capillary pulsations in the fingers & lips may be observed in aortic regurgitation</p> <p>Late diastolic murmurs are heard most commonly in mitral stenosis. An opening snap is also characteristic of mitral stenosis. Pts present w/ pulmonary edema & atrial fibrillation</p>
4456	Medicine	Cardiovascular System	<p>Prolonged PR interval & intraventricular conduction delay (prolonged QRS duration) is suggestive of *bradyarrhythmia* or high grade atrioventricular block and can lead to *syncopal episodes*</p> <p>Torsades de pointes is due to polymorphic ventricular tachycardia in the setting of a prolonged QT interval</p>
4459	Medicine	Cardiovascular System	<p>Arteriovenous fistula (eg, an AV fistula that develops due to stab wound to thigh) causes high output cardiac failure by shunting the blood from the arterial to venous side, thereby *increasing cardiac preload*. The pt develops heart failure despite maintaining a normal or high cardiac output because the circulation is unable to meet the oxygen demand of the peripheral tissues</p>
4463	Medicine	Cardiovascular System	<p>Digoxin toxicity: *Amiodarone* (or verapamil, quinidine, & propafenone) can increase serum levels of digoxin & cause toxicity in a pt on a stable digoxin regimen. It's rec that digoxin dose be decreased by 25%-50% when initiating amiodarone therapy, w/ close monitoring of digoxin levels once weekly for several weeks. Sx- LIFE THREATENING ARRHYTHMIAS, *anorexia*, *nausea/vomiting*, ab pain, fatigue, confusion, *weakness*, COLOR VISION ALTERATIONS</p>
4469	Medicine	Cardiovascular System	<p>Warfarin or target specific oral anticoagulants (rivaroxaban, apixaban, dabigatran) should be used to reduce risk of systemic thromboembolism in pts w/ A-fib & moderate to high risk of thromboembolic events (CHA2DS2-VASc score >2).</p> <p>*Pts w/ "lone A-fib" (pts w/ paroxysmal, persistent, or permanent A-fib w/ no evidence of cardiopulmonary or structural heart disease, age < 60, score of 0) are at low risk of systemic embolization & anticoagulant tx is NOT indicated*</p>
4473	Medicine	Cardiovascular System	<p>*Acetaminophen*, NSAIDs, amiodarone, & abx may *potentiate the anticoagulant effects of warfarin*, lead to variable dose response, &/or *increase the risk of bleeding*</p>
4484	Medicine	Cardiovascular System	<p>Marfan syndrome: Aortic dissection is most dangerous complication! Aortic regurgitation is a complication of aortic dissection & presents w/ an *early diastolic murmur*</p> <p>Wide & fixed splitting of second heart sound present in pts w/ ASD. Holt-Oram (heart-hand) syndrome is ass. w/ both upper-limb defects (eg, deformities of radius, carpal bones) & atrial septal defect</p> <p>Mitral valve prolapse frequently seen in Marfan syndrome</p> <p>Pulsus parvus et tardus seen in severe aortic stenosis</p>
4518	Medicine	Cardiovascular System	<p>Elevated *brain natriuretic peptide* levels & an audible *3rd heart sound* are signs of increased cardiac filling pressures & are noted in pts w/ CHF due to left ventricular systolic dysfunction</p> <p>An abdominal or periumbilical bruit that lateralizes to one side can be heard in pts w/ renal artery stenosis</p>

4524	Medicine	Cardiovascular System	Survivors of Hodgkin lymphoma are at increased risk for cardiac disease, presenting 10-20 years after mediastinal irradiation. Constrictive pericarditis is a complication of mediastinal irradiation and a cause of right heart failure. Look for sx of peripheral edema, elevated jvp, hepatomegaly, ascites, hepatojugular reflux, kussmaul's sign (lack of decrease or increase in jugular venous pressure on inspiration), & a pericardial knock (mid-diastolic sound).
4532	Medicine	Cardiovascular System	Screen male active or former smokers aged 65-75 years w/ a one-time *abdominal ultrasound* to evaluate for an abdominal aortic aneurysm
4592	Medicine	Cardiovascular System	Chronic venous insufficiency is a common cause of peripheral edema & should be suspected in pts w isolated lower-extremity edema &/or dilated veins w/ otherwise normal physical examination. Initial tx includes conservative measures w/ *leg elevation*, exercise, & compression therapy
4593	Medicine	Cardiovascular System	Cor pulmonale: impaired function of the right ventricle due to pulmonary hypertension that usually occurs due to chronic lung disease(COPD most common etiology) COPD w/ cor pulmonale sx- Elevated jvp, enlarged liver, long term tobacco use, chronic cough, barrel-shaped chest
4594	Medicine	Cardiovascular System	In pts w/ CHF, activation of RAAS & production of angiotensin II causes preferential vasoconstriction of efferent renal arterioles, which increases intraglomerular pressure in order to maintain adequate GFR Vasoconstriction of both afferent & efferent glomerular arterioles->increase in renal vascular resistance & net decrease in renal blood flow Decreased plasma colloid pressure -> peripheral/generalized edema in pts w/ severe proteinuria/hypoalbuminemia
4646	Medicine	Cardiovascular System	*Weight control* is the most effective intervention to control blood pressure in overweight pts. Other effective measures include the DASH diet, low sodium intake, moderation of alcohol intake, regular moderate exercise, & smoking cessation
4649	Medicine	Cardiovascular System	Tx of systemic embolization in pts w/ nonvalvular atrial fibrillation(AF):antithrombotic therapy w/ warfarin(or anticoagulants like dabigatran,rivaroxaban,& apixaban).[aspirin less effective than warfarin but can be used as an alternative in pts w/ high risk of bleeding w/ anticoagulant tx.Combo of aspirin/clopidogrel better than aspirin alone] Amiodarone used for conversion & maintenance of sinus rhythm in pts w/ AF Diltiazem/metoprolol for HR control in pts w/ rapid AF
4650	Medicine	Cardiovascular System	Costochondritis: pain syndrome characterized by tenderness of the costochondral or costosternal junctions. Chest pain that is reproducible w/ palpation suggests a musculoskeletal etiology
4660	Medicine	Cardiovascular System	Impaired SA node automaticity leads to sick sinus syndrome, which is often due to degeneration &/or fibrosis of SA node & surrounding atrial myocardium. Sx-fatigue, lightheadedness, palpitations, presyncope, syncope. ECG shows bradycardia, sinus pauses/arrest, SA exit block, or alternating bradycardia & atrial tachyarrhythmias (tachycardia-bradycardia syndrome)
4673	Medicine	Cardiovascular System	Syncope in young pt w/ crescendo-decrescendo murmur at lower left sternal border is due to hypertrophic obstructive cardiomyopathy (HOCM) "interventricular septal hypertrophy". Syncope in HOCM is often multifactorial & can be due to outflow obstruction, arrhythmia, ischemia, & a ventricular baroreceptor response that inappropriately causes vasodilation aortic stenosis: murmur at right 2nd intercostal space w/ right carotid radiation Mitral regurgitation: holosystolic murmur
4676	Medicine	Cardiovascular System	Atrial fibrillation: irregularly irregular rhythm w/ varying R-R intervals, no clearly discernible P waves, & narrow complex tachycardia(google ecg). Can be asymptomatic or present w/ palpitations, weakness, dizziness, presyncope, dyspnea, & chest pain. *Hyperthyroidism* is the most common cause of sudden onset AF. Pts w/ new onset AF should have TSH and free T4 levels measured to screen for occult hyperthyroidism as an underlying cause.
4679	Medicine	Cardiovascular System	An abnormal *fourth heart sound (atrial gallop)* can often be heard during the acute phase of MI(vignette will mention MI sx like substernal discomfort, left sided neck pain, diaphoresis, dyspnea) due to left ventricular stiffening & dysfunction induced by myocardial ischemia
4680	Medicine	Cardiovascular System	Dx of autosomal dominant polycystic kidney disease (ADPKD) is based mainly on *abdominal ultrasound* ADPKD-hypertension(common early finding),palpable abdominal masses(usually bilateral). [ACE inhibitors preferred for HTN ass w/ ADPKD] Captopril radionuclide renal scan occasionally used to dx suspected renovascular disease or renal artery stenosis as a cause of refractory htn
4681	Medicine	Cardiovascular System	The net result of renin-angiotensin-aldosterone system (RAAS) activation is increased blood pressure, total body sodium & water, & blood volume. As a result, any drug that blocks the effect of angiotensin II or aldosterone enhances natriuresis. Direct renin inhibitors (eg aliskiren) increase natriuresis, decrease serum angiotensin II concentration, and decreases aldosterone production

4682	Medicine	Cardiovascular System	<p>Presence of a systolic-diastolic abdominal bruit in a pt w/ HTN & atherosclerosis is strongly suggestive of renal artery stenosis</p> <p>Abdominal aortic aneurysms seen in older men w/ atherosclerosis & smoking hx. Pulsatile abdominal mass. Systolic bruit may be heard, but a systolic-diastolic bruit would be rare</p> <p>Aortoenteric fistulas are rare causes of massive GI hemorrhage. May be primary or secondary(due to surgery). Causes hypotension</p>
4707	Medicine	Cardiovascular System	<p>Heart failure due to diastolic dysfunction: also called heart failure w/ preserved left ventricular ejection fraction. *Systemic hypertension is a classic cause of diastolic dysfunction*. In severe cases, diastolic dysfunction can cause decompensated heart failure. Tx- diuretics & BP control</p> <p>High-output heart failure: supranormal ventricular function that can't meet body's metabolic demands. Causes include anemia, hyperthyroidism, beriberi, Paget's disease, & av fistulas</p>
4709	Medicine	Cardiovascular System	<p>*Pts w/ persistent tachyarrhythmia (narrow- or wide-complex) causing hemodynamic instability should be managed w/ immediate synchronized DC cardioversion*. Pts who have minimal sx & remain hemodynamically stable during an episode of regular, narrow-complex supraventricular tachycardia can be managed initially w/ a trial of vagal maneuvers(eg, carotid sinus massage) and/or iv adenosine</p>
4719	Medicine	Cardiovascular System	<p>ACLS guidelines recommend epinephrine only in pts w/ asystole, pulseless electrical activity, or refractory ventricular arrhythmias unresponsive to defibrillation</p> <p>Acute myocardial ischemia or infarction is leading cause of sudden cardiac arrest due to ventricular tachycardia/fibrillation</p>
4720	Medicine	Cardiovascular System	<p>Aortic dissection sequelae include *cardiac tamponade*, acute aortic regurgitation, stroke, & renal failure</p> <p>Tension pneumothorax: chest pain, shortness of breath, & hypotension. Physical exam-absent breath sounds in one hemithorax & a deviated trachea</p>
4722	Medicine	Cardiovascular System	<p>Hyperparathyroidism: uncommon cause of secondary hypertension* suspect in pts w/ hypertension, hypercalcemia, recurrent renal stones, muscle weakness & neuropsychiatric sx</p> <p>"bones, stones, abdominal moans, & psychic groans"</p> <p>Majority of cases are due to parathyroid adenoma</p> <p>Renal artery stenosis/Renovascular disease: severe htn after age 55, abdominal bruit, recurrent flash pulmonary edema or resistant heart failure, elevated creatinine</p>
4725	Medicine	Cardiovascular System	<p>[Pulseless electrical activity(PEA) is the presence of organized rhythm on cardiac monitoring w/o measurable BP or palpable pulse in a cardiac arrest pt]</p> <p>PEA/asystole should be managed w/ uninterrupted cardiopulmonary resuscitation(CPR/*chest compressions*) along w/ vasopressor therapy to maintain adequate cerebral & coronary perfusion.Reversible causes of PEA should also be investigated.Defibrillation or synchronized cardioversion has no role in mgmt of these pts</p>
4728	Medicine	Cardiovascular System	<p>Progressively *decreasing baroreceptor sensitivity* & defects in the myocardial response to this reflex are the main reasons for the increased incidence of orthostatic hypotension(postural decrease in bp by 20 mmHg systolic or 10 mmHg diastolic) in the elderly</p>
4738	Medicine	Cardiovascular System	<p>*Main risk factors ass. w/ AAA expansion & rupture include 1) large diameter 2) rate of expansion 3) current cigarette smoking*</p> <p>[hypertension has a weak ass. w/ AAA formation & it's rate of expansion & rupture]</p> <p>For unclear reasons, risk of AAA in pts w/ diabetes is lower than in those w/o diabetes</p>
4740	Medicine	Cardiovascular System	<p>Sudden onset of chest pain, ST segment elevation, holosystolic murmur at apex, & bibasilar crackles is consistent w/ acute inferior myocardial infarction (MI) w/ papillary muscle displacement, leading to acute mitral regurgitation (MR) & pulmonary edema. It leads to abrupt & excessive volume overload, causing *elevated left atrial & ventricular filling pressures* & acute pulmonary edema</p>
4741	Medicine	Cardiovascular System	<p>The primary anti-ischemic & antianginal effects of NITRATES are due to systemic vasodilation rather than coronary vasodilation. Systemic venodilation *LOWERS preload & left ventricular end-diastolic volume*, reducing wall stress & myocardial oxygen demand</p> <p>Systemic arterial dilation causes a decrease in afterload</p> <p>[In contrast, an increase in preload &/or afterload will cause an increase in wall stress w/ increased myocardial oxygen demand & worsening angina]</p>
4742	Medicine	Cardiovascular System	<p>Aspirin and beta blockers(esp. nonselective beta blockers) can trigger bronchoconstriction in pts w/ asthma.</p> <p>acute onset dyspnea w/ wheezing and prolonged expiration indicates bronchoconstriction.</p> <p>hx of rhinitis and eczema along w/ current intermittent dyspnea and coughing suggest asthma that is exacerbated by aspirin or beta blocker therapy.</p> <p>aspirin is common trigger for bronchoconstriction in asthmatics, esp those w/ chronic rhinitis & nasal polyps</p>

4771	Medicine	Cardiovascular System	Pulsus paradoxus: exaggerated fall in systemic blood pressure >10 mm Hg during inspiration. Frequent finding in cardiac tamponade but can also occur in conditions w/o pericardial effusion such as severe *ASTHMA*, or COPD
4894	Medicine	Cardiovascular System	Wolff-Parkinson-White (WPW) syndrome: *accessory pathway between the atrium & ventricle* resulting in preexcitation & an increased risk for tachyarrhythmias. Shortened PR interval, slurred initial portion of QRS(delta wave), widened QRS complex
4908	Medicine	Cardiovascular System	"ken-tuc-KY"-third syllable corresponds to S3. The third heart sound (S3) is a low frequency diastolic sound heard just after S2 that is ass. w/ left ventricular failure. IV *diuretics* provide symptomatic benefits to pts w/ decompensated heart failure [Although pts w/ heart failure will benefit from b-blockers in the long term, they are not as effective as diuretics at providing symptomatic benefits in the short term]
4909	Medicine	Cardiovascular System	Know what fourth heart sound (S4) sounds like![TEN-nes-see] S4 is a low frequency sound heard at the end of diastole just before S1 that is commonly ass. w/ left ventricular hypertrophy from *prolonged hypertension* (S4 corresponds w/ atrial contraction, results from the sound of blood striking a stiffened left ventricle) Miral valve prolapse: midsystolic click & late systolic murmur heard over cardiac apex Pericardial effusions ass. w/ acute pericarditis
4910	Medicine	Cardiovascular System	Aortic regurgitation: early diastolic mumur, bounding/water hammer peripheral pulse Aortic stenosis: ass. w/ pulsus parvus (decreased pulse amplitude) & pulsus tardus (delayed pulse upstroke)
4911	Medicine	Cardiovascular System	Mitral regurgitation: holosystolic murmur heard best at the apex w/ radiation to the axilla, exertional dyspnea, fatigue, atrial fibrillation, & signs of heart failure Ascending aortic aneurysm ass. w/ aortic regurgitation, which would result in a diastolic murmur Tricuspid stenosis: Mcc is rheumatic heart disease Constrictive pericarditis: signs of fluid overload, pulsatile hepatomegaly, exertional dyspnea, elevated jvp
4920	Medicine	Cardiovascular System	SVT: sx-palpitations,dizziness,lightheadedness, shortness of breath, diaphoresis, chest pain, syncope ECG-narrow QRS complex tachycardia(P wave buried within or seen after QRS) tx-adenosine Panic attacks: sx- sinus tachycardia w/ normal P wave morphology and relationship with the QRS complex tx- alprazolam Amiodarone/lidocaine used in treatment of stable pts w/ wide QRS complex tachycardia (ventricular tachycardia) Amiodarone also used in atrial fibrillation
4922	Medicine	Cardiovascular System	Use dependence refers to enhanced pharmacologic effects of a drug during faster heart rates & is seen w/ class I (especially IC) & class IV (calcium channel blockers) antiarrhythmic agents. Class IC agents (eg,*Flecainide* & propafenone) cause a progressive decrease in impulse conduction w/ faster heart rates, leading to an *increase in the QRS complex duration*
4928	Medicine	Cardiovascular System	A supervised graded exercise program is the most useful intervention to improve functional capacity & reduce symptomatic claudication in pts w/ peripheral arterial disease. Antiplatelet agents (eg, aspirin, clopidogrel) reduce overall cardiovascular mortality. Lipid-lowering therapy w/ statins should also be given to all pts w/ clinically significant atherosclerotic cardiovascular disease
8472	Medicine	Cardiovascular System	Atrial fibrillation is caused by ectopic foci within the *pulmonary veins* Atrial flutter involves a reentrant circuit around the tricuspid annulus Atrioventricular nodal reentry tachycardia results from a reentrant circuit formed by 2 separate conducting pathways(one fast & the other slow) within AV node Atrioventricular reentrant tachycardia is due to a reentrant circuit involving an accessory atrioventricular bypass tract
8819	Medicine	Cardiovascular System	All pts (esp young individuals) w/ systemic hypertension should be evaluated for the presence of coarctation of the aorta w/ *simultaneous palpation of the brachial & femoral pulses* to assess for brachial-femoral delay [Late presentation of aortic coarctation can include sx such as symptomatic hypertension w/ headaches, epistaxis, & left ventricular hypertrophy on ECG(increased/high voltage of QRS complexes & ST & T wave changes in the left precordial leads)]
8879	Medicine	Cardiovascular System	Development of av block in pt w/ infective endocarditis should raise suspicion for perivalvular abscess extending into adjacent cardiac conduction tissues
8927	Medicine	Cardiovascular System	Cardiovascular disease is the major cause of morbidity & mortality in pts w/ peripheral artery disease (PAD). Pts w/ PAD & intermittent claudication have an estimated 20% 5-year risk of nonfatal MI & stroke & a 15%-30% risk of death due to cardiovascular causes

8928	Medicine	Cardiovascular System	An *Exercise program* should be recommended as initial tx for pts w/ intermittent claudication. Use cilostazol & percutaneous or surgical revascularization only for pts w/ persistent sx despite exercise therapy
9648	Medicine	Cardiovascular System	Single photon emission CT scan useful for evaluating for CAD. Decreased tracer uptake w/ stress but normal uptake at rest is considered a reversible defect. It indicates inducible ischemia & likely CAD. Tx w/ antiplatelets for prevention of MI, b-blockers, & modification of pts risk factors Normal tracer uptake at rest & exercise -> excellent prognosis w/ <1% risk of CAD Decreased tracer uptake at rest & exercise (fixed defect) -> indicates scar tissue w/ decreased perfusion & CAD
10179	Medicine	Cardiovascular System	*Peripheral edema is a common side effect of dihydropyridine calcium channel blockers (CCBs) eg, Amlodipine.* Addition of a renin-angiotensin system antagonist (ACE inhibitor or angiotensin receptor blocker) can reduce CCB ass. peripheral edema
10763	Medicine	Cardiovascular System	Cyanide toxicity occurs in pts treated w/ nitroprusside who receive prolonged infusions, higher doses, or have underlying renal insufficiency. It presents w/ altered mental status, lactic acidosis, seizures, & coma Alcohol withdrawal/seizures peaks during the second day following cessation. If pt gets seizures after 4 days of discontinuing alcohol, it's probably not due to alcohol withdrawal
10764	Medicine	Cardiovascular System	Constrictive pericarditis: results from thickened/calcified pericardium that limits diastolic filling, causes sx of right heart failure, normal ventricular size sx- progressive peripheral edema, ascites, elevated jvp, pericardial knock (midiastolic sound), & pericardial calcifications on chest radiograph Cardiac amyloidosis: Increased ventricular wall thickness w/ normal/nondilated left ventricular cavity, heavy proteinuria, periorbital purpura, & hepatomegaly
10767	Medicine	Cardiovascular System	HTN & AKI in the setting of systemic sclerosis suggests scleroderma renal crisis (SRC). SRC occurs within first 5 years of diffuse cutaneous systemic sclerosis dx. SRC presents w/ acute renal failure, malignant htn (headache, blurry vision, nausea). UA may show mild proteinuria. Peripheral blood smear shows microangiopathic hemolytic anemia w/ fragmented RBCs (*schistocytes*) & thrombocytopenia Spur cells (acanthocytes): RBCs w/ irregularly sized/spaced projections seen in liver disease
11104	Medicine	Cardiovascular System	Chest/neck pain, syncope, hx of HTN & evidence of mediastinal widening (know how it looks on xray!) are all suggestive of acute aortic dissection. Acute type A aortic dissection can extend into pericardial space, causing hemopericardium & rapidly progressing to cardiac tamponade & cardiogenic shock. *Bedside transesophageal echocardiogram* for rapid dx & early tx Emergency pericardiocentesis for pt w/ pericardial effusion & tamponade w/ HEMODYNAMIC INSTABILITY or cardiogenic shock
11126	Medicine	Cardiovascular System	GI/Esophageal causes of chest pain: recurrent episodes of chest pain not ass. w/ activity. Normal physical exam, ECG, & exercise stress test.
11252	Medicine	Cardiovascular System	Pulmonary hypertension (PH) due to left ventricular systolic or diastolic dysfunction: Tx w/ loop diuretics & ACE inhibitors (or angiotensin II receptor blockers) PH due to hypoxemia from chronic lung disease: Tx w/ oxygen and/or bronchodilator therapy Symptomatic idiopathic PH: Tx w/ endothelin receptor antagonists (bosentan), phosphodiesterase-5 inhibitors (sildenafil), and/or prostanoids (epoprostenol) PH from thromboembolic occlusion of pulm. vasculature: Tx- anticoagulation
2603	Medicine	Dermatology	Nodular basal cell carcinoma (BCC) on the face or cosmetically sensitive areas (perioral region, nose, lips, ears): Tx w/ Mohs micrographic surgery! Involves sequential removal of thin skin layers w/ microscopic inspection to confirm that the margins have been cleared of malignant tissue. This technique has highest cure rate for BCC
2604	Medicine	Dermatology	A nonhealing, painless, bleeding skin ulcer ass. w/ a chronic scar suggests squamous cell carcinoma (SCC). SCC arising within a scar or chronic wound carries an increased risk of metastasis. Dx should be confirmed w/ *biopsy*. For small or low-risk lesions, manage w/ surgical excision or local destruction (cryotherapy, electrodesiccation). Mohs micrographic surgery used for lesions that are high risk or located in cosmetically sensitive areas
2746	Medicine	Dermatology	Tinea corporis: ring-shaped scaly patches w/ central clearing & distinct borders. Trichophyton rubrum is the most frequent culprit.
2747	Medicine	Dermatology	Tinea versicolor: hypopigmented areas that do not tan, & hyperpigmentation or salmon-color changes. Tx- selenium sulfide or ketoconazole Vitiligo: total depigmentation esp around the mouth or on fingertips Seborrheic dermatitis: acute or chronic papulosquamous dermatitis characterized by dry scales & an underlying erythema. Scalp, central face, presternal, interscapular area, umbilicus, & body folds are the most commonly involved areas. Pigmentation changes not seen

2750	Medicine	Dermatology	<p>Scabies:Sarcoptes scabiei mite.Intensely pruritic rash in flexor surfaces of wrist,lateral surfaces of fingers,& finger webs.Pts have excoriations w/ small,crusted,red papules scattered around affected areas Dx-skin scrapings from excoriated lesions Tx in adults-Topical permethrin 5% cream or oral ivermectin</p> <p>Bed bugs:painless bites,pts develop pruritus & purpuric macules,bites appear as papules in clusters of 2 or 3 over exposed areas</p>
2751	Medicine	Dermatology	<p>Bullous pemphigoid(BP):IgG & C3 deposits atdermal-epidermal junction(basement membrane zone)</p> <p>Pemphigus:antibodies target desmogleins.Keratinocyte surface-bound IgG throughout epidermis</p> <p>Linear IgA bullous dermatosis:Linear IgA deposits at dermal-epidermal junction.AKA chronic bullous disease of childhood when it occurs in pediatric setting</p> <p>Intraepidermal blisters & erosions w/ multinucleated giant cells w/ molded steel-gray nuclei seen on biopsy of HSV & VZV vesicles</p>
2754	Medicine	Dermatology	<p>Ichthyosis vulgaris: aka "lizard skin" sx- dry, rough skin w/ horny plates over extensor surfaces of limbs history of normal skin at birth w/ gradual progression to dry scaly skin condition worsens during winter months</p>
2755	Medicine	Dermatology	<p>Seborrheic dermatitis: affects scalp (dandruff), face (eyebrows, nasolabial folds, external ear canal/posterior ear), chest, & intertriginous areas characterized by fine, loose, yellow, & greasy looking scales tx- topical antifungal agents</p>
2761	Medicine	Dermatology	<p>Molluscum contagiosum:caused by a poxvirus.Small pink/skin colored papules w/ central umbilication.Can occur anywhere except palms & soles.Can occur in linear pattern.Lesions can be either asymptomatic or pruritic & can occasionally be accompanied by surrounding dermatitis.It's usually minor & self limited in healthy pts.It may cause a more widespread & prolonged illness in immunocompromised pts,esp those w/ HIV & a CD4 count <100/uL</p>
2762	Medicine	Dermatology	<p>Rosacea: chronic inflammatory disorder, flushing, erythema, telangiectasias, papules/pustules,& tissue hyperplasia. Most often involves the central face & scalp</p> <p>Sebaceous hyperplasia: small pale/yellow papules at central face. Lesions are stable in size & appearance</p> <p>Sudden onset of multiple seborrheic keratoses may indicate an occult internal malignancy (Leser-Trelat sign)</p> <p>Squamous cell carcinoma: much less common & faster growing than BCC. Arises from actinic keratosis</p>
2764	Medicine	Dermatology	<p>Seborrheic keratosis:more common w/ advancing age(stem may mention an elderly 80 y/o pt w/ a lesion thats been present for a while & gradually darkened). Tends to favor the face & trunk. Lesions don't occur on the palms & soles. Waxy/greasy, "stuck on", warty, & well-circumscribed appearance</p> <p>Melanoma doesn't have "stuck-on", warty appearance. Hx of changing mole, blurring of borders, & asymmetry are characteristic</p>
2765	Medicine	Dermatology	<p>Melanoma:pts complain of mole that changed in size or color or became pruritic,painful,or bleeding.Risk factors-fair skin,hx of blistering sunburns,family hx of melanoma,dysplastic nevus syndrome,atypical nevi & greater than 100 typical nevi</p> <p>Blue nevi:blue,smooth,dome shaped melanocytic papules,develop from macules,< 1cm diameter</p> <p>Melanocytic nevi:benign lesions in integument</p> <p>Lentigo simplex:round macule,even pigmentation,due to intraepidermal melanocyte hyperplasia</p>
2767	Medicine	Dermatology	<p>*Excisional biopsy* w/ narrow margins is the preferred study for the dx of melanoma</p>
2771	Medicine	Dermatology	<p>Tetracyclines: imp cause of *phototoxic* drug eruptions(*Doxycycline is the most photosensitizing*). Manifest as exaggerated sunburn reactions w/ erythema, edema & vesicles over sun-exposed areas</p> <p>Photoallergic contact dermatitis can be caused by certain sunscreens,more eczematous,prior sensitization required</p> <p>Erythromycin can cause GI upset & cholestatic jaundice</p> <p>Stevens Johnson syndrome: caused by drugs like TMP-SMX, NSAIDs, anticonvulsants.Mucosal surfaces always involved</p>
2772	Medicine	Dermatology	<p>Warfarin-induced skin necrosis:pain,followed by bullae formation & skin necrosis.Breasts,butt,thighs & abdomen commonly involved</p> <p>Pyoderma gangrenosum:ulcerative skin lesion.Initial lesion described as bite like reaction w/ small papule or pustule.Pain is main complaint. Malaise & arthralgia may also be present</p> <p>Cholesterol embolization syndrome:Pt who develops worsening renal function,htn,or distal ischemia following invasive arterial procedure. Livedo reticularis seen</p>

2774	Medicine	Dermatology	<p>Dermatitis herpetiformis (DH) Tx: gluten-free diet & *dapsone*</p> <p>DH commonly ass. w/ gluten-sensitive enteropathy(ceeliac disease)</p>
2775	Medicine	Dermatology	<p>Pemphigus vulgaris: mucocutaneous blistering disease(often lesions first appear in oral mucous membrane), flaccid bullae, *intercellular IgG deposits in the epidermis*. Autoantibodies formed against desmoglein</p> <p>Bullous pemphigoid:Oral lesions are very rare. Immunofluorescence microscopy shows IgG & C3 deposits in the dermal epidermal junction</p> <p>Dermatitis herpetiformis:IgA deposits along dermal papillae,circulating anti-endomysial antibodies, ass gluten-sensitive enteropathy</p>
2776	Medicine	Dermatology	<p>Rosacea: suspect in 30-60 y/o pts w/ telangiectasia over cheeks, nose, & chin. Flushing of these areas is precipitated by hot drinks, heat, emotion, & other causes of rapid body temperature changes. Topical abx like metronidazole is the most frequently prescribed initial therapy</p> <p>Flushing in rosacea lasts longer than flushing of carcinoid syndrome(20-30 sec)</p> <p>SLE facial rash similar to rosacea facial rash but has no papules & pustules</p>
2777	Medicine	Dermatology	<p>Exfoliative dermatitis(aka erythroderma):widespread,scaly eruption of skin.May be drug-induced,idiopathic,or secondary to an underlying dermatological or systemic disease</p> <p>Staphylococcal scalded skin syndrome:syndrome of acute exfoliation of skin caused by a toxin that is produced by S. aureus.The skin is tender & warm,w/ a sandpaper-like,diffuse erythematous rash.Other features include bullae,+ Nikolsky's sign,facial edema,perioral crusting & dehydration.Children < 6 years</p>
2779	Medicine	Dermatology	<p>Vitiligo: caused by autoimmune destruction of melanocytes affects acral areas and around body orifices "pale white patches distributed symmetrically around pt's mouth and similar lesions found over areola of pt's breasts"</p> <p>Piebaldism: inherited absence of melanocytes. noticed at birth and confined to head and trunk</p>
2780	Medicine	Dermatology	<p>< 10% of body surface area- Stevens Johnson syndrome 10%-30% of BSA: SJS/TEN overlap >30% of BSA: Toxic epidermal necrolysis</p> <p>Erythema multiforme: sx- target lesions, occurs after a herpes simplex infection may appear similar to mild SJS but bullae and desquamation are less common & mucosal involvement is rare and systemic sx not as prominent as SJS.</p>
3080	Medicine	Dermatology	<p>Cellulitis: infection of the skin & subcutaneous tissue risk factors- obesity, venous insufficiency, & skin disruption sx- erythema, edema, & warmth, fever, lymphangitis, & regional lymphadenopathy. Group A Streptococcus is mcc of non-purulent cellulitis. Staphylococci mcc of purulent cellulitis.</p>
3811	Medicine	Dermatology	<p>Poison ivy & *nickel* jewelry can cause allergic contact dermatitis, which is a type IV hypersensitivity reaction</p>
3831	Medicine	Dermatology	<p>Condylomata acuminata(anogenital warts):Serotypes 16 & 18 ass. w/ squamous cell carcinoma of the anus,genital organs & throat.Tx-Chemical or physical agents(trichloroacetic acid, podophyllin), immune therapy(imiquimod), surgery(cryosurgery,excision,laser tx)</p> <p>HPV ass. w/ increased risk for other STD's esp HIV</p> <p>Condyloma lata:manifestation of secondary syphilis,flattened pink/gray velvety papules,seen commonly at mucous membranes & moist skin of genital organs,perineum,mouth</p>
4011	Medicine	Dermatology	<p>Herpetic whitlow: caused by either type 1 or 2 herpes simplex virus. Health care workers who come in direct contact w/ infected orotracheal secretions are at increased risk of developing it. Multinucleated giant cells in the Tzanck smear of pt's lesion. [EXTREMELY H.Y. FOR USMLE!!!]</p> <p>Tailors can develop felon due to needle injuries. Felon is a bacterial infection of the distal volar space, characterized by a tense abscess & intense throbbing pain. Tx-I&D w/ appropriate abx</p>
4033	Medicine	Dermatology	<p>Squamous cell carcinoma: "non healing ulcer on forearm, scaling plaque w/ central ulceration & 1.5 cm in diameter, biopsy showing polygonal cells w/ atypical nuclei at all levels of epidermis w/ zones of keratinization." The single most imp risk factor for its development is exposure to sunlight!</p>

			Noninflammatory (comedonal) acne tx: topical retinoids
4076	Medicine	Dermatology	Inflammatory acne tx: topical retinoids & benzoyl peroxide Moderate/moderate-to-severe inflammatory acne: addition of topical antibiotics Severe/recalcitrant acne: oral antibiotics & isotretinoin
4091	Medicine	Dermatology	Inflammatory acne is tx w/ topical retinoids & benzoyl peroxide. Moderate & moderate-to-severe cases will benefit from the addition of topical abx. Oral abx & isotretinoin reserved for severe or recalcitrant acne
4151	Medicine	Dermatology	Graft-versus-host disease (GVHD): common after bone marrow transplantation, up to 50% of pts w/ bone marrow transplantation from matched siblings develop disease. Pathophys-recognition of host major & minor HLA-antigens by *donor T-cells* & consequent cell-mediated immune response
4267	Medicine	Dermatology	Drug induced type 1 hypersensitivity reactions: immediate onset, mediated by IgE & mast cells/basophils. Urticaria/pruritus w/o systemic sx usually tx w/ *antihistamines* & discontinuation of drug. Most commonly implicated in type 1 reactions are beta lactam drugs (amoxicillin), neuromuscular blocking agents, quinolones, platinum containing chemotherapeutic agents & foreign proteins (chimeric antibodies) Rash in Infec Mono pts develops 24 hours after amoxicillin/abx intake
4296	Medicine	Dermatology	Vitiligo is sometimes ass w/ other autoimmune conditions such as pernicious anemia, autoimmune thyroid disease, type 1 diabetes mellitus, primary adrenal insufficiency, hypopituitarism, & alopecia areata
4312	Medicine	Dermatology	Keratoacanthoma: dome shaped nodule and central keratinous plug. Generally benign.
4314	Medicine	Dermatology	Porphyria cutanea tarda: painless blisters, hypertrichosis, & hyperpigmentation. Ass. w/ Hepatitis C infection, & can be triggered by ingestion of certain substances (ethanol, estrogens), which should be discontinued once suspected. Phlebotomy or hydroxychloroquine may provide relief, as can interferon-alpha, in pts simultaneously infected w/ Hepatitis C virus
4319	Medicine	Dermatology	Squamous cell carcinoma: nonhealing ulcer in vermillion zone of lower lip w/ significant hx of sun exposure, keratin pearls. Basal cell carcinoma: clusters of spindle cells surrounded by palisaded basal cells. This cancer is rarely found on lips & never found on lower lip!
4355	Medicine	Dermatology	Senile purpura: presents w/ ecchymoses in elderly pts in areas exposed to repeated minor trauma (eg, extensor surfaces of the hands & forearms) It's due to age-related *loss of elastic fibers in perivascular connective tissue*/"perivascular connective tissue atrophy". Not dangerous, requires no further evaluation. Lupus anticoagulant: an IgM or IgG immunoglobulin that prolongs the aPTT. It's not a physiologic anticoagulant but actually increases the risk of thrombosis.
4403	Medicine	Dermatology	Cherry hemangiomas: small, red, cutaneous papules common in aging adults. They don't regress spontaneously. Benign & don't require tx Spider angiomas: Estrogen dependent & commonly seen in pregnancy, oral contraceptive use, & cirrhosis related hyperestrogenemia Cavernous hemangiomas: consist of dilated vascular spaces w/ thin-walled endothelial cells. Soft blue compressible masses growing up to a few cm. May appear on skin, mucosa, deep tissues, viscera
4410	Medicine	Dermatology	Actinic keratoses: develops on chronically sun-exposed areas of skin, erythematous papules w/ central scale & "sandpaper-like" texture. Can convert to squamous cell carcinoma in 1% of cases Atopic dermatitis: type 1 (immediate) hypersensitivity reaction. Acute subtype has pruritic papules, vesicles & plaques. Light microscopy shows spongiosis (edema of the epidermis) Pityriasis rosea: pink/brown scaly plaque, herald patch, maculopapular rash in "Christmas tree" pattern
4610	Medicine	Dermatology	Pressure ulcers: locations include sacrum, heels, elbows, & ears Diabetic foot ulcers: common on soles of the feet over the metatarsal heads & the top of the toes

4685	Medicine	Dermatology	<p>Molluscum contagiosum: Pts w/ *impaired cellular immunity* (eg HIV) are at risk for more severe, widespread disease</p> <p>Hypersensitivity rashes due to circulating autoantibodies: Type II rashes manifest as blisters or bullae(pemphigus vulgaris,bullous pemphigoid). Type III rashes are erythematous & maculopapular</p> <p>C3 deficiency predisposes to pyogenic bacterial respiratory tract/sinus infections</p> <p>Selective IgA deficiency: recurrent respiratory infections & chronic giardiasis</p>
4693	Medicine	Dermatology	<p>Mupirocin: topical antibiotic, treats superficial skin infections (eg. impetigo) & eradicates MRSA from nares</p> <p>Topical 5-fluorouracil treats skin conditions caused by rapid cell division such as actinic keratoses & superficial basal cell carcinomas</p>
4732	Medicine	Dermatology	Allergic contact dermatitis: "intensely pruritic erythematous rash w/ vesicles at site of exposure." Pt can even get this from poison sumac while cutting firewood
4812	Medicine	Dermatology	Steroid induced folliculitis/steroid acne: eg, secondary to pt taking prednisone for their SLE. Steroid acne is characterized by monomorphous pink papules & absence of comedones. Erythematous follicular papules distributed on face, trunk, & extremities.
8821	Medicine	Dermatology	<p>Acanthosis nigricans(AN) ass. w/ insulin resistance states (eg, diabetes mellitus, *PCOS*) in younger pts & GI malignancy in older pts</p> <p>Skin tags(acrochordons) commonly present on regions affected by AN</p> <p>Hyperpigmentation of the skin in primary adrenal insufficiency(Addison's disease) is generalized but more prominent in areas exposed to friction (elbows, knees) & light (face, dorsum of hands)</p>
10152	Medicine	Dermatology	<p>Hidradenitis suppurative (acne inversa): painful tender masses w/ inflammation, scarring, & sinus tract formation. Occurs most commonly at the axillae, groin, inner thighs, & perineal area. Dx based on clinical findings</p> <p>Furunculosis is an abscess ass. w/ a hair follicle, & is usually due to S. aureus</p> <p>Intertrigo presents as well-defined erythematous plaques w/ satellite vesicles or pustules in intertriginous & occluded skin areas. Infection usually due to Candida species</p>
10298	Medicine	Dermatology	Acute urticaria (<6 weeks): due to infections(viral, bacterial, parasitic), NSAIDs, & IgE mediated(abx, insect bites, latex, food) or direct(narcotics, radiocontrast medium) mast cell activation. 50% of pts have idiopathic urticaria. Pts develop well-circumscribed & raised erythematous plaques w/ central pallor, along w/ intense pruritus & resolution of individual skin lesions within 24 hours (google pic)
10402	Medicine	Dermatology	<p>Dermatofibromas:firm,hyperpigmented nodules <1 cm in diameter.Due to fibroblast proliferation.Occur on lower extremities.Have a fibrous component that causes central area to dimple when pinched.Tx-(Cryosurgery or shave excision) not required,unless lesion symptomatic or for cosmetic reasons</p> <p>Pyogenic granuloma:benign vascular skin tumor.Small red papule that grows rapidly over weeks/months to a pedunculated or sessile shiny mass.Occur on lip/oral mucosa.Bleeds w/ minor trauma</p>
10485	Medicine	Dermatology	Plantar warts(google pic): *due to HPV infection*. Occurs in young adults & immunocompromised individuals. Lesions appear as hyperkeratotic papules on the sole of the foot that can be painful when walking/standing
10670	Medicine	Dermatology	<p>*Epidermal inclusion cyst(EIC)* is a benign nodule containing normal epidermis that produces keratin. Pts usually develop a dome-shaped, firm, freely movable cyst or nodule w/ a small central punctum. The lesion can remain stable or gradually increase in size but usually resolves spontaneously(but can often recur) [In contrast to epidermal cysts, lipomas are usually soft to rubbery & irregular & don't typically regress & recur]</p>
2194	Medicine	Ear, Nose & Throat (ENT)	<p>Temporomandibular joint (TMJ) dysfunction:results in referred pain to the ear thats worsened w/ chewing.Pts report hx of nocturnal teeth grinding.Tx-nighttime bite guard.Surgical intervention sometimes necessary</p> <p>Ramsay Hunt syndrome:form of herpes zoster infection that causes Bell's palsy.Vesicles seen on outer ear</p> <p>Glossopharyngeal neuralgia:condition in which pts experience intermittent,severe,stabbing pain in areas innervated by cranial nerves IX & X,including the ear</p>
2195	Medicine	Ear, Nose & Throat (ENT)	<p>3 day hx of fever, chills, & sore throat is most likely secondary to tonsillitis. However, development of a muffled or "hot potato voice" & deviation of uvula suggests that a peritonsillar abscess has developed as a complication of the tonsillitis. Pts w/ peritonsillar abscess have prominent unilateral lymphadenopathy. Tx-*needle peritonsillar aspiration* & initiation of IV abx</p>

2828	Medicine	Ear, Nose & Throat (ENT)	<p>Malignant otitis externa:infection of the ear seen in elderly pts w/ poorly controlled diabetes,caused by Pseudomonas aeruginosa.Sx-ear pain,ear drainage,granulation tissue seen within ear canal.Progression of infection can lead to osteomyelitis of the skull base & destruction of facial nerve(facial drooping,food dropping out of mouth).Tx-ciprofloxacin</p> <p>Ramsay Hunt syndrome:herpes zoster infection in the ear,facial nerve palsy & vesicles in the auditory canal & auricle</p>
2836	Medicine	Ear, Nose & Throat (ENT)	<p>Pts w/ presbycusis often have difficulty hearing in noisy, crowded environments. Difficulty hearing high-pitched noises/voices</p> <p>Otosclerosis: a conductive hearing loss ass. w/ bony overgrowth of stapes, begins w/ low-frequency hearing loss, often found in middle aged people</p> <p>Meniere's disease: tinnitus, vertigo, sensorineural hearing loss</p>
2838	Medicine	Ear, Nose & Throat (ENT)	<p>Loop diuretics such as furosemide can cause ototoxicity. They are ass. w/ hearing loss and tinitus</p>
2839	Medicine	Ear, Nose & Throat (ENT)	<p>Serous otitis media: most common middle ear pathology in pts w/ AIDS. Due to auditory tube dysfunction arising from HIV lymphadenopathy or obstructing lymphomas.*Presence of middle ear effusion w/o evidence of an acute infection*. Dull tympanic membrane that is hypomobile on pneumatic otoscopy</p> <p>Progressive multifocal leukoencephalopathy (PML): demyelinating disease, occurs in pts w/ HIV/AIDS,less likely in pts on HAART,only occurs in pts w/ CD4 <200/mm3</p>
2842	Medicine	Ear, Nose & Throat (ENT)	<p>Aspirin exacerbated respiratory disease: bronchospasm/nasal congestion after taking aspirin or NSAIDS ass. w/ development of nasal polyps</p> <p>sx- asthma, rhinosinusitis, bland tasting food, recurrent nasal discharge/congestion due to polyps</p> <p>Pregnant woman have increased incidence of pyogenic granulomas on anterior nasal septum. They are frequent sources of nose bleeds during pregnancy</p>
2844	Medicine	Ear, Nose & Throat (ENT)	<p>Leukoplakia is a reactive precancerous lesion that represents hyperplasia of the squamous epithelium. *Oral leukoplakia can't be scraped off*. Tobacco & alcohol use are risk factors(similar risk factors as squamous cell carcinoma). We have to do a biopsy to rule out malignant transformation of the lesion</p> <p>Oral candidiasis(thrush):occurs in pts w/ diabetes,immunodeficiency states,use of abx or inhaled glucocorticoids.White plaques can be scraped off w/ tongue depressor</p>
3260	Medicine	Ear, Nose & Throat (ENT)	<p>Suspect malignant otitis externa in any diabetic pt w/ severe ear pain, otorrhea, & evidence of granulation tissue in the ear canal. *Pseudomonas aeruginosa* is the most frequent cause of malignant otitis externa. Pain often radiates to the temporomandibular joint & causes pain that is exacerbated by chewing</p>
3449	Medicine	Ear, Nose & Throat (ENT)	<p>Dizziness can be classified as vertigo if pt describes a sensation of spinning that is accompanied by nausea. Meniere's disease is the likely cause of vertigo if the pt also has a sensation of ear fullness(due to abnormal accumulation of endolymph within the inner ear)</p> <p>Lateral medullary infarction aka Wallenberg syndrome:presents w/ intense vertigo,gaze abnormalities,limb ataxia,sensory loss,Horner's syndrome</p>
4282	Medicine	Ear, Nose & Throat (ENT)	<p>Malignant(necrotizing)otitis externa:severe infection of external auditory canal & skull base due to Pseudomonas aeruginosa.Sx-severe ear pain esp at night,purulent drainage w/ sense of fullness,conductive hearing loss on affected side,granulation tissue,edematous external auditory canal,fever,elevated ESR.Seen most frequently in elderly pts w/ diabetes or immunosuppression.*IV ciprofloxacin* is empiric tx [Otitis externa is not as severe.Tx-topical abx & corticosteroids]</p>
4376	Medicine	Ear, Nose & Throat (ENT)	<p>Meniere's disease: vertigo, ear fullness, tinnitus, & hearing loss. Nystagmus seen during acute attack. Tx-environmental/dietary modifications, including *low-salt diet*. Medical therapy w/ diuretics, antihistamines, or anticholinergics are considered if lifestyle modifications are unsuccessful.</p>
4902	Medicine	Ear, Nose & Throat (ENT)	<p>Bone conduction(thats when tuning fork is placed on right mastoid process aka a "bone") that is greater than air conduction(when vibrating tuning fork is immediately placed near her right external auditory meatus aka "air" since its held there and not touching anything) on the Rinne test is suggestive of conductive hearing loss & can be confirmed w/ the Weber test. Otosclerosis is a common cause of conductive hearing loss in adults in their 20s & 30s.</p>
11906	Medicine	Ear, Nose & Throat (ENT)	<p>Sialadenosis:benign,noninflammatory enlargement of the salivary glands.Seen in pts w/ advanced liver disease(*alcoholic* & nonalcoholic cirrhosis) as well as a variety of dietary & nutritional disorders(diabetes,bulimia)</p> <p>Sialadenitis:focal tenderness,erythema,fever</p> <p>Salivary gland stones:glandular swelling,pain w/ meals</p> <p>Pleomorphic adenoma:benign neopasm affecting salivary glands that presents as a firm nodule</p>
12123	Medicine	Ear, Nose & Throat (ENT)	<p>*Glucocorticoid nasal sprays* are the most effective single agent for Allergic rhinitis(sx-nasal congestion,clear rhinorrhea,pale/edematous nasal mucosa,nasal creases,pharyngeal cobblestoning,conjunctival edema,or thick green nasal discharge)</p>

2170	Medicine	Endocrine, Diabetes & Metabolism	Hyperandrogenism(hirsutism) which develops rapidly over a few months along w/ virilization(excessive muscular development & clitoral enlargement) is due to either an ovarian or adrenal tumor secreting excessive androgens. *Measure serum testosterone & DHEAS levels* Elevated testosterone w/ normal DHEAS=ovarian source Elevated DHEAS w/ normal testosterone=adrenal source
2171	Medicine	Endocrine, Diabetes & Metabolism	Diabetic ketoacidosis (DKA): Hx of weight loss & excessive water intake. Deep rapid breathing (Kussmaul's respiration) due to acidosis. Can be precipitated by a GI infection. Elevated ED *fingerstick glucose* levels may confirm suspicion within minutes.
2173	Medicine	Endocrine, Diabetes & Metabolism	Cushing's syndrome(CS):due to ectopic ACTH production.Admin of high dose dexamethasone doesn't suppress plasma cortisol levels Cushing's disease:ACTH-producing pituitary adenoma CS can be ACTH-dependent(high ACTH,due to Cushings disease,ectopic ACTH/CRHP)or ACTH-independent(ACTH <5 pg/mL,due to exogenous glucocorticoids,adrenal adenoma,primary pigmented nodular adrenocortical hyperplasia.Do CT on these pts to exclude adrenal adenoma)
2174	Medicine	Endocrine, Diabetes & Metabolism	Best initial screening tests for pts w/ suspected adrenal insufficiency are early-morning cortisol, ACTH, & *cosyntropin (analogue of ACTH)* stimulation. An increase in serum cortisol levels >20 ug/dL 30-60 min after admin of 250 ug cosyntropin virtually rules out primary adrenocortical insufficiency (Addison's disease) [this means adrenal gland is responding to ACTH fine & producing cortisol like it's supposed to...problem here is w/ pituitary thats not producing ACTH]
2175	Medicine	Endocrine, Diabetes & Metabolism	Hypopituitarism: characterized by glucocorticoid deficiency, hypogonadism, & hypothyroidism sx- fatigue, hypoglycemia, hyponatremia, eosinophilia, low libido, cold intolerance, & anorexia. regular Aldosterone levels(unlike primary adrenal insufficiency in which you get hypoaldosteronism)
2176	Medicine	Endocrine, Diabetes & Metabolism	Parathyroidectomy for primary hyperparathyroidism is rec for pts who have any of the following clinical features: -Serum calcium level >1 mg/dL above the upper limit of normal -Young age (<50) -Bone mineral density T-score <-2.5 at any site -Reduced renal function (estimated glomerular filtration rate <60 mL/min)
2178	Medicine	Endocrine, Diabetes & Metabolism	Fever and sore throat in any pt taking antithyroid drugs(PTU & MMI) suggests agranulocytosis. Antithyroid drugs should be stopped & WBC count checked. Agranulocytosis is the most feared side effect of pts tx w/ antithyroid drugs
2179	Medicine	Endocrine, Diabetes & Metabolism	*Radioactive iodine therapy*:preferred tx for most pts w/ hyperthyroidism, including Graves' disease. Contraindications to radioactive tx are pregnancy & severe ophthalmopathy Antithyroid drugs(propylthiouracil) are used in tx of hyperthyroidism during pregnancy & in prep for surgery or radioactive iodine therapy. It's less effective, less cost effective, & ass. w/ serious side effects Iodinated contrast agents(iopanoic acid) given to control severe sx of thyrotoxicosis
2184	Medicine	Endocrine, Diabetes & Metabolism	Initial mgmt of DKA:rapid IV admin of *normal saline & regular insulin* [DKA dx:blood glucose >250,pH <7.3 or low serum bicarbonate <15-20,detection of plasma ketones] NPH insulin:not 4 initial tx of DKA due to its delayed onset & prolonged action.Started when pts recover from DKA & begin to tolerate oral feeding Bicarbonate:cause cerebral edema in kids.Decrease tissue oxygenation.Lead to hypokalemia/alkalosis.Used 4 DKA pts w severe acidosis,bicarb<5,severe hyperkalemia
2185	Medicine	Endocrine, Diabetes & Metabolism	Despite normal or elevated serum K+ levels,pts w/ hyperosmolar hyperglycemic state (HHS) or diabetic ketoacidosis have a total body K+ deficit due to excessive urinary loss caused by glucosuria-induced osmotic diuresis. Aggressive insulin therapy for HHS can lower serum K+ levels further & cause severe hypokalemia Increase in extracellular pH->binding of calcium to albumin->low serum ionized calcium concentration Severe hyperglycemia->phosphate depletion due to phosphaturia
2186	Medicine	Endocrine, Diabetes & Metabolism	Fluid replacement is the most imp step in the management of non-ketotic hyperglycemia coma
2188	Medicine	Endocrine, Diabetes & Metabolism	Insulinoma(*Beta cell tumor*): Hypoglycemia along w/ elevated insulin, c-peptide & proinsulin levels Sulfonylurea-induced hypoglycemia: difficult to differentiate from insulinoma since increased insulin & c-peptide levels also seen in this situation. Dx confirmed w/ measuring plasma sulfonylurea level (if negative, its prob an insulinoma) Exogenous insulin induced hypoglycemia: very high serum insulin levels & low c-peptide levels Non-beta cell tumors: produce IGF II

2189	Medicine	Endocrine, Diabetes & Metabolism	Best markers indicating resolution of DKA are the serum anion gap & beta-hydroxybutyrate levels
2190	Medicine	Endocrine, Diabetes & Metabolism	The most beneficial therapy to reduce the progression of diabetic nephropathy is strict *blood pressure control*
2191	Medicine	Endocrine, Diabetes & Metabolism	Most important causes of thyrotoxicosis w/ low radioactive iodine uptake: subacute painless thyroiditis, subacute granulomatous thyroiditis, iodine-induced thyroid toxicosis, levothyroxine overdose, struma ovarii (less likely in a pt w/ neck swelling suggesting thyroiditis)
2192	Medicine	Endocrine, Diabetes & Metabolism	*GLP-1 agonists (exenatide, liraglutide) induce weight loss & have lower hypoglycemia risk* Metformin (biguanide): initial tx for most type 2 diabetics. Lactic acidosis is a complication Sulfonylureas for pts w/ metformin failure. Weight gain & hypoglycemia occur Pioglitazone (TZDs): S.E. like weight gain, edema, CHF, bone fracture, bladder ca. Can be used in renal insufficiency DPP-IV inhibitors (sitagliptin): low risk of hypoglycemia. Weight neutral. Can use w/ renal insufficiency
2220	Medicine	Endocrine, Diabetes & Metabolism	Carcinoid syndrome pts can develop *Niacin deficiency* (dermatitis, diarrhea & dementia). This is because carcinoid cells cause increased production of serotonin from tryptophan (required for niacin synthesis), resulting in niacin deficiency
2414	Medicine	Endocrine, Diabetes & Metabolism	Pts w/ PCOS at increased risk of developing insulin resistance & type 2 diabetes. A 75 g 2-hour *oral glucose tolerance test* can identify pts w/ impaired glucose tolerance better than a fasting glucose level Metformin rec for diabetes prevention in very obese pts Pts w/ PCOS are not at increased risk for breast cancer BRCA testing should be offered to pts w/ hx of ovarian cancer in 1st or 2nd degree relatives at age <50 or in multiple generations
2592	Medicine	Endocrine, Diabetes & Metabolism	Ectopic ACTH syndrome by a rapidly growing malignant tumor generally causes hypertension, hypokalemia, metabolic alkalosis, & pigmentation w.o characteristic features of Cushing syndrome. When cortisol is produced in excess amounts, it results in mineralocorticoid effects by bypassing the enzyme 11 beta hydroxyl dehydrogenase
2630	Medicine	Endocrine, Diabetes & Metabolism	Type 1 multiple endocrine neoplasia (MEN1): 3 P's - parathyroid, pituitary, pancreatic. Hypercalcemia (constipation, polyuria), peptic ulcer (epigastric abdominal pain with occult bleeding), family hx of peptic ulcer & kidney stones. Gastrin producing tumors (gastrinomas) are the most common pancreatic tumors in MEN1 & cause Zollinger-Ellison syndrome, charac. by severe & refractory peptic ulcer disease Milk-alkali syndrome: hypercalcemia, renal insufficiency, metabolic alkalosis
2645	Medicine	Endocrine, Diabetes & Metabolism	Glucagonoma: sx-hyperglycemia w/ necrotic migratory erythema (inflammatory blister/crusting w/ central clearing), diarrhea, anemia, & weight loss. Glucagon >500 pg/mL confirms dx. Gastrinoma: gastrin producing neuroendocrine tumor that typically presents w/ abdominal pain (upper gastrointestinal ulceration), diarrhea, anemia, & weight loss.
2649	Medicine	Endocrine, Diabetes & Metabolism	VIPoma: watery diarrhea, muscle weakness/cramps (due to hypokalemia), hypo- or achlorhydria (due to decreased gastric acid secretion). Facial flushing, lethargy, nausea/vomiting, abdominal pain, weight loss. 75% of VIPomas are in the pancreatic tail. 60%-80% metastasize to liver. Tx-iv volume repletion, octreotide to decrease diarrhea, hepatic resection in pts w/ metastasis to liver Systemic mastocytosis: steatorrhea, hepatomegaly, peptic ulcer disease, pruritis, facial flushing, urticaria
2725	Medicine	Endocrine, Diabetes & Metabolism	Primary hyperaldosteronism (Conn's syndrome): low renin, elevated aldosterone, & elevated serum bicarbonate (metabolic alkalosis). Causes include aldosterone producing tumor or bilateral adrenal hyperplasia Secondary hyperaldosteronism: elevated renin, elevated aldosterone, & metabolic alkalosis. Causes include renovascular hypertension, malignant hypertension, diuretics, & renin-secreting tumor
3083	Medicine	Endocrine, Diabetes & Metabolism	Clinical manifestations of vitamin D toxicity are mainly due to hypercalcemia & include constipation, abdominal pain, polyuria, & polydipsia
3099	Medicine	Endocrine, Diabetes & Metabolism	Pulmonary embolism -> Hyperventilation -> Respiratory alkalosis (increased extracellular pH) -> dissociation of hydrogen ions from albumin -> increased binding of albumin to calcium -> drop in unbound (ionized) calcium [Ionized calcium is the physiologically active form, & decreased levels can result in clinical manifestations of hypocalcemia]
3100	Medicine	Endocrine, Diabetes & Metabolism	*Pts w/ hypoalbuminemia can have decreased total serum calcium* (ionized calcium remains stable) Pseudohypoparathyroidism: PTH resistance in target organs (kidney, bone). These pts have hypocalcemia, elevated phosphorus, & high PTH levels

			In pts/ w hypercalcemia,a single elevated serum calcium level must always be confirmed by a second serum calcium value.After hypercalcemia is confirmed,next step is to check serum PTH level to distinguish between PTH mediated hypercalcemia & non-PTH mediated hypercalcemia
3102	Medicine	Endocrine, Diabetes & Metabolism	Vit D toxicity:elevated serum 25-hydroxy vitamin D level 1 or 3 hyperparathyroidism-high urine calcium/creatinine clearance ratio(cr) Familial hypercalcemia hypocalciuria-low urine calcium/creatinine c.r.
3230	Medicine	Endocrine, Diabetes & Metabolism	If a pt presents w/ muscle cramps,weakness, palpitations & hypokalemia a couple of weeks after starting a thiazide diuretic(hydrochlorothiazide),think primary hyperaldosteronism!Pts w/ mild primary hyperaldosteronism may not have spontaneous hypokalemia but are prone to developing diuretic induced hypokalemia.*Best screening test is early morning plasma aldosterone concentration (PAC) to plasma renin activity (PRA) ratio.* PAC/PRA ratio >20 w/ plasma aldosterone >15 ng/dL
3231	Medicine	Endocrine, Diabetes & Metabolism	Primary hyperaldosteronism: plasma aldosterone to renin ratio >20. Surgery preferred for unilateral adrenal adenoma. Medical therapy w/ aldosterone antagonists (eg, spironolactone, *eplerenone*) rec for pts w/ bilateral adrenal hyperplasia or w/ unilateral adrenal adenoma who either refuse surgery or are poor surgical candidates [Spironolactone can cause sig side effects in both men(gynecomastia) & women(breast tenderness,menstrual probs). Eplerenone has fewer side effects]
3451	Medicine	Endocrine, Diabetes & Metabolism	Diabetic foot ulcers: occur on plantar surface of the foot under points of greatest pressure, such as under the head of the first metatarsal bone Ulcers resulting from venous insufficiency (venous valvular incompetence) occur on the medial aspect of the leg above the medial malleolus. Often preceded by chronic lower extremity edema & stasis dermatitis
3454	Medicine	Endocrine, Diabetes & Metabolism	Measuring the Glycosylated hemoglobin (HbA1c)is the best way to check pts compliance with their diabetic medication regimen/monitor chronic glycemic control. Reflects pt's average glucose levels over the preceding 3 months Factors that increase red cell turnover (eg, hemolytic anemia) will give a falsely low HbA1c C-peptide is useful as an indicator of endogenous insulin production
3483	Medicine	Endocrine, Diabetes & Metabolism	Hypothyroidism can cause hyperlipidemia,hyponatremia & asymptomatic elevations of creatinine kinase & serum transaminases.Most pts have hypercholesterolemia alone or combined w/ hypertriglyceridemia Hypothyroidism->hyponatremia due to decreased free water clearance Thyrotoxicosis->hypercalcemia due to increased bone resorption Hypothyroid pts->normocytic normochromic anemia due to decreased RBC mass Some hypothyroid pts develop von Willebrand syn w increased bleeding risk
3484	Medicine	Endocrine, Diabetes & Metabolism	Thyroid nodules:Usually benign.*TSH measurement & US are 1st steps in eval*.Radionuclide scan for pts w/ low TSH.Hot nodules are benign & can be tx for hyperthyroidism.FNA indicated for pts w/ normal or high TSH,cold nodules,thyroid cancer family hx,or suspicious thyroid US findings Hyperfunctioning"hot"nodule(increased isotope uptake in nodule w/ decreased surrounding uptake) Indeterminate/Hypofunctioning"cold"nodule(decreased isotope uptake compared 2 surrounding tissue)
3486	Medicine	Endocrine, Diabetes & Metabolism	Generalized resistance to thyroid hormones: Pts have high T4 & T3 levels w/ normal (or just slightly elevated) TSH levels. Look for pt to have features of hypothyroidism despite having elevated free thyroid hormones Secondary and tertiary hypothyroidism are characterized by low circulating thyroid hormone levels w/ low or inappropriately normal TSH levels
3487	Medicine	Endocrine, Diabetes & Metabolism	Graves' disease can be tx w/ anti-thyroid drugs, radioactive iodine tx, or thyroidectomy. The most serious side effect of anti-thyroid drugs(eg,methimazole) is agranulocytosis (0.3% of pts). Pts developing sore throat & fever should stop the drug & see a physician to check their wbc count
3488	Medicine	Endocrine, Diabetes & Metabolism	Radioiodine therapy is more likely to cause permanent hypothyroidism in pts w/ Graves' disease. Since the whole thyroid gland is hyperfunctional in Graves' disease, radioiodine is taken up by the entire thyroid gland, thereby resulting in complete thyroid ablation
3489	Medicine	Endocrine, Diabetes & Metabolism	Osteomalacia: commonly due to vitamin D deficiency(*low vit D->low calcium,low phosphate->increased PTH*).Vit D deficiency can be due to malabsorption(Crohn's),intestinal bypass surgery(small bowel resection), celiac sprue, or chronic liver or kidney disease.Unlike in osteoporosis, pts complain of bone pain & muscle weakness. Xray-decreased bone density w/ thinning of cortex & pseudofractures(Looser zones) Osteoporosis:bone pain(w/o fracture) & muscle weakness aren't present

3490	Medicine	Endocrine, Diabetes & Metabolism	<p>Osteomalacia: defective *mineralization* of the organic bone *matrix*. Can be due to vitamin D deficiency, which leads to decreased intestinal calcium & phosphorus absorption w/ resultant secondary hyperparathyroidism. Labs-hypophosphatemia, hypocalcemia,elevated alkaline phosphatase. Sx-muscle weakness & bone pain</p> <p>Pagets disease of bone: markers of bone resorption (c-telopeptide, n-telopeptide) & bone formation (alkaline phosphatase, osteocalcin) are elevated</p>
3492	Medicine	Endocrine, Diabetes & Metabolism	<p>Dopamine-agonists such as bromocriptine or cabergoline treat prolactinomas.</p> <p>Do Surgery only if pts don't respond to or can't tolerate dopamine agonists, or if impaired vision due to invasive prolactinomas doesn't improve w/ drug treatment</p> <p>Do Radiotherapy for tumors that don't respond to medical or surgical therapy. Risk of panhypopituitarism.</p>
3493	Medicine	Endocrine, Diabetes & Metabolism	Serum prolactin levels >200 ng/mL are essentially diagnostic for prolactinoma
3494	Medicine	Endocrine, Diabetes & Metabolism	Renal angiomyolipomas are seen in tuberous sclerosis
3495	Medicine	Endocrine, Diabetes & Metabolism	<p>Euthyroid sick syndrome ("low T3 syndrome") is characterized by a fall in total & free T3 levels w/ normal T4 & TSH levels</p> <p>Central hypothyroidism: low(or inappropriately normal) TSH levels ass. w/ low T4 & low or low-normal T3</p> <p>Overt primary hypothyroidism: decreased free T4 levels w/ an elevated TSH</p> <p>Subclinical hypothyroidism: elevated TSH w/ normal T4 levels. Serum T3 not useful in these pts, it remains normal until late stages of hypothyroidism.</p>
3496	Medicine	Endocrine, Diabetes & Metabolism	<p>Anti-thyroid peroxidase (anti-TPO) & anti-thyroglobulin antibodies are present in more than 90% of pts w/ Hashimoto's thyroiditis</p> <p>Thyroid stimulating immunoglobulins (TSI) are present in pts w/ Graves' disease. TSI stimulate TSH receptors on the thyroid follicular cells, thereby resulting in thyroid hormone overproduction</p> <p>Antibodies against TSH receptors can be present in some pts w/ hypothyroidism. These pts have small thyroid glands</p>
3497	Medicine	Endocrine, Diabetes & Metabolism	Hashimoto's thyroiditis: positive anti-thyroperoxidase(TPO)antibodies w/ an enlarged rubbery goiter are virtually diagnostic. Pts are at increased risk for developing *thyroid lymphoma*
3498	Medicine	Endocrine, Diabetes & Metabolism	<p>Papillary carcinoma of the thyroid is the most common thyroid malignancy(& has the best prognosis). Risk factors include *exposure to radiation during childhood* & family hx. Spreads via lymphatic dissemination</p> <p>Follicular thyroid cancer spreads via hematogenous route</p> <p>Anaplastic carcinoma occurs in older pts & presents w/ a rapidly enlarging thyroid mass. Has the worst prognosis of all thyroid cancers w/ median survival of only a few months</p>
3499	Medicine	Endocrine, Diabetes & Metabolism	<p>Follicular thyroid cancer: *invasion of the capsule & blood vessels* is seen histopathologically. Unlike papillary cancer, follicular cancer is encapsulated.</p> <p>Papillary thyroid cancer (PTC): most common thyroid malignancy, slow infiltrative local spread affecting other parts of the thyroid gland & regional lymph nodes, psammoma bodies are seen, FNAB reveals large cells w/ ground glass cytoplasm, PTC is unencapsulated, prognosis is excellent even w/ metastasis</p>
3520	Medicine	Endocrine, Diabetes & Metabolism	<p>MEN 2A & MEN 2B are autosomal disorders due to germline mutations in the RET proto-oncogene in >95% of pts. Pts w/ positive DNA testing should undergo total thyroidectomy in early childhood (risk of acquiring invasive medullary thyroid cancer is nearly 100%).</p> <p>The pheochromocytoma of MEN syndromes can be dx w/ metanephrines & free catecholamines or plasma free metanephrines</p>
3594	Medicine	Endocrine, Diabetes & Metabolism	Leydig cells are the principal source of testosterone & are capable of estrogen production, due to markedly increased aromatase expression. Common endocrine manifestations in adults is gynecomastia, however in prepubertal cases,precocious puberty is common
3595	Medicine	Endocrine, Diabetes & Metabolism	<p>Red flags for other secondary causes of hypogonadotropic hypogonadism: headaches,low testosterone levels(<150 ng/dL),gynecomastia w/ or w/o galactorrhea,& evidence of other pituitary hormonal deficiencies.MRI of pituitary indicated in pts w/ elevated serum prolactin,serum testosterone <150 ng/dL,visual field defects,or features of other pituitary hormonal dysfunction</p> <p>Testosterone tx required if pt's serum prolactin & MRI of pituitary are normal</p>
3598	Medicine	Endocrine, Diabetes & Metabolism	<p>Elevated serum dehydroepiandrosterone sulfate (*DHEA-S*) levels are specifically seen in pts w/ androgen producing ADRENAL tumors.</p> <p>[Androstenedione(AS), DHEA, & DHEA-S aren't true androgens cuz they don't interact w/ the androgen receptor. They can be converted to testosterone, & overproduction of these hormones can lead to clinical features of androgen excess]</p>

			<p>Pts w/ central diabetes insipidus(DI) increase their urine osmolality by 50% following administration of desmopressin acetate tablets;pts w/ nephrogenic DI will not show much change. Desmopressin(intranasal) is 1st line tx for central DI</p>
3729	Medicine	Endocrine, Diabetes & Metabolism	<p>Demeclocycline tx SIADH</p> <p>HCTZ preferred for nephrogenic DI.Causes mild volume depletion that increases proximal water & Na+ reabsorption</p> <p>Tolvaptan used for hypervolemic/euvolemic hyponatremia that doesn't improve w/ standard therapy</p>
3781	Medicine	Endocrine, Diabetes & Metabolism	<p>Diabetic neuropathy: Monofilament testing predicts the risk of future ulcers</p> <p>Ankle brachial index primarily measures large vessel peripheral arterial disease</p>
3795	Medicine	Endocrine, Diabetes & Metabolism	<p>*Symmetric distal sensorimotor polyneuropathy* is the most common type of diabetic neuropathy, & is charac by the classic "stocking glove" pattern of sensory loss. Aside from symmetric distal sensorimotor polyneuropathy, diabetes can also cause mononeuropathies of cranial & peripheral nerves</p>
3797	Medicine	Endocrine, Diabetes & Metabolism	<p>Diabetic gastroparesis(delayed gastric emptying) presents w/ sx of anorexia, nausea, vomiting, early satiety, postprandial fullness, & impaired glycemic control. Prokinetic agents(eg, *metoclopramide*, erythromycin, cisapride) are useful in the management of sx</p> <p>Progesterone analogs are useful in the palliation of anorexia & in improving appetite & weight gain in pts w/ cancer related anorexia/cachexia syndrome</p>
3800	Medicine	Endocrine, Diabetes & Metabolism	<p>TCAs(*amitriptyline*,desipramine,nortriptyline) used to tx diabetic neuropathy.Since TCAs can worsen urinary sx(due to cystopathy) & orthostatic hypotension(due to cardiovascular autonomic neuropathy),Gabapentin is an alternative for these pts</p> <p>Small fiber neuropathy:pain,allodynia,paresthesias;sensory loss isn't marked.Ankle jerks may be preserved</p> <p>Large fiber neuropathy:less pain,more numbness;pressure,proprioception,vibratory sensations decreased,ankle jerks usually lost</p>
3807	Medicine	Endocrine, Diabetes & Metabolism	<p>Screening for diabetes is recommended in pts w/ sustained bp >135/80 & may be considered in all pts over age 45, as well as those w/ additional risk factors for diabetes(htn,overweight,family hx)</p> <p>For women w/ average risk for cervical cancer, a Pap test is recommended every 3 years from age 21-29. Between ages 30-65, pts w/ initial negative testing may have either a Pap test alone every 3 years or a combination of Pap test & HPV testing every 5 years (preferred)</p>
3832	Medicine	Endocrine, Diabetes & Metabolism	<p>Ratio of plasma aldosterone concentration to plasma renin activity is the preferred initial screening test for primary hyperaldosteronism. Adrenal suppression testing can confirm the dx, & positive tests require further adrenal imaging. Adrenal venous sampling is the most sensitive test for differentiating adrenal adenoma & bilateral adrenal hyperplasia in pts w/o discrete unilateral adrenal mass on imaging</p>
3878	Medicine	Endocrine, Diabetes & Metabolism	<p>Hypothyroidism should always be considered in pts w/ an unexplained elevation of serum CK concentration. Serum TSH is the most sensitive test to dx hypothyroidism.</p>
3899	Medicine	Endocrine, Diabetes & Metabolism	<p>Primary polydipsia: due to increased water intake, dilute urine(urine osmolality < 1/2 plasma osmolality) & hyponatremia (sodium <137 mEq/L)</p> <p>Diabetes insipidus: Serum Na >145 mEq/L w/ dilute urine</p>
3902	Medicine	Endocrine, Diabetes & Metabolism	<p>ACE inhibitors slow the progression of diabetic nephropathy</p>
3952	Medicine	Endocrine, Diabetes & Metabolism	<p>Systolic hypertension in thyrotoxicosis(weight loss, tachycardia, tremor, lid retraction) is caused by hyperdynamic circulation which is due to *increased myocardial contractility* & heart rate</p>
3976	Medicine	Endocrine, Diabetes & Metabolism	<p>When treating pts w/ *pheochromocytoma*, do not give beta-blockers w/o alpha-blockers. *Always give an alpha-blocker first, followed by a beta-blocker*; doing this in the wrong order can precipitate a very dangerous increase in blood pressure.</p>
3981	Medicine	Endocrine, Diabetes & Metabolism	<p>Hypomagnesemia causes hypocalcemia by inducing PTH resistance & decreasing PTH secretion. Serum phosphate levels normal or low</p> <p>In addition to chronic kidney disease, vitamin D deficiency is one of the mcc of secondary hyperparathyroidism. It usually causes low to low-normal serum phosphate & normal serum calcium in most adult pts</p>
3996	Medicine	Endocrine, Diabetes & Metabolism	<p>PCOS tx: weight loss & *oral estrogen/progestin contraceptives/Combined hormonal contraceptive therapy*</p> <p>Oral contraceptives significantly reduce hirsutism</p>
4082	Medicine	Endocrine, Diabetes & Metabolism	<p>Hypomagnesemia can cause hypocalcemia in alcoholics</p> <p>Hypomagnesemia causes decreased release of parathyroid hormone (PTH) and PTH resistance. (This is how it causes hypocalcemia)</p> <p>The hypoparathyroidism caused by low magnesium won't cause elevation of phosphorus levels(as seen normally w/ hypoparathyroidism)</p>

4128	Medicine	Endocrine, Diabetes & Metabolism	MEN 2 syndromes: Genetic/DNA testing (RET proto-oncogen mutation) is recommended screening test Total thyroidectomy indicated for pts who test positive. (Biochemical testing helpful in monitoring residual disease after thyroidectomy)
4132	Medicine	Endocrine, Diabetes & Metabolism	Radioiodine therapy complications (in Graves disease pts): 1) Hypothyroidism develops in more than 80% of pts. It's the most common side effect! Can easily be treated w/ levothyroxine 2) Exacerbation of ophthalmopathy. Rate as high as 10% reported. Prevented w/ high dose corticosteroid treatment before and after radioactive iodine
4134	Medicine	Endocrine, Diabetes & Metabolism	Hypercalcemia of lung malignancy is most commonly due to the production of PTHrP by malignant cells
4154	Medicine	Endocrine, Diabetes & Metabolism	Oral estrogen therapy can increase thyroxine binding globulin (TBG) levels, so if a hypothyroid pt is already on thyroid meds and they are taking oral estrogen, they'll need to switch to a higher dose of thyroid meds to saturate the increased TBG sites
4161	Medicine	Endocrine, Diabetes & Metabolism	Pelvic fracture w/ urethral injury -> Erectile dysfunction (ED) due to nerve injury/*neurogenic problem* and altered arterial supply Venogenic ED develops after disruption of the tunica albuginea (eg penile fracture) Hyperprolactinemia, Testosterone deficiency, and Diabetes mellitus can also cause ED
4164	Medicine	Endocrine, Diabetes & Metabolism	Metabolic syndrome: 3 of 5 criteria have to be met 1) Abdominal obesity 2) Fasting glucose >100-110 mg/dL 3) Blood pressure > 130/80 mm Hg 4) Triglycerides > 150 mg/dL 5) HDL cholesterol (Men <40mg/dL; Women: <50 mg/dL) Insulin resistance plays central role in pathogenesis of metabolic syndrome (Extremely high yield for USMLE!!!)
4216	Medicine	Endocrine, Diabetes & Metabolism	Hypocalcemia can occur during or immediately after surgery in pts undergoing major surgery & requiring extensive transfusions. Hyperactive deep tendon reflexes may be the initial manifestation. Muscle cramps & rarely, convulsions may occur. Mild hypermagnesemia: decreased deep tendon reflexes. Severe hypermagnesemia causes loss of deep tendon reflexes, muscle paralysis, apnea, & cardiac arrest Hyperkalemia: muscle weakness, flaccid paralysis, ECG changes. Asystole may occur
4247	Medicine	Endocrine, Diabetes & Metabolism	Metabolic acidosis observed during diabetic ketoacidosis is typically accompanied by hyperkalemia(due to *extracellular shift*); this is sometimes called paradoxical hyperkalemia because the body potassium reserves are actually depleted. H.Y.!! Early K+ supplementation is very imp in tx DKA pts. Tx w/ insulin & IV fluids leads to rapid decrease in serum K+ levels. All hyperkalemic pts should receive K+ once serum K+ level goes below 4.5 mEq/L
4275	Medicine	Endocrine, Diabetes & Metabolism	Alanine is converted to pyruvate during the process of gluconeogenesis (pyruvate is eventually converted to glucose, which is then released into the bloodstream)
4286	Medicine	Endocrine, Diabetes & Metabolism	In the management of pts w/ hyperthyroidism, propranolol is generally used for symptomatic relief until the underlying cause is identified & definitively treated. Propranolol relieves the tachycardia, tremor, sweating, & anxiety that occur w/ hyperthyroidism. PTU is only used when radioactive iodine is contraindicated, such as in pregnancy Alprazolam is a benzodiazepine which is useful in treating anxiety
4289	Medicine	Endocrine, Diabetes & Metabolism	Hyperosmolar hyperglycemic state occurs in type 2 diabetics. Severe hyperglycemia develops in these pts & results in glycosuria & severe volume depletion. Pts get lethargy, weakness, altered mental status, & eventual coma. Dx is establish by serum glucose, plasma osmolality, and absent ketonemia(*Serum chemistry profile*) Hypothyroid crisis (myxedema coma): hypothermia, bradycardia, hypoventilation, or hypotension
4304	Medicine	Endocrine, Diabetes & Metabolism	Some longstanding chronic kidney disease pts(esp following renal transplant) can develop PTH-induced hypercalcemia(tertiary hyperparathyroidism) w/ PTH levels >10x the upper limit of normal Pts w/ sarcoidosis have increased extra-renal conversion of 25-hydroxyvitamin D to 1,25-dihydroxyvitamin D (calcitriol) by the granulomatous tissue. This leads to increased calcium absorption from the GI tract & subsequent hypercalcemia
4305	Medicine	Endocrine, Diabetes & Metabolism	In developed countries, more than 80% of pts have primary adrenal insufficiency due to autoimmune adrenalitis
4306	Medicine	Endocrine, Diabetes & Metabolism	The most likely dx in a pt who presents w/ clinical features of adrenal insufficiency & calcifications in the adrenal glands is adrenal tuberculosis. Adrenal tuberculosis continues to be the prominent cause of primary adrenal insufficiency in developing countries. In contrast, autoimmune adrenalitis is currently the mcc of primary adrenal insufficiency in developed countries Adrenal insufficiency in adrenoleukodystrophy is caused by accumulation of very long chain fatty acids

4307	Medicine	Endocrine, Diabetes & Metabolism	<p>Untreated hyperthyroid pts are at risk for rapid bone loss (due to increased osteoclastic activity in the bone cells) and also at risk for cardiac tachyarrhythmias, including atrial fibrillation</p> <p>Infiltrative ophthalmopathy leading to proptosis only occurs w/ Graves disease (& not w/ toxic adenoma)</p> <p>sx of coronary artery disease can be unmasked or worsened w/ thyrotoxicosis</p>
4308	Medicine	Endocrine, Diabetes & Metabolism	Serum calcium levels are generally much higher (>13 mg/dL) in pts w/ hypercalcemia of malignancy than in those w/ primary hyperparathyroidism
4309	Medicine	Endocrine, Diabetes & Metabolism	<p>Hypercalcemia due to immobilization: Immobilization of an individual w/ high bone turnover results in increased osteoclastic activation that can lead to hypercalcemia tx- Bisphosphonate therapy</p> <p>Rhabdomyolysis pts initially develop hypocalcemia due to precipitation of calcium with phosphorus released from the damaged muscles. Hypercalcemia in rhabdomyolysis occurs during the diuretic/recovery phase of the illness</p>
4318	Medicine	Endocrine, Diabetes & Metabolism	<p>Multinodular goiter-radioactive iodine uptake is patchy in distribution</p> <p>Graves disease-diffusely increased radioactive iodine uptake</p> <p>Toxic adenoma-radioactive iodine uptake in the nodule & suppression of uptake in the rest of the thyroid gland</p> <p>Painless thyroiditis-radioactive iodine uptake is markedly reduced</p> <p>Hashimoto's thyroiditis-thyroid scan shows heterogenous pattern</p>
4323	Medicine	Endocrine, Diabetes & Metabolism	*Insulin-like growth factor-1 (IGF-1)* is the preferred screening test for acromegaly(coarse facial features,arthralgias,uncontrolled HTN,increased ring size,skin tags,carpal tunnel syn).[Random measurement of growth hormone is not as sensitive due to wide fluctuations in circulating levels].Measurement of nonsuppressible growth hormone levels following an oral glucose load is the most sensitive dynamic test for acromegaly & is typically performed after initial IGF-1 levels
4324	Medicine	Endocrine, Diabetes & Metabolism	<p>TSH secreting pituitary adenoma:central hyperthyroidism w/ elevated thyroid hormone & elevated/inappropriately normal TSH. Ass. w/ sx due to mass effect like headache,visual field defects & impaired function of surrounding pituitary tissue.Goiter present</p> <p>Resistance to thyroid hormone:elevated T3 & T4 & normal to elevated TSH levels,often w/ an ass. goiter. Pts are clinically HYPO-thyroid</p> <p>Pregnant women w/ clinical hyperthyroidism have suppressed TSH</p>
4325	Medicine	Endocrine, Diabetes & Metabolism	<p>Central adrenal insufficiency: Chronic supraphysiologic doses of glucocorticoids cause central adrenal insufficiency by suppressing the hypothalamic-pituitary-adrenal axis. Labs will show low ACTH & low cortisol levels & a relatively normal aldosterone level</p> <p>Primary adrenal insufficiency: Increased ACTH & low cortisol. They have low levels of all adrenal cortical hormones, including cortisol, adrenal sex steroids, & aldosterone. hyperpigmented, hyponatremic,hyperkalemic</p>
4336	Medicine	Endocrine, Diabetes & Metabolism	*Diabetic pts age 40-75 should receive statin therapy regardless of baseline lipid levels*. If this same pt has mild hypertriglyceridemia(<500 mg/dL), the statins can actually reduce the triglyceride level and correct the mild hypertriglyceridemia(classes of lipid lowering drugs other than statins are not routinely rec. for mild-to-moderate hypertriglyceridemia as they haven't been shown to reduce the risk of cardiac events)
4347	Medicine	Endocrine, Diabetes & Metabolism	<p>Hemolytic episodes in pts w/ G6PD deficiency can be preceipitated by infections or meds that increase *oxidative stress* (particularly sulfa drugs, antimalarials, & nitrofurantoin). TMP-SMX is an example of a sulfa containing antibiotic used to tx UTIs. Prussian blue stain will indicate presence of hemosiderin, which is found in the urine during hemolytic episodes</p> <p>Circulating immune complexes cause glomerulonephritis. Urine microscopy shows hematuria & RBC casts</p>
4382	Medicine	Endocrine, Diabetes & Metabolism	Proximal muscle weakness w/ or w/o muscle atrophy can occur in 60%-80% of pts w/ untreated hyperthyroidism & correlates to the duration of the hyperthyroid state. Hip flexors & quadriceps are predominantly affected, and the weakness can gradually progress to involve the proximal muscles of the upper extremities. Also look for additional hints like fatigue, anxiety, tremor, weight loss, tachycardia which favor hyperthyroidism
4415	Medicine	Endocrine, Diabetes & Metabolism	<p>*Radioactive iodine is ass. w/ potential development or worsening of Graves' ophthalmopathy*</p> <p>Glucocorticoids decrease the peripheral conversion of T4 to T3(biologically active thyroid hormone) & can blunt hyperthyroid sx, esp in pts w/ severe hyperthyroidism or thyroid storm. Glucocorticoids also can help reduce the acute worsening of ophthalmopathy</p> <p>Side effects: (PTU)-vasculitis, hepatic failure (MMI)- 1st trimester teratogen, cholestasis (PTU & MMI)-agranulocytosis</p>

4419	Medicine	Endocrine, Diabetes & Metabolism	<p>Cushing's syndrome: Hypokalemia & hypernatremia are seen.[hypokalemia occurs cuz most corticosteroids have some mineralocorticoid activity & will bind to aldosterone receptors in the kidney,causing renal potassium wasting.If severe, the hypokalemia of Cushing's syndrome can be tx w/ an aldosterone antagonist like spironolactone]</p> <p>Hypercalcemia is an occasional finding in adrenal failure</p> <p>Corticosteroids are often used to tx hypercalcemia (sarcoid & lymphoma pts)</p>
4471	Medicine	Endocrine, Diabetes & Metabolism	<p>hypothyroidism: can cause reversible changes in memory and mentation look for weight gain, fatigue, constipation, hoarseness, and memory changes</p> <p>pseudodementia: memory changes and dementia in elderly due to depression</p>
4588	Medicine	Endocrine, Diabetes & Metabolism	<p>In hyperthyroidism, increased radioactive iodine uptake(RAIU) suggests de novo thyroid hormone synthesis, whereas *decreased RAIU* suggests release of preformed hormone or *exogenous hormone intake*. Thyrotoxicosis due to exogenous thyroid hormone is characterized by *low serum thyroglobulin levels*</p> <p>Many TSH-secreting pituitary adenomas overproduce the alpha-subunit,& an elevated ratio of alpha-subunit to TSH suggests a pituitary adenoma</p>
4721	Medicine	Endocrine, Diabetes & Metabolism	<p>Cushing syndrome: sx- hypertension(which causes headaches), hyperglycemia, weight gain causes- excess glucocorticoid intake, ACTH producing pituitary adenoma(eg, cushing disease), & ectopic ACTH production(eg, small cell lung cancer) Associated hypokalemia suggests severe hypercortisolism & is most often seen w/ ectopic ACTH producing tumors</p>
4726	Medicine	Endocrine, Diabetes & Metabolism	<p>Graves ophthalmopathy: bilateral proptosis, impaired extraocular motion(decreased convergence, diplopia), eye irritation(gritty or sandy sensation), redness, photophobia, pain, & excess tearing. Female sex, advancing age, & *smoking* are risk factors. Proptosis results from *increased volume/expansion of retro-orbital tissues* & is a direct result of anti-thyrotropin receptor autoantibodies</p>
8876	Medicine	Endocrine, Diabetes & Metabolism	<p>Management of hypocalcemic pts: After confirmation of hypocalcemia, the next step is to check PTH level to distinguish between low PTH associated conditions (eg, parathyroid surgery, polyglandular autoimmune) and elevated PTH associated conditions (eg, vitamin D deficiency, chronic kidney disease).</p>
8897	Medicine	Endocrine, Diabetes & Metabolism	<p>Primary hyperaldosteronism: sx- hypertension, mild hypernatremia, hypokalemia, metabolic alkalosis, & suppressed plasma renin activity.</p>
8901	Medicine	Endocrine, Diabetes & Metabolism	<p>Chronic GI disease(steatorrhea,celiac disease)->Vitamin D deficiency(due to malabsorption)->*hypocalcemia,low phosphorus,& elevated PTH* [Pts can be asymptomatic or complain of bone pain or tenderness,muscle weakness or cramps,& gait abnormalities]</p>
8918	Medicine	Endocrine, Diabetes & Metabolism	<p>Hypopituitarism w/ a mild to moderate increase in prolactin suggests a nonfunctioning (gonadotroph) adenoma</p>
10958	Medicine	Endocrine, Diabetes & Metabolism	<p>Thyroid storm: life-threatening thyrotoxicosis often triggered by thyroid or non-thyroid surgery, trauma, infection, iodine contrast, or childbirth. Sx- tachycardia, hypertension, cardiac arrhythmias, high fever, tremor, altered mentation, & lid lag. [Don't let stem confuse you into thinking it's alcohol withdrawal sx]</p>
11270	Medicine	Endocrine, Diabetes & Metabolism	<p>Postpartum adrenal insufficiency (AI) may be due to adrenal (primary AI) or pituitary (secondary AI) disease. Hyperpigmentation & signs of mineralocorticoid deficiency suggest primary rather than secondary AI. *Autoimmune adrenalitis* is the most common etiology for primary adrenal insufficiency</p> <p>Pts w/ secondary AI have only glucocorticoid & adrenal androgen deficiency w/ preservation of mineralocorticoid production.Hyperkalemia,hypotension,hyperchloremic acidosis NOT SEEN!</p>
11277	Medicine	Endocrine, Diabetes & Metabolism	<p>Thyroid storm is a life-threatening *thyrotoxicosis* usually triggered by a specific event (eg, surgery, trauma, infection, *iodine contrast*, childbirth) in pts w/ undiagnosed or inadequately treated hyperthyroidism. Pts can develop fever, hemodynamic instability, cardiac arrhythmias, & congestive heart failure</p>
11367	Medicine	Endocrine, Diabetes & Metabolism	<p>*Tight blood glucose control in pts w/ diabetes decreases the risk of microvascular complications(eg, retinopathy, nephropathy)*, increases the risk of hypoglycemia, & has an uncertain effect on macrovascular complications (eg, myocardial infarction, stroke) & all-cause mortality</p>
11063	Medicine	Female Reproductive System & Breast	<p>Urinary incontinence(UI) in elderly pts: initial evaluation should include *urinalysis & urine culture*. UTIs are leading causes of urinary incontinence in elderly pts</p> <p>Long term urinary catheter may be used in pts w/ neurogenic bladder or urinary retention due to anatomic issues</p> <p>Tolterodine used for urge incontinence/overactive bladder sx</p> <p>Urodynamic studies helpful for evaluating complicated stress/mixed UI or clarifying mechanism of overflow incontinence</p>

11970	Medicine	Female Reproductive System & Breast	<p>Fibrocystic breast changes are a common cause of cyclic premenstrual tenderness/breast pain in women of reproductive age. Classic clinical findings are diffusely nodular (eg, cordlike thickening) breasts w/ nonfocal tenderness & no nipple discharge or lymphadenopathy. Pts offered NSAIDs &/or oral contraceptives for symptomatic relief</p> <p>Costochondritis->parasternal pain/discomfort due to rib cartilage inflammation. Pain sharp &/or pressure like & worsens w/ coughing/deep inhalation</p>
2149	Medicine	Gastrointestinal & Nutrition	Chronic mesenteric ischemia: suspect in pts w/ unexplained chronic abdominal pain, weight loss, & food aversion. Evidence of ass. atherosclerotic disease is usually present. Abdominal exam may reveal a bruit (50% of pts)
2166	Medicine	Gastrointestinal & Nutrition	Presence of "succussion splash" can indicate *gastric outlet obstruction*
2198	Medicine	Gastrointestinal & Nutrition	<p>Pts w/ proximal small intestinal mucosal disease (Celiac disease) can't absorb the D-xylose in the intestine->urinary & venous D-xylose levels will be low</p> <p>Pts w/ malabsorption due to enzyme deficiencies(chronic pancreatitis)->normal absorption of D-xylose</p> <p>False-positive D-xylose test(decreased urinary excretion of D-xylose despite normal mucosal absorption)->seen in pts w/ delayed gastric emptying or impaired glomerular filtration</p> <p>SIBO->>false positive D-xylose test</p>
2199	Medicine	Gastrointestinal & Nutrition	Esophageal malignancy at the esophageal gastric junction can mimic achalasia & should be excluded w/ *endoscopy* before starting tx for achalasia
2200	Medicine	Gastrointestinal & Nutrition	<p>Pts w/ gastroesophageal reflux sx require an upper GI endoscopy if they have alarm sx(dysphagia, odynophagia, weight loss, anemia, GI bleeding, recurrent vomiting) or are men age >50 w/ chronic (>5 years) sx & cancer risk factors(eg, tobacco use).</p> <p>Esophageal manometry/pH monitoring used for persistent GERD sx or normal upper GI endoscopy to assess for other conditions (eg, motility disorders) that can occasionally mimic GERD</p>
2202	Medicine	Gastrointestinal & Nutrition	<p>Suspect C.diff colitis in any pt who has been on antibiotics & complains of diarrhea or abdominal pain. *Stool studies for C.diff toxin* should be sent to confirm dx. Pts w/ suspected colitis should receive empiric metronidazole while awaiting results of stool studies</p> <p>Severe colitis requires oral vancomycin with/without IV metronidazole or possible switch to intracolonic vancomycin. Use fidaxomicin if can't tolerate oral vancomycin</p>
2203	Medicine	Gastrointestinal & Nutrition	Increased intragastric pressure during vomiting can cause tears in the mucosa of the distal esophagus & proximal stomach. These are called Mallory-Weiss tears, & account for 10% of upper GI bleeds
2204	Medicine	Gastrointestinal & Nutrition	<p>Abdominal CT scan is the best diagnostic test for diverticulitis</p> <p>IV pyelography is useful to evaluate for acute kidney stones</p> <p>Calcium oxalate crystals are a frequent finding in urinary sediment & are not clinically significant unless the pt has sx suggestive of acute nephrolithiasis</p>
2205	Medicine	Gastrointestinal & Nutrition	<p>Toxic megacolon: complication of inflammatory bowel disease. Sx- colonic distension, fever, HR > 120, neutrophilic leukocytosis >10,500, anemia, volume depletion, altered sensorium, electrolyte disturbances, hypotension</p> <p>Initial test of choice in cases of suspected toxic megacolon is *abdominal x-ray* to confirm the presence of a dilated colon greater than 6 cm.</p>
2207	Medicine	Gastrointestinal & Nutrition	Always suspect *Crohn's disease* in a young pt w/ chronic diarrhea, abdominal pain, & weight loss. Lab findings of every chronic inflammatory disease can include anemia & reactive thrombocytosis(elevated platelet count). Several shallow ulcers in pt's mouth also points toward Crohn's disease
2209	Medicine	Gastrointestinal & Nutrition	<p>Pt w/ epigastric pain(worse at night), food intolerance, weight loss, enlarged nontender gallbladder, & icterus suggestive of biliary obstruction has findings consistent w/ pancreatic cancer. Most pancreatic cancers originate in the head of the pancreas, & compress the pancreatic duct & the common bile duct as they expand. Subsequent backup of bile leads to intra-& extrahepatic biliary duct dilation & a nontender, distended gallbladder</p> <p>Portal vein thrombosis: ass. w/ cirrhosis</p>
2210	Medicine	Gastrointestinal & Nutrition	<p>Iron deficiency anemia in elderly: most common cause- GI blood loss management- colonoscopy & endoscopy</p> <p>*A negative occult blood test does not exclude the possibility of GI bleeding!*</p> <p>Radioisotope scans are useful in determining the source of active bleeding (but aren't diagnostic in the absence of an active bleed). Used in acute GI blood loss when source of bleeding remains unidentified on colonoscopy and endoscopy.</p>
2212	Medicine	Gastrointestinal & Nutrition	Oropharyngeal dysphagia: difficulty initiating swallowing ass. w/ *coughing, choking, aspiration, nasal regurgitation*. Other complications include aspiration pneumonia & weight loss. Underlying etiologies include stroke, advanced dementia, oropharyngeal malignancy or neuromuscular disorders(myasthenia gravis). Pts are evaluated initially w/ *videofluoroscopic modified barium swallow* to evaluate swallowing mechanics, degree of dysfunction, & severity of aspiration

2213	Medicine	Gastrointestinal & Nutrition	Diffuse esophageal spasm: episodes of dysphagia, regurgitation, spontaneous pain, odynophagia for cold & hot food, chest pain precipitated by emotional stress. Pt's chest pain will resolve after taking nitroglycerin(nitrates relax myocytes in coronary vessels as well as esophagus). *Esophageal manometry* establishes the dx. If GERD suspected in a pt, start pt on empiric trial of a proton pump inhibitor (rather than 24-hour pH monitoring)
2214	Medicine	Gastrointestinal & Nutrition	Zenker's diverticulum(ZD):common in elderly men.Presents w/ dysphagia,regurgitation,foul-smelling breath,aspiration,occasionally a palpable mass.Pts w/ ZD are at risk for aspiration pneumonia.*Contrast esophagram* is the test of choice for confirming dx.Tx-surgical
2217	Medicine	Gastrointestinal & Nutrition	Spontaneous bacterial peritonitis: sx- cirrhosis & ascites accompanied by either fever or a change in mental status. Paracentesis is the test of choice, w/ a positive ascites fluid culture & PMN level >250/mm3 being the main criteria for making the dx
2218	Medicine	Gastrointestinal & Nutrition	Tx for ascites: 1) sodium & water restriction 2) spironolactone 3) loop diuretic 4) frequent abdominal paracentesis
2335	Medicine	Gastrointestinal & Nutrition	Esophageal perforation can occur due to iatrogenic causes(eg, pt's condition worsened after endoscopy). Chest radiography shows pleural effusion, pneumomediastinum, and/or pneumothorax. *Water-soluble contrast esophagram* to confirm dx(its preferable to barium since it doesn't irritate the pleura if a leak is present)
2340	Medicine	Gastrointestinal & Nutrition	*Technetium-99 labeled erythrocyte scintigraphy*: used in cases of lower GI bleeding where source can't be found by colonoscopy.Localizes source of blood loss so that region can be evaluated & treated by colonoscopy or angiography Capsule endoscopy:for pts w/ chronic GI blood loss who have had a negative upper & lower endoscopy. Used to examine small bowel Laparotomy,for blind total abdominal colectomy & ileostomy,is reserved for persistent bleeding & if site can't be found
2341	Medicine	Gastrointestinal & Nutrition	Diverticulosis is the mcc of gross lower GI bleeding in adults. Bleeding is painless but may be ass. w/ lightheadedness & hemodynamic instability. Diverticular hemorrhage usually resolves spontaneously but occasionally requires endoscopic or surgical intervention
2342	Medicine	Gastrointestinal & Nutrition	Acute pancreatitis is most commonly caused by gallstones & alcohol use. *Ultrasound* is the preferred test to detect gallstones. Carbachol is a cholinomimetic agent that stimulates contraction of the bowel musculature and might contract the Oddi sphincter
2369	Medicine	Gastrointestinal & Nutrition	Pt w/ chronic pancreatitis due to alcohol abuse: alcohol consumption exacerbates chronic pancreatitis -> vomiting -> spontaneous rupture of the esophagus (Boerhaave syndrome). Pneumomediastinum commonly occurs following rupture of the esophagus within the mediastinum. It presents as retrosternal pain & crepitus in the suprasternal notch Mallory Weiss tear is an incomplete mucosal tear at the GE junction resulting from protracted vomiting. Pneumomediastinum doesn't occur.
2581	Medicine	Gastrointestinal & Nutrition	*Neutrophilic cryptitis* can be seen in both Crohn's disease & Ulcerative colitis
2582	Medicine	Gastrointestinal & Nutrition	Ulcerative colitis pts at increased risk for development of colorectal cancer. Once surveillance program is started(usually after disease has been present for 8 years), colonoscopy should be repeated every 1-2 years to assess for development of dysplasia If screening colonoscopies show dysplasia, pt will need prophylactic colectomy w/ construction of ileal pouch
2585	Medicine	Gastrointestinal & Nutrition	Lynch syndrome II is distinctly ass. w/ a high risk of extracolonic tumors, the most common of which is *endometrial carcinoma*, which develops in up to 43% of females in affected families
2586	Medicine	Gastrointestinal & Nutrition	A pt w/ familial colonic polyposis has a 100% risk of cancer, if not treated appropriately w/ a *proctocolectomy* at the time of diagnosis
2596	Medicine	Gastrointestinal & Nutrition	Antibiotic therapy is the most accepted & recommended management for the eradication of H. pylori in pts w/ gastric mucosa-associated lymphoid tissue (MALT) lymphoma w/o any metastasis. Such lymphomas may regress after the eradication of H.pylori using antibiotic therapy. Use chemotherapy if eradication of H.pylori fails to produce regression of the lymphoma(eg, cyclophosphamide, adriamycin, vincristine, prednisone or + Bleomycin).
2601	Medicine	Gastrointestinal & Nutrition	Dx of esophageal cancer requires esophageal endoscopy w/ biopsy. Young, low-risk pts w/ undetermined esophageal sx may start w/ barium esophagram, but *those who are age >55 or w/ alarm sx (eg, weight loss, gross or occult bleeding, early satiety) should proceed directly to endoscopy*
2625	Medicine	Gastrointestinal & Nutrition	Carcinoid syndrome: episodic flushing(can cause "pounding sensation in the neck"), secretory diarrhea, wheezing, & murmur of tricuspid regurgitation(right sided valvular lesions). Elevated 24 hour urinary 5-hydroxyindoleacetic acid can confirm the dx in most pts
2627	Medicine	Gastrointestinal & Nutrition	Painless jaundice in a pt w/ conjugated hyperbilirubinemia & markedly elevated alkaline phosphatase(eg,ALK 890 vs AST 67,ALT 52) should raise concern for *biliary obstruction due to pancreatic or biliary cancer*. [Pt w/ conjugated hyperbilirubinemia, elevated alk phos, painless jaundice, & systemic sx(fatigue, weight loss) suggest malignant obstruction of the biliary system]

2759	Medicine	Gastrointestinal & Nutrition	<p>Xanthelasma:cholesterol filled yellow plaques,appear on the medial aspects of eyelids bilaterally(upper/lower eyelids may also be affected).Ass. w/ *primary biliary cirrhosis*</p> <p>Chalazion:chronic,sterile,granulomatous inflammatory lesion of the meibomian glands</p> <p>Hordeolum:purulent infection of one of the glands of the eyelid,caused by Staphylococcus</p> <p>Stye:small,external hordeolum involving Zeis's or Moll's glands</p>
2895	Medicine	Gastrointestinal & Nutrition	<p>Combo of cirrhosis, neuropsychiatric sx & Kayser-Fleischer rings(brownish or gray-green rings of fine granular copper deposits in the cornea) in a young adult is highly suggestive of Wilson's disease, also called *hepatolenticular degeneration*</p>
2898	Medicine	Gastrointestinal & Nutrition	<p>Primary biliary cholangitis (previously termed primary biliary cirrhosis) is a chronic liver disease charac by intrahepatic cholestasis due to autoimmune destruction of small bile ducts. It presents in middle-aged women w/ fatigue, pruritus, hepatomegaly,& elevated alkaline phosphatase. The dx is confirmed w/ serum *anti-mitochondrial antibody* titers</p> <p>Intrahepatic cholestasis (no biliary tract dilation)</p> <p>Extrahepatic cholestasis (biliary tract dilation; eg,due to gallstones)</p>
2899	Medicine	Gastrointestinal & Nutrition	<p>*Hyperestrogenism in cirrhosis leads to gynecomastia, testicular atrophy, decreased body hair, *spider angiomas* & palmar erythema*</p> <p>Portal htn causes esophageal varices, hemorrhoids, & caput medusae</p> <p>Pathogenesis of cirrhotic ascites includes sinusoidal htn, seepage of hepatic lymph into peritoneal cavity, leakage of intestinal fluid, & renal retention of sodium & water</p> <p>Asterixis is a neurologic sign ass. w/ poor hepatic function & hyperammonemia</p>
2900	Medicine	Gastrointestinal & Nutrition	<p>Pt's w/ rapidly progressing acute liver failure (ALF) can have decreasing transaminases with worsening PT/INR & bilirubin</p>
2901	Medicine	Gastrointestinal & Nutrition	<p>Spontaneous bacterial peritonitis (SBP): should be suspected in any pt w/ cirrhosis & ascites who presents w/ low-grade fever, abdominal discomfort, or altered mental status.Ascitic fluid w/ *polymorphonuclear leukocytes >250/uL* & positive peritoneal fluid culture confirm dx. Calculate the SAAG (serum albumin - ascites albumin) which indicates SBP if its >1.1 g/dL</p> <p>Tx-Treat empirically pending culture results w/ broad spectrum antibiotics such as 3rd-generation cephalosporins</p>
2904	Medicine	Gastrointestinal & Nutrition	<p>Acute cholecystitis:arises when gallstone impacts in the cystic duct,presents w/ sudden onset of steady epigastric or RUQ pain after a large or fatty meal,pain may radiate to right scapula,fever, vomiting, leukocytosis, mild elevations in transaminases[however alk phos usually NOT elevated unless there's ass. cholangitis or choledocholithiasis]</p> <p>Common bile duct obstruction w/ stone or carcinoma causes obstructive jaundice(severe icterus & very high alk phos levels)</p>
2905	Medicine	Gastrointestinal & Nutrition	<p>Hepatitis A: fecal oral route transmission, common in areas w/ overcrowding & poor sanitation. Acute onset, sx include malaise, fatigue, anorexia, nausea, vomiting, mild ab pain, aversion to smoking. Hepatomegaly seen. Close contacts of individuals w/ hep A should be given immune globulin. High risk people should be given hep A vaccine as prophylaxis</p>
2907	Medicine	Gastrointestinal & Nutrition	<p>Cirrhosis should be suspected in any pt presenting w/ stigmata of chronic liver disease (eg, new-onset ascites, pedal edema, spider angiomas, palmar erythema, caput medusae, nail changes, gynecomastia, splenomegaly, testicular atrophy). Chronic alcohol abuse & *viral* hepatitis(hep C more than B) are the most common underlying causes of cirrhosis in the US</p> <p>Statin induced hepatic dysfunction is usually dose dependent & presents w/ persistently elevated aminotransferases</p>
2910	Medicine	Gastrointestinal & Nutrition	<p>Serologic pattern of hepatitis B immunization: positive anti-HBs titer & negative markers for hepatitis B surface antigen & core antibody</p>
2911	Medicine	Gastrointestinal & Nutrition	<p>Alcoholic hepatitis: ratio of AST to ALT >2, elevated GGT, & elevated ferritin.[Absolute values of AST & ALT are almost always <500 IU/L in alcoholic liver disease]</p> <p>If marked elevations (>25x the upper limit) of AST & ALT are present, toxin-induced (eg, acetaminophen), ischemic, or viral hepatitis should be suspected</p>
2912	Medicine	Gastrointestinal & Nutrition	<p>HBsAg & anti-HBc are the most appropriate diagnostic tests for acute hepatitis B infection</p>
2914	Medicine	Gastrointestinal & Nutrition	<p>Acute liver failure is most often due to acute viral hepatitis, *medication induced liver injury eg, acetaminophen/over-the-counter pain reliver toxicity*, & ischemic hepatopathy. Findings-acute onset of markedly elevated transaminases (often in the thousands), reduced hepatic synthetic function, & encephalopathy</p> <p>[Concurrent use of alcohol can increase the propensity to develop hepatotoxicity from acetaminophen]</p>
2917	Medicine	Gastrointestinal & Nutrition	<p>*Isoniazid* causes idiosyncratic liver injury w/ histological features similar to those seen in pts w/ viral hepatitis</p> <p>Tuberculous hepatitis may develop in cases of miliary tuberculosis but would be characterized by granulomas on liver biopsy</p>

2918	Medicine	Gastrointestinal & Nutrition	<p>Gallstone disease is common in overweight women "fat, female, fertile woman of forty"</p> <p>Cholesterol & mixed stones make up 80% of all gallstones in western population. They are radiolucent(not readily visible by abdominal radiograph).</p> <p>Gallstones are more common in US. When gallstones do occur in those of Asian heritage, they are more likely to be the pigment type.</p>
2920	Medicine	Gastrointestinal & Nutrition	<p>*Primary sclerosing cholangitis:* chronic progressive disorder of unknown etiology w/ inflammation, fibrosis, & stricturing of medium-sized & large intrahepatic & extrahepatic bile ducts. *It's frequently ass. w/ ulcerative colitis.* Lab studies show elevated liver function tests(more severely elevated alkaline phosphatase & bilirubin) in a cholestatic pattern</p> <p>Primary biliary cirrhosis:more common in women. No ass. w/ inflammatory bowel disease</p>
2921	Medicine	Gastrointestinal & Nutrition	<p>Small nonbleeding varices: tx- prophylaxis w/ nonselective beta blockers recommended to reduce progression to large varices and risk of variceal hemorrhage. In pts w/ contraindications to beta blocker therapy, use endoscopic variceal ligation</p> <p>Endoscopic sclerotherapy is effective for bleeding esophageal varices</p> <p>Octreotide is used to treat active variceal bleeding</p>
2923	Medicine	Gastrointestinal & Nutrition	<p>Gilbert's syndrome:reduced production of UDP glucuronyl transferases.Icterus secondary to a mild unconjugated hyperbilirubinemia(triggered by stress eg:fasting,illness,physical exertion).Tx unnecessary</p> <p>Crigler-Najjar syndrome type 1:severe jaundice, neurologic impairment due to kernicterus.Phototherapy/plasmapheresis helpful in the short term.Liver transplant is only curative option</p> <p>Crigler-Najjar syndrome type 2: milder tx- often unnecessary,phenobarbital or clofibrate</p>
2924	Medicine	Gastrointestinal & Nutrition	<p>Dubin-Johnson syndrome: dark granular pigment is present in the hepatocytes. Causes conjugated hyperbilirubinemia. Liver is strikingly black. Histo features reveal dense pigment composed of epinephrine metabolites within the lysosomes.</p> <p>Gilbert's syndrome: occurs in pts w/ no apparent liver disease, causes mild unconjugated hyperbilirubinemia thought to be provoked by things like fasting, stress, illness</p>
2926	Medicine	Gastrointestinal & Nutrition	<p>Resolved hepatitis B infection:anti-HBs positive, anti-HBc positive, HBsAg negative</p> <p>Immunized w/ hepatitis B vaccine:anti-HBs positive, HBsAg negative,anti-HBc negative [HBV vaccine doesn't contain the core antigen so antibodies are not made against it & pts are anti-HBc negative]</p> <p>Acute hepatitis B infection:presence of HBsAg & IgM anti-HBc</p> <p>Chronic hepatitis B infection:presence of HBsAg in serum for >6 months</p> <p>Recovery phase: presence of anti-HBs, anti-HBc(IgG), anti-HBe</p>
2929	Medicine	Gastrointestinal & Nutrition	<p>In a pt w/ sx of acute pancreatitis like typical abdominal pain, elevated amylase/lipase,or epigastric pain radiating to the back,we don't need to do confirmatory imaging for dx.Instead, perform *abdominal ultrasound/RUQ ultrasound* in these pts to evaluate for cholelithiasis or choledocholithiasis (remember gallstones [& chronic alcohol abuse] account for about 75% of cases of acute pancreatitis)</p>
2930	Medicine	Gastrointestinal & Nutrition	<p>Oral ursodeoxycholic acid supplementation reduces sx from gallstones but doesn't lead to complete dissolution. It's used to tx symptomatic gallstones in individuals who are poor surgical candidates</p> <p>Lithotripsy(laser or mechanical fragmentation)sometimes used for gallstones in the bile duct that can't be removed endoscopically</p>
2932	Medicine	Gastrointestinal & Nutrition	<p>Hepatic adenoma:benign tumor often seen in young & middle-age women who take oral contraceptives. Ultrasound shows well-demarcated, hyperechoic lesions. Possible long-term complications include progressive growth, rupture, & malignant transformation. Needle biopsy not recommended. Surgical excision preferred</p> <p>Elevated alk phos & GGT suggests biliary compression/obstruction</p> <p>Focal nodular hyperplasia: ass w/ anomalous arteries</p>
2934	Medicine	Gastrointestinal & Nutrition	<p>Uncomplicated pts w/ acute onset of severe epigastric pain radiating to the back & *increased amylase or lipase (>3 times normal)* do not need confirmatory imaging for diagnosing acute pancreatitis. Contrast-enhanced computed tomography scan of the abdomen may be performed in pts w/ unclear diagnosis or those who fail to improve w/ conservative management. Abdominal ultrasound may identify gallstones as the cause of pancreatitis</p>

			<p>*Abdominal CT scan* is a sensitive & specific tool used in dx of pancreatic carcinoma(weight loss, jaundice,increased serum bilirubin & alkaline phosphatase)</p>
2935	Medicine	Gastrointestinal & Nutrition	<p>For jaundiced pts we first do abdominal ultrasound. If US nondiagnostic, we do abdominal CT. If CT also nondiagnostic, we do the invasive ERCP(excellent in dx pancreatic cancer)</p> <p>Percutaneous transhepatic cholangiogram is for pts who have previously identified biliary tract dilation but aren't candidates for ERCP</p>
2936	Medicine	Gastrointestinal & Nutrition	<p>Pts w/ cirrhosis should undergo screening *endoscopy* to exclude varices, indicate the risk of variceal hemorrhage, & determine strategies(eg,nonselective beta blockers) for primary prevention of variceal hemorrhage. All pts w/ cirrhosis, regardless of etiology, should also undergo surveillance for hepatocellular carcinoma w/ ultrasound every 6 months</p>
2937	Medicine	Gastrointestinal & Nutrition	<p>In evaluating the asymptomatic elevation of aminotransferases, the first step is to take a thorough history to rule out the more common hepatitis risk factors (eg, alcohol or drug use, travel outside of the country, blood transfusions, high-risk sexual practices)</p>
2939	Medicine	Gastrointestinal & Nutrition	<p>Ursodeoxycholic acid is used to dissolve small radiolucent gallstones in pts w/ normal gallbladders who are poor surgical candidates. This medication is expensive and ass. w/ high risk of relapse when therapy is halted</p>
2943	Medicine	Gastrointestinal & Nutrition	<p>Postcholecystectomy syndrome: persistent abdominal pain or dyspepsia (eg, nausea) that occurs either postoperatively or months to years after a cholecystectomy. Due to biliary or extra biliary causes. Pts notice same pain they had prior to surgery, new pain just after surgery, or the same pain that never went away. Labs- elevated alkaline phosphatase, mildly abnormal serum aminotransferases, & dilated common bile duct on abdominal ultrasound. Do *ERCP* after ultrasound for dx</p>
2946	Medicine	Gastrointestinal & Nutrition	<p>Acalculous cholecystitis:acute inflammation of gallbladder in absence of gallstones,commonly seen in hospitalized & severely ill pts. Clinical presentation-unexplained fever, vague/RUQ abdominal discomfort, leukocytosis. Dx-abdominal ultrasound(preferred). Cholescintigraphy (HIDA scan) or abdominal CT scan if ultrasound not diagnostic</p> <p>Subphrenic abscess:causes fever/ab pain.Develops due to peritonitis.Right sided pleural effusion can develop</p>
2948	Medicine	Gastrointestinal & Nutrition	<p>Hepatic encephalopathy: a CNS complication of liver failure due to inability to break down ammonia into urea. Can present clinically as stage 1 (altered sleep pattern eg,insomnia/hypersomnia & impaired cognition) & progress to stage 4 (stupor & coma). *Serum ammonia(though nonspecific) helps support dx in pts w/ high suspicion of hepatic encephalopathy*</p> <p>Brain MRI can evaluate for structural causes of altered mentation(stroke, brain mass)</p>
2950	Medicine	Gastrointestinal & Nutrition	<p>Primary biliary cirrhosis: tx- Ursodeoxycholic acid</p>
2951	Medicine	Gastrointestinal & Nutrition	<p>Most common malignancy of the liver is metastasis from another primary source. Liver is the second most common site of metastasis spread (after lymph nodes)</p> <p>Hepatic adenomas: found in young & middle aged women w/ a lengthy hx of oral contraceptive usage</p> <p>Hepatic angiosarcoma: Common in older men that have been exposed to toxins such as vinyl chloride gas, inorganic arsenic compounds, & thorium dioxide</p>
2953	Medicine	Gastrointestinal & Nutrition	<p>Management of hepatic encephalopathy involves supportive care, tx the precipitating cause(eg, volume depletion, electrolyte abnormalities), & lowering serum ammonia. Disaccharides (eg, lactulose, lactitol) are initially preferred for lowering serum ammonia. Rifaximin can be added to lactulose in pts w/o improvement after 48 hours or used as monotherapy in those unable to take lactulose</p> <p>TIPS:for complications of portal HTN(variceal hemorrhage, ascites) & hepatorenal syndrome</p>
2965	Medicine	Gastrointestinal & Nutrition	<p>Acute pancreatitis in pts without gallstones or hx of alcohol use: etiology-Hypertriglyceridemia can cause acute pancreatitis sx- eruptive xanthomas(crops of yellow-red papules on arms & shoulders) management- confirm w/ fasting serum lipid profile</p>
2966	Medicine	Gastrointestinal & Nutrition	<p>Cigarette smoking is the most consistent reversible risk factor for pancreatic cancer</p> <p>Studies haven't shown a significantly decreased incidence of pancreatic cancer w/ alcohol reduction (heavy alcohol use can lead to chronic pancreatitis, which is ass. w/ a slightly higher risk of pancreatic cancer, however it isn't as significant as the ass. between smoking & pancreatic cancer)</p>
2969	Medicine	Gastrointestinal & Nutrition	<p>Hepatic hydrothorax causes transudative pleural effusions in pts w/ cirrhosis who have no underlying cardiac/pulmonary disease to cause the effusion. Hepatic hydrothorax usually results in a right-sided pleural effusion. Initial tx is w/ salt restriction & diuretics. Refractory hepatic hydrothorax tx-*TIPS placement*</p> <p>Combo of nitrates/hydralazine used to tx systolic heart failure</p> <p>Pleurodesis is used to treat recurrent malignant pleural effusions</p>

			Elevated alkaline phos is indicative of cholestasis. These pts should be evaluated w/ RUQ *ultrasound* to assess for intrahepatic/extrahepatic causes of biliary obstruction
2975	Medicine	Gastrointestinal & Nutrition	ERCP performed in pts when initial ultrasonography/CT scan suggests presence of obstruction due to cholelithiasis/malignancy. ERCP is diagnostic & therapeutic;relieves obstruction & facilitates biliary drainage The aminotransferases(AST & ALT)are elevated in viral hepatitis.If normal,viral hep unlikely
2977	Medicine	Gastrointestinal & Nutrition	A positive urine bilirubin assay is typically indicative of a buildup of conjugated bilirubin Rotor's syn: benign, chronic or fluctuating conjugated hyperbilirubinemia due to a *defect in hepatic secretion of conjugated bilirubin* into the biliary system. Liver function tests normal.
2978	Medicine	Gastrointestinal & Nutrition	Acute cholangitis tx- supportive care and broad spectrum antibiotics. Pts who don't respond to this should undergo drainage of the biliary tree w/ *ERCP* Transhepatic cholangiopancreatography is an alternative tx option when ERCP is unavailable or contraindicated
2982	Medicine	Gastrointestinal & Nutrition	Acute pancreatitis(pain radiating to back,leukocytosis,elevated serum amylase & lipase in chronic alcoholic pt after binge drinking) can cause an acute abdomen(severe ab pain of unclear etiology).Should be managed conservatively w/ analgesics,IV fluids & nothing by mouth ERCP effective for managing severe biliary pancreatitis.Allows for sphincterotomy & stone removal
2986	Medicine	Gastrointestinal & Nutrition	Orthotopic *liver transplantation* remains the only effective mode of treatment of fulminant hepatic failure[Fulminant hepatic failure is defined as hepatic encephalopathy that develops within 8 weeks of the onset of acute liver failure]
3086	Medicine	Gastrointestinal & Nutrition	Vitamin E deficiency: RBC fragility, hyporeflexia, muscle weakness & blindness
3087	Medicine	Gastrointestinal & Nutrition	Pellagra is due to niacin deficiency & is charac by dermatitis(on sun-exposed areas,rough,hyperpigmented,scaly skin), diarrhea(w/ab pain,nausea,loss of appetite), & dementia(memory loss,affective sx,psychosis). *Prolonged isoniazid therapy* can interfere w/ niacin metabolism & occasionally cause pellagra. In developing countries, niacin deficiency is seen in populations that subsist primarily on *corn* products(niacin in corn occurs in a bound, unabsorbable form)
3178	Medicine	Gastrointestinal & Nutrition	Chemical peritonitis(w/ peritonitis,you get sx like rebound tenderness & guarding) due to *perforated peptic ulcer* should be suspected in pts presenting w/ sudden onset of severe epigastric pain that spreads over the entire abdomen. Upright chest &/or abdominal radiographs typically reveal free air under the diaphragm(pneumoperitoneum)[know what free air under diaphragm looks like on CXR]
3467	Medicine	Gastrointestinal & Nutrition	Colovesical fistula:due to diverticular disease(extension of ruptured diverticulum/erosion of diverticular abscess into bladder).Sx-pneumaturia(air in urine), fecaluria(stool in urine),recurrent UTIs(mixed flora).Ab CT scan w/ oral or rectal(not IV)contrast confirms dx by showing contrast material in bladder w/ thickened colonic & vesicular walls Emphysematous pyelonephritis:pyelonephritis due to gas producing infection,esp in diabetics
3502	Medicine	Gastrointestinal & Nutrition	Esophageal perforation is more likely than aortic dissection in pts w/ chest pain who have a widened mediastinum ass. w/ mediastinal air(aortic dissection CAN'T cause pneumomediastinum). Diagnostic study of choice for esophageal perforation is *water soluble Gastrografin-contrast esophagography* or CT esophagography
3582	Medicine	Gastrointestinal & Nutrition	Whipple's disease: arthralgias, weight loss, fever, & abdominal pain. PAS-positive material in the lamina propria of the small intestine. Skin hyperpigmentation may also be seen.
3585	Medicine	Gastrointestinal & Nutrition	Pancreatic cancer: Ultrasound of the abdomen is useful to exclude biliary obstruction in pts w/ jaundice. Contrast enhanced CT of the abdomen is preferred for pts w/o jaundice Secretin test measures the ability of pancreatic ductal cells to produce bicarbonate. It is used for dx chronic pancreatitis but is not helpful for evaluating pancreatic cancer.
3587	Medicine	Gastrointestinal & Nutrition	*Zollinger-Ellison syndrome (gastrinoma) is ass. w/ multiple endocrine neoplasia (MEN) type 1 (parathyroid tumors, pituitary tumors, & pancreatic tumors)* Gastrinomas:non-beta islet cell tumors of the pancreas.Secretes high amounts of gastrin.Endoscopy-thickened gastric folds,multiple peptic ulcers,or ulcers distal to duodenum & jejunum.These refractory ulcers can occur despite proton pump inhibitor or antacid use.Commonly seen in MEN 1 Marfanoid habitus seen in MEN 2B
3588	Medicine	Gastrointestinal & Nutrition	Pts w/ dyspepsia(epigastric fullness/discomfort after eating) who have risk factors for gastric or esophageal cancer- age >55, weight loss, gross or occult bleeding, anemia, dysphagia, or early satiety should be evaluated w/ upper gi endoscopy. Pts w NSAID induced dyspepsia should receive a proton pump inhibitor. Pts w/ risk factors for H. pylori may have testing for active infection(w/*H. pylori stool antigen testing/stool assay* or breath test)
3589	Medicine	Gastrointestinal & Nutrition	Hemorrhage is the most common complication of peptic ulcer disease

3591	Medicine	Gastrointestinal & Nutrition	<p>If a pt has *multiple stomach ulcers* & *thickened gastric folds* on endoscopy, we should suspect Gastrinoma (Zollinger-Ellison syndrome). Next step would be to measure *serum gastrin concentration*. Fasting serum gastrin level >1000 pg/mL is diagnostic. Pts w/ non-diagnostic serum gastrin levels should be evaluated w/ a secretin stimulation test</p> <p>Calcium infusion study: for pts who have gastric acid hypersecretion & are suspected of having gastrinoma despite a neg secretin test</p>
3592	Medicine	Gastrointestinal & Nutrition	<p>Peptic ulcer bleeds will stop spontaneously. Do Endoscopy next since it's diagnostic, therapeutic, & may prevent rebleeding</p> <p>Studies showed significantly less recurrent bleeding in pts receiving PPIs such as pantoprazole. However studies on H2 antagonists have been disappointing</p> <p>Somatostatin/octreotide acts by reducing splanchnic blood flow, inhibiting gastric acid secretion, exerting gastric cytoprotective effects. Used when endoscopy unsuccessful/unavailable/contraindicated</p>
3593	Medicine	Gastrointestinal & Nutrition	Laxative abuse: sx- very frequent, watery, nocturnal diarrhea. Dx can be confirmed w/ biopsy finding of dark brown discoloration of the colon w/ lymph follicles shining thru as pale patches (melanosis coli)
3602	Medicine	Gastrointestinal & Nutrition	<p>Celiac disease: *IgA anti-endomysial & anti-tissue transglutaminase antibodies* are highly predictive of celiac disease but may be absent if there is a concurrent selective IgA deficiency</p> <p>Collagenous colitis: uncommon disorder producing chronic watery diarrhea. Colon frequently involved but colonoscopy shows normal mucosa. Biopsy shows mucosal subepithelial collagen deposition</p>
3603	Medicine	Gastrointestinal & Nutrition	<p>Small intestine bacterial overgrowth (SIBO) is a malabsorption syndrome caused by anatomic abnormalities (eg, surgery, strictures) or motility disorders (eg, diabetes, systemic sclerosis). sx- abdominal bloating, flatulence, & diarrhea dx- Endoscopy w/ jejunal aspirate showing >10⁵ organisms/mL is the gold standard</p> <p>Partial small bowel obstruction presents w/ postprandial abdominal discomfort, nausea, and obstipation (inability to pass flatus or stool)</p>
3605	Medicine	Gastrointestinal & Nutrition	<p>Lactose intolerance: *positive hydrogen breath test*, positive stool test for reducing substances, low stool pH & increased stool osmotic gap. No steatorrhea</p> <p>Urine test for reducing substances is positive in pts w/ glucosuria, galactosuria, etc</p>
3695	Medicine	Gastrointestinal & Nutrition	<p>*Chronic GERD & Barrett's esophagus* are risk factors for *adenocarcinoma* of the esophagus</p> <p>Risk factors for squamous cell cancer of the esophagus are smoking and alcohol</p>
3703	Medicine	Gastrointestinal & Nutrition	<p>Acute appendicitis: The initial peri-umbilical pain is referred pain & visceral in nature; however, pain shifts to the right lower quadrant w/ involvement of the parietal peritoneum & becomes somatic in nature</p> <p>The chronology of abdominal pain in acute appendicitis is typically visceral, followed by somatic pain</p>
3704	Medicine	Gastrointestinal & Nutrition	<p>Massive doses of aspirin & NSAIDs can cause acute erosive gastritis & upper GI bleeding. Alcohol can aggravate their effect</p> <p>Mallory Weiss tears occur after repeat bouts of retching & vomiting</p>
3732	Medicine	Gastrointestinal & Nutrition	<p>Porcelain gallbladder (google CT image): results from the intramural deposition of calcium salts. Ass. w/ *increased risk of gallbladder carcinoma* & requires surgical resection</p>
3790	Medicine	Gastrointestinal & Nutrition	<p>Zinc deficiency: may result from chronic total parenteral nutrition or malabsorption. Sx- alopecia, skin lesions (bullous, pustulous lesions surrounding body orifices & extremities), abnormal taste, & impaired wound healing. Pts w/ inflammatory bowel disease at risk for impaired absorption of zinc. May cause growth retardation in children</p> <p>Most imp feature of Selenium deficiency is cardiomyopathy</p>
3833	Medicine	Gastrointestinal & Nutrition	Acute pancreatitis can be caused by anti-seizure drug use (eg, valproic acid)
3834	Medicine	Gastrointestinal & Nutrition	<p>Toxic megacolon: total or segmental nonobstructive colonic dilation, bloody diarrhea, systemic findings (fever, tachycardia). Pts w/ inflammatory bowel disease at higher risk of developing it. Dx confirmed by plain ab xrays & >3 of the following: fever >100.4F, pulse >120/min, wbc count >10,500, & anemia. It's a medical emergency & requires prompt iv steroids, nasogastric decompression, abx, & fluid management</p> <p>Right sided colon cancer -> anemia Left sided tumors -> bowel obstruction</p>
3857	Medicine	Gastrointestinal & Nutrition	<p>Office based anoscopy/proctoscopy should be the initial procedure in pts less than 50 years old who present w/ minimal bright red blood per rectum & do not have any risk factors for colon cancer (blood intermixed w/ stool is not included in this category)</p> <p>You do Colonoscopy & sigmoidoscopy if pt is more than 50 years old or has risk factors for colon cancer</p>

			Giardiasis: persistent diarrhea & ab cramps. Transmitted via water in rural areas & developing countries. Preferred dx test is *stool antigen assay*. Metronidazole is the 1st line tx
3887	Medicine	Gastrointestinal & Nutrition	Short course of ciprofloxacin advised for empiric tx of traveler's diarrhea (due to E. coli) Upper endoscopy w/ small bowel biopsy (to rule out tropical sprue) & colonoscopy considered in pts w/ persistent diarrhea who remain undiagnosed after initial noninvasive testing (microscopy, stool antigen test)
3918	Medicine	Gastrointestinal & Nutrition	Risk factors for a polyp progressing into malignancy are villous adenoma, sessile adenoma, and size >2.5 cm Adenomas- these polyps are potentially premalignant, however <1% become malignant Hyperplastic polyps are non-neoplastic
3936	Medicine	Gastrointestinal & Nutrition	NSAIDs (like naproxen) and aspirin can cause gastritis and gastric ulcers leading to chronic gi blood loss & depletion of iron stores which can eventually cause iron deficiency anemia management- withhold NSAIDs & aspirin and initiate antisecretory meds (such as proton pump inhibitors)
			Anemia of chronic disease can occur in rheumatoid arthritis, lupus but is NOT ass. w/ osteoarthritis
4074	Medicine	Gastrointestinal & Nutrition	Non-caseating granulomas are characteristic of Crohn's disease Ulcerative colitis most commonly involves rectum, however it may sometimes involve terminal ileum (backwash ileitis) Crohn's disease can affect any part of intestinal tract from mouth to anus but is most commonly limited to the terminal ileum
4085	Medicine	Gastrointestinal & Nutrition	Angiodysplasia: common cause of recurrent or occult painless lower gi bleeding in pts age > 60 years causes lower gi bleeding in pts with aortic stenosis (Heyde's syndrome). Look for stem to mention features of aortic stenosis like "systolic ejection murmur in right intercostal space" hyperplastic polyps: are non-neoplastic
4086	Medicine	Gastrointestinal & Nutrition	Diverticulosis: ass. w/ chronic constipation. Risk of complications is lower w/ a high intake of fruit & vegetable fiber, & higher w/ heavy meat consumption, aspirin or NSAID use, obesity, & possibly smoking
4106	Medicine	Gastrointestinal & Nutrition	Zollinger Ellison syndrome: Caused by gastrin producing pancreatic tumor. The uncontrolled gastrin secretion causes parietal cell hyperplasia to develop and causes an increase in stomach acid production. Multiple duodenal ulcers are typical & a jejunal ulcer is pathognomic. Steatorrhea may develop cuz increased production of stomach acid inactivates pancreatic enzymes
4150	Medicine	Gastrointestinal & Nutrition	Chronic inflammatory diarrhea is typically ass. w/ inflammatory changes in the blood (anemia, elevated ESR, acute phase reactants, reactive thrombocytosis). Blood/leukocyte-positive stool is another important finding
4188	Medicine	Gastrointestinal & Nutrition	Zenker (pharyngoesophageal) diverticulum: Develops immediately above the upper esophageal sphincter. Occurs due to posterior herniation between the fibers of the cricopharyngeal muscle. Sx- dysphagia, coughing, regurgitation, halitosis, aspiration & a neck mass. Pts usually over 60 years of age. Neck mass may vary in size depending on food & fluid intake. Dx confirmed w/ barium esophagram. Tx is surgical.
4226	Medicine	Gastrointestinal & Nutrition	Diffuse esophageal spasm: intermittent chest pain & dysphagia. High amplitude peristaltic contractions on manometric studies. LES has normal relaxation response. Corkscrew esophagus. Ass. w/ emotional factors & functional GI disorders. Tx- antispasmodics, dietary modulation & psychiatric counseling Achalasia: hypertrophied inner circular muscles w/ absent or degenerating neurons (ganglion cells) in myenteric plexuses. Absent peristalsis. Condition in South America due to T. cruzi
4278	Medicine	Gastrointestinal & Nutrition	Fatty liver (steatosis), alcoholic hepatitis (characterized by Mallory bodies, infiltration by neutrophils) & early fibrosis of the liver can be reversible w/ the cessation of alcohol intake. True cirrhosis is characterized by the presence of regenerative nodules. This condition is irreversible, even w/ the cessation of alcohol intake
4303	Medicine	Gastrointestinal & Nutrition	Pts w/ upper GI bleeding often have an *elevated BUN & elevated BUN/creatinine ratio*, possibly due to increased urea production (from intestinal breakdown of hemoglobin) & increased urea reabsorption (due to hypovolemia) The urine sodium (ie, fractional excretion of sodium [FENa]) is often low in pts who are volume depleted as the kidney attempts to retain sodium to restore circulatory volume. Increased FENa is seen in intrinsic renal disease
4321	Medicine	Gastrointestinal & Nutrition	Nonalcoholic fatty liver disease (NAFLD): resembles alcohol induced liver injury on histology but occurs in pts w/ minimal or no alcohol hx. The most likely mechanism is *insulin resistance*. Pt will have elevated liver enzymes. Pts have hx of obesity, diabetes, hyperlipidemia, htn. Tx- diet & exercise. Consider bariatric surgery if BMI >35

4360	Medicine	Gastrointestinal & Nutrition	Boerhaave syndrome:esophageal TRANSMURAL tear,ESOPHAGEAL AIR/FLUID LEAKAGE in nearby areas.CT/CONTRAST ESOPHAGOGRAPHY W/ GASTROGRAFIN confirms dx.Pleural fluid-EXUDATIVE,LOW pH,HIGH AMYLASE.CXR-unilateral pleural effusion(usually left)w/ or w/o pneumothorax,pneumomediastinum,subcutaneous/mediastinal emphysema & widened mediastinum Mallory-Weiss tear:mucosal tear Acute pancreatitis-high amylase,NO mediastinal widening Aortic dissec-wide mediastinum,NO amylase related probs
4362	Medicine	Gastrointestinal & Nutrition	Chronic pancreatitis: progressive inflammatory disorder of the pancreas characterized by upper abdominal pain, diarrhea/steatorrhea, weight loss. Presence of pancreatic calcifications on *computed tomography scan* or plain film establishes dx
4363	Medicine	Gastrointestinal & Nutrition	duodenul ulcer: sx- pain relieved w/ eating, melena 90% of pts are infected w/ H. pylori tx- antibiotic treatment w/ amoxicillin plus clarithromycin (to eradicate H. pylori) and proton pump inhibitor (for acid suppression)
4385	Medicine	Gastrointestinal & Nutrition	Upper gi bleeding can cause anemia. Tx severe anemia (only if stable pt's hemoglobin <7 g/dL) w/ packed red blood cell transfusion. A higher threshold of hemoglobin <9 g/dL considered for unstable pt w/ sx related to the anemia or acute coronary syndrome w/ active ischemia Cryoprecipitate used as replacement therapy for pts w/ fibrinogen, von Willebrand factor, or Factor VIII deficiency Whole blood transfusion rarely used except in pts w/ severe hemorrhage/major trauma
4386	Medicine	Gastrointestinal & Nutrition	Tx of actively bleeding esophageal varices involves hemodynamic support, pharmacologic treatment (eg, octreotide), endoscopic therapy, & prophylactic antibiotics. Coagulopathy, anemia, & thrombocytopenia are common complications & may also require correction Somatostatin analogues (octreotide) inhibit the release of vasodilator hormones, which leads indirectly to splanchnic vasoconstriction & decreased portal flow
4389	Medicine	Gastrointestinal & Nutrition	Colon cancer, metastatic to the liver sx: abdominal pain/RUQ pain, microcytic anemia(low hgb & low mcv), mildly elevated liver enzymes,positive fecal occult blood, & hepatomegaly w/ a hard edge on liver palpation. Pt can also have a small left-sided pleural effusion that may be malignant. [Most common site of colon cancer metastasis is the liver]
4405	Medicine	Gastrointestinal & Nutrition	Achalasia: Decreased esophageal body peristalsis & poor relaxation/no relaxation of the LES on manometry. Progressive dysphagia, chest pain, food regurgitation & aspiration. Barium swallow shows dilated esophagus & a "bird's beak" deformity of the LES GERD: decreased LES pressure Cricopharyngeal dysfunction: due to failure of cricopharyngeus to relax during swallowing, causes choking or "food sticking" sensation & pain w/ swallowing
4433	Medicine	Gastrointestinal & Nutrition	Biliary colic- gallbladder contracts against an obstructed cystic duct. Pain exacerbated by fatty meals. Pain is constant, in RUQ or epigastric region, causes nausea, vomiting, right sided shoulder pain(referred pain). Pain resolution within 4-6 hours and absence of abdominal tenderness, fever, and leukocytosis
4434	Medicine	Gastrointestinal & Nutrition	Acute pancreatitis classically causes nausea, vomiting, & epigastric pain(pt gets partial relief by sitting up & leaning forward). Alcohol abuse & gallstone disease are the mcc of acute pancreatitis. Complications include pleural effusion, acute respiratory distress syndrome, ileus, & renal failure
4492	Medicine	Gastrointestinal & Nutrition	Risk of *colorectal cancer* is elevated in Ulcerative colitis(UC) and surveillance colonoscopy is advised(even in the absence of symptoms) Although pts w/ UC have an increased risk for developing primary sclerosing cholangitis(PSC) and Toxic megacolon, routine surveillance is currently not recommended for PSC and no form of regular surveillance has been shown to prevent toxic megacolon
4504	Medicine	Gastrointestinal & Nutrition	Low dose chest CT is recommended yearly for lung cancer screening in pts who are age 55-80, have a >30 pack year smoking hx, & are currently smoking or quit within the past 15 years
4505	Medicine	Gastrointestinal & Nutrition	Unfortunately, no screening options exist for pancreatic cancer
4547	Medicine	Gastrointestinal & Nutrition	Pts w/ risk factors for hepatitis B virus should be *vaccinated*, which is esp important in pts already infected w/ hepatitis C virus who are continuing their high-risk behaviors
4602	Medicine	Gastrointestinal & Nutrition	Cirrhosis causes 80% of ascites cases in the US. Cirrhosis is caused by alcoholic liver disease & hepatitis C(look for iv drug abuser) Pts w/ nephrotic syndrome:anasarca,bilateral peripheral edema,ascites,hypercoagulable state Paradoxical embolism:due to an embolus from the venous circulation across a patent foramen ovale or asd into the systemic circulation.Can lead to a stroke Chronic pulmonary emboli leads to pulmonary htn & subsequent right heart failure/cor pulmonale

4603	Medicine	Gastrointestinal & Nutrition	Acute pancreatitis complicated by hypotension is thought to arise from intravascular volume loss secondary to local & systemic vascular endothelial injury. This causes vasodilation, increased *vascular permeability*, & plasma leak into the retroperitoneum, resulting in systemic hypotension. Tx- supportive care w/ several liters of IV fluid to replace the lost intravascular volume
4612	Medicine	Gastrointestinal & Nutrition	Colorectal cancer is the most common source of liver metastases (blood from the colon moves thru the portal circulation directly to the liver). In a pt w/ multiple liver lesions on CT, consider colorectal cancer as a differential, even in the absence of specific sx(eg,alteration in bowel habits, GI bleeding)
4624	Medicine	Gastrointestinal & Nutrition	Vanishing bile duct syndrome is a rare condition characterized by progressive ductopenia, or loss of intrahepatic bile ducts. *Primary biliary cirrhosis* is the mcc of ductopenia in adults. The pathologic hallmarks of primary sclerosing cholangitis are periductal portal tract fibrosis and segmental stenosis of extrahepatic and intrahepatic bile ducts. (Bile duct loss is not classically observed)
4625	Medicine	Gastrointestinal & Nutrition	Hepatic encephalopathy (HE) is a central nervous complication of cirrhosis due to liver's inability to convert ammonia to urea. Tx-Nonabsorbable disaccharides(lactulose, lactitol) are preferred for lowering serum ammonia. Abx(rifaximin) can decrease the number of ammonia-producing bacteria in the colon.They are usually added to lactulose if the pt doesn't improve within 48 hours.Catharsis using any laxative may also be beneficial
4626	Medicine	Gastrointestinal & Nutrition	If pt's Anti-HAV antibodies is negative, tx w/ Hepatitis A vaccination Prednisone tx severe alcoholic hepatitis Lamivudine (3TC) is a reverse transcriptase inhibitor used to tx HIV & chronic hepatitis B Pts w/ cirrhosis are intravascularly depleted & impressive salt retainers. A low salt diet is beneficial in decreasing ascites & peripheral edema
4635	Medicine	Gastrointestinal & Nutrition	Chronic liver disease w/ resultant cirrhosis can cause hypogonadism. Findings in men w/ cirrhosis include telangiectasias, palmar erythema, testicular atrophy, gynecomastia, and erectile dysfunction Cirrhosis in women can cause amenorrhea or irregular menses Adrenal insufficiency in women results in decreased axillary & pubic hair & loss of libido(since women's androgen production occurs in adrenal glands). This doesn't affect men since their androgens are produced in testes
4648	Medicine	Gastrointestinal & Nutrition	Ischemic hepatic injury(shock liver):occurs in the setting of hypotension & manifests as acute,massive increases in the AST & ALT w/ milder associated increases in the total bilirubin & alkaline phosphatase. In pts who survive the inciting condition, liver enzymes return to normal within a few weeks. Autoimmune hepatitis commonly affects young women
4654	Medicine	Gastrointestinal & Nutrition	Chronic hepatitis C: extrahepatic sequelae include *essential mixed cryoglobulinemia*, porphyria cutanea tarda(fragile skin, photosensitivity, & vesicles & erosions on the dorsum of hands), and membranoproliferative glomerulonephritis Lambert-Eaton syndrome: presents w/ muscle weakness & dry mouth Polyarteritis nodosa: Necrotizing vasculitis in small/medium vessels due to deposition of circulating antigen-antibody immune complexes in blood vessel walls.Ass w/ hepatitis B
4694	Medicine	Gastrointestinal & Nutrition	GERD can predispose to 1) Barrett's esophagus & 2) esophageal (peptic) stricture formation, which will cause symmetric & circumferential narrowing of the involved esophagus w/ dysphagia for solids but typically no weight loss. As the stricture progresses, it can block the acid reflux, leading to improvement of heartburn sx Achalasia:dysphagia(both solids & liquids),"bird beak"pattern at ge junction Hiatal hernia is a protrusion of stomach above the diaphragm
4697	Medicine	Gastrointestinal & Nutrition	Anticoagulation w/ warfarin places pts at risk for hemorrhage. *Retroperitoneal hematoma*(look at CT image) may occur even w/o a supratherapeutic INR. Hx of anticoagulation,back pain & signs & sx of hemodynamic compromise(weakness,dizziness,anemia,tachycardia) should raise suspicion for retroperitoneal hematoma
4747	Medicine	Gastrointestinal & Nutrition	Serum to ascites albumin gradient (SAAG) is calculated by subtracting the peritoneal fluid albumin concentration from the serum albumin concentration: SAAG >1.1 indicates portal hypertensive etiologies(cardiac ascites,cirrhosis) aka *increased hydrostatic pressure* within hepatic capillary beds SAAG <1.1 suggests non-portal hypertensive etiologies(malignancy,pancreatitis,nephrotic syndrome, tb)
4752	Medicine	Gastrointestinal & Nutrition	Hepatorenal syndrome(HRS): complication of end stage liver disease/cirrhosis characterized by renal failure (elevated creatinine) that doesn't respond to volume resuscitation tx- liver transplantation diuretics worsen HRS

4813	Medicine	Gastrointestinal & Nutrition	<p>Total parenteral nutrition(or prolonged fasting) causes *gallbladder stasis* & predisposes to gallstone formation & bile sludging, both of which may lead to cholecystitis.</p> <p>Small bowel(ileal) resection can also cause gallstones due to decreased enterohepatic circulation of bile acids -> increased concentration of bilirubin conjugates and total calcium in the gallbladder</p>
4903	Medicine	Gastrointestinal & Nutrition	*Crohn's disease: Aphthous ulcers in the mouth, abdominal pain*
4919	Medicine	Gastrointestinal & Nutrition	Pain ass. w/ pancreatic cancer is usually subacute (days to weeks) and not present for a year
4927	Medicine	Gastrointestinal & Nutrition	Pts w/ upper GI bleeding who have a depressed level of consciousness & ongoing hematemesis should be *intubated* to protect the airway as a part of initial stabilization & resuscitation. Prompt endoscopic tx w/ band ligation or sclerotherapy should then be performed to stop the bleeding
4934	Medicine	Gastrointestinal & Nutrition	<p>Pill esophagitis: sudden onset odynophagia & retrosternal pain that can sometimes cause difficulty swallowing. It's most common in the mid-esophagus due to compression by the aortic arch or an enlarged left atrium. Endoscopy shows discrete ulcers w/ relatively normal-appearing surrounding mucosa</p> <p>Diffuse esophageal spasm: uncoordinated simultaneous contractions of lower esophagus. Pts have recurrent episodes of liquid/solid dysphagia & chest pain</p>
11067	Medicine	Gastrointestinal & Nutrition	<p>Prolonged gastric acid suppression w/ proton pump inhibitors or histamine 2 receptor antagonists is a risk factor for Clostridium difficile infection. Dx of C difficile colitis can be confirmed w/ a *stool assay for toxins A & B*. Other than C diff infection, long term acid suppression w/ PPI's may result in impaired calcium absorption w/ increased risk of osteoporosis & increased colonization of pathogens in the upper GI tract leading to a higher risk of pneumonia</p>
2197	Medicine	General Principles	<p>When breaking bad news, a doc should first set the stage & assess the pt's comprehension before delivering the news in an empathetic yet comprehensible manner</p> <p>Example</p> <p>1) What do you think is going on w/ your back?</p> <p>then</p> <p>2) Have you considered whether you want to know the test results, regardless of the outcome?</p>
3863	Medicine	General Principles	<p>Perform mammograms every 2 years in women > 50 years old. No need to do mammography after age 75.</p> <p>incidence of cervical cancer peaks before age 50 and declines afterwards. Discontinue pap smears after age 65 if pt has no malignant findings</p>
4477	Medicine	General Principles	<p>Women should be screened for cervical cancer w/ a Pap smear every 3 years at age 21-65 (or w/ Pap smear & HPV testing every 5 years at age 30-65).</p> <p>A single dose of Tdap (tetanus toxoid, reduced diphtheria toxoid, & acellular pertussis) is recommended beginning at age 11, w/ Td (tetanus & diphtheria toxoids) every 10 years thereafter</p>
2208	Medicine	Hematology & Oncology	<p>Malignancy(hx of smoking, back pain, weight loss) is a risk factor for venous thromboembolism (VTE). Recommended testing for occult malignancy includes age appropriate screening (colonoscopy, mammogram) & CXR in most pts w/ first unprovoked VTE. More detailed testing (*CT scan of abdomen/pelvis/chest*) is indicated for high risk pts such as those w/ clinical findings concerning for malignancy or recurrent or multiple-site (cerebral,hepatic vein) VTE</p>
2248	Medicine	Hematology & Oncology	<p>Autoimmune hemolytic anemia (AIHA) & hereditary spherocytosis (HS) can cause extravascular hemolytic anemia. Peripheral blood smear in both conditions may show spherocytes w/o central pallor.</p> <p>AIHA: negative family hx & positive Coombs test</p> <p>HS: positive family hx & negative Coombs test</p>
2249	Medicine	Hematology & Oncology	<p>MGUS: ABSENCE OF anemia,hypercalcemia,lytic bone lesions,renal insufficiency. *Metastatic skeletal bone survey/xray* is rec. in MGUS pts to exclude lytic lesions suggesting multiple myeloma. Although MGUS is asymptomatic, there is 1% per year risk of progression to multiple myeloma</p> <p>Abdominal fat pad biopsy considered for amyloidosis</p> <p>If pt's calcium level normal, checking serum PTH & vit D is unnecessary</p>
2250	Medicine	Hematology & Oncology	<p>Heparin induced thrombocytopenia(HIT):suspect when platelet counts fall >50% from baseline 5-15 days after starting heparin,unexplained thrombocytopenia,or thrombosis(arterial or venous) in pts tx w/ heparin. Tx- 1)stop all heparin products & confirm w/ lab testing 2)begin alternative anticoagulants like direct thrombin inhibitors(argatroban,bivalirudin) or fondaparinux(synthetic pentasaccharide).Warfarin is started after these treatments & after platelet count is >150,000</p>
2258	Medicine	Hematology & Oncology	<p>Paroxysmal nocturnal hemoglobinuria should be suspected in pts who have a combination of hemolytic anemia, cytopenias, & hypercoagulable state (intraabdominal or cerebral venous thrombosis). Absence of CD55 & CD59 proteins on surface of RBCs</p> <p>Acute intermittent porphyria: abdominal pain & dark red/brown urine. Pigmented urine is due to porphyrins and/or porphyrin precursors</p>
2597	Medicine	Hematology & Oncology	<p>Waldenstrom's macroglobulinemia is characterized by hyperviscosity of the blood owing to the excess production of IgM. Two imp dx clues for this disorder are: 1) an IgM spike on electrophoresis, & 2) hyperviscosity</p> <p>[Excessive amounts of IgM antibody in the blood causes hyperviscosity (thickening) of the blood]</p>

2599	Medicine	Hematology & Oncology	<p>*Bisphosphonates*(zoledronic acid,pamidronate) are the drugs of choice for stabilizing bony metastatic lesions to prevent hypercalcemia of malignancy & pathologic fractures. [Bisphosphonates inhibit osteoclastic activity of bone,stabilizing destructive bony tumors & reducing the risk of pathologic fracture & malignant hypercalcemia]</p> <p>Corticosteroids are useful for hypercalcemia related to granulomatous disease as they reduce calcitriol release from activated mononuclear cells</p>
2614	Medicine	Hematology & Oncology	<p>Suspect squamous cell carcinoma of the mucosa of the head & neck in an alcoholic smoker who presents w/ a palpable cervical lymph node. The best initial test is *panendoscopy*(triple endoscopy = esophagoscopy, bronchoscopy, laryngoscopy). Panendoscopy is followed by a biopsy which establishes a histologic dx</p>
2618	Medicine	Hematology & Oncology	<p>Giant cell tumor of bone:pain,swelling,decreased range of joint motion at involved side.Osteolytic lesions("soap-bubble" appearance/"expansile & eccentric lytic area") in EPIPHYSEAL regions of long bones & most commonly involves distal femur & proximal tibia around knee joint</p> <p>Osteitis fibrosa cystica:imaging-subperiosteal bone resorption on radial aspect of middle phalanges,distal clavicular tapering,"salt & pepper" appearance of skull,bone cysts,& brown tumors of long bones</p>
2621	Medicine	Hematology & Oncology	<p>Give the appropriate pain medication to cancer pts. Don't be afraid to use a narcotic drug if it is the most appropriate</p>
2623	Medicine	Hematology & Oncology	<p>Serotonin antagonists that block 5HT3 receptors are the drugs of choice for tx & preventing chemotherapy-induced nausea & vomiting</p>
2624	Medicine	Hematology & Oncology	<p>Trousseau's syndrome:hypercoagulability disorder,recurrent/migratory superficial thrombophlebitis at unusual sites(arm,chest).Usually ass. w/ an occult visceral malignancy such as pancreatic(most common),stomach,lung,or prostate carcinoma.Refer pt for *CT scan of abdomen*(if one suspects pancreatic carcinoma)</p> <p>Peripheral septic thrombophlebitis:ass. w/ breaks in skin due to catheters,venipuncture,IV injections.Fever/pain w/ swelling at infection site</p> <p>D-dimer test:for DVT/PE</p>
2641	Medicine	Hematology & Oncology	<p>Tumor lysis syndrome: characterized by hypocalcemia, hyperphosphatemia, hyperkalemia, & hyperuricemia. Tumors w/ high cell turnovers(eg poorly differentiated lymphomas & leukemias) are frequent culprits. Allopurinol may greatly reduce the possibility of acute urate nephropathy</p>
2646	Medicine	Hematology & Oncology	<p>Progesterone analogs (megestrol acetate & medroxyprogesterone acetate) and corticosteroids increase appetite & weight gain in pts w/ cancer related anorexia/cachexia syndrome. Progesterone preferred over corticosteroids.</p> <p>The tca Mirtazapine (Remeron) also increases appetite and weight gain. Commonly prescribed in clinical practice</p>
2865	Medicine	Hematology & Oncology	<p>CLL:seen in elderly,marked leukocytosis w/ predominant lymphocytosis & smudge cells</p> <p>CML: one of the myeloproliferative syndromes. Leukocytosis w/ a left shift(more myelomonocytes, neutrophils), basophilia & marked splenomegaly[lymphocytosis is NOT a feature of CML]</p>
2868	Medicine	Hematology & Oncology	<p>Hodgkin's disease: presence of Reed-Sternberg cells</p> <p>Hairy cell leukemia: Tartrate-resistant acid phosphatase (TRAP) staining is important in the dx. Fine, hair-like irregular projections seen from lymphocytes. CD11c marker is specific for it. Most pts present w/ pancytopenia & splenomegaly. 10-20% of pts have leukocytosis.</p> <p>CML is one of the myeloproliferative syndromes. It is characterized by splenomegaly, neutrophilic leukocytosis (left shift), *basophilia*, & *low leukocyte alkaline phosphatase*</p>
2869	Medicine	Hematology & Oncology	<p>ALL: commonly seen in younger pts. Increased blasts seen on peripheral smear</p> <p>CLL: "the leukemia of old age." Mature small lymphocytes are the predominant cells in CLL</p> <p>CML: one of the myeloproliferative syndromes, normally seen in adults, leukocytosis, basophilia, marked splenomegaly</p>
2872	Medicine	Hematology & Oncology	<p>Megaloblastic (macrocytic) anemia: MCV >110 fL, low reticulocyte count, macroovalocyte RBCs, hypersegmented neutrophils, anisocytosis, & poikilocytosis. Due to impaired DNA synthesis due to B12 or folate deficiency</p> <p>Non-megaloblastic (macrocytic) anemia: due to alcoholism, hypothyroidism, drugs, liver disease</p>
2883	Medicine	Hematology & Oncology	<p>Polycythemia Vera (PV): increased RBC mass, mild granulocytosis, elevated platelet count, & low erythropoietin levels. Reversible moderate HTN occurs as a result of the expanded blood volume. Increased incidence of peptic ulceration(histamine release from basophils) & gouty arthritis(increased cell turnover) can be present. Physical exam shows plethoric face & splenomegaly. Tx-phlebotomy to keep HCT <45%</p>
2884	Medicine	Hematology & Oncology	<p>Polycythemia vera (PV): myeloproliferative disorder due to erythropoietin independent overproduction of rbc's.</p> <p>Sx-hyperviscosity(dizziness,headache), pruritus esp after shower & splenomegaly common. Dx confirmed by JAK2 mutation & *LOW erythropoietin levels*.</p> <p>[because blood viscosity is high in PV, ESR is normal or low]</p>

2885	Medicine	Hematology & Oncology	<p>CML: low leukocyte alkaline phosphate activity. Fatigue, weight loss, sweating, splenomegaly & leukocytosis w/ marked left shift (eg, myelocytes, metamyelocytes, band forms). > proportion of immature myelocytes than mature metamyelocytes. Basophilia & eosinophilia also seen.</p> <p>AML: fever not commonly seen (if so, it suggests infection in AML). Splenomegaly is uncommon. Larger number of myeloblasts</p> <p>Absence of measurable erythropoietin in urine is an imp dx feature of polycythemia vera</p>
2886	Medicine	Hematology & Oncology	Leukemoid reactions have high leukocyte alkaline phosphatase
2887	Medicine	Hematology & Oncology	Chronic lymphocytic leukemia (CLL) has "smudge cells." Confirm diagnosis w/ Flow cytometry!
2888	Medicine	Hematology & Oncology	<p>The presence of thrombocytopenia indicates a poor prognosis in CLL.</p> <p>"leukocytes that have undergone partial breakdown during preparation/have greater fragility" aka Smudge cells are characteristic of CLL.</p> <p>CLL is a B-cell disease. Infection is the main cause of death in these pts. Mostly seen in older pts.</p>
2889	Medicine	Hematology & Oncology	<p>Suspect multiple myeloma in an elderly pt w/ anemia, renal failure, & hypercalcemia</p> <p>Cladribine is the drug of choice for pts w/ hairy cell leukemia (leukemic reticuloendotheliosis)</p>
2893	Medicine	Hematology & Oncology	<p>Chlorambucil & prednisone are used for chronic lymphocytic leukemia</p> <p>CHOP regimen used for non-Hodgkin's lymphoma</p>
2894	Medicine	Hematology & Oncology	Chronic myeloid leukemia (CML): translocation of chromosomes 9 & *22* forming BCR-ABL fusion gene. This gene creates a constitutively active **tyrosine kinase**. Tyrosine kinase inhibitors such as imatinib are a key therapy in the tx of CML
2949	Medicine	Hematology & Oncology	*Fresh frozen plasma* is the therapeutic agent of choice for coagulopathy (bleeding) in pts w/ liver failure [pts w/ liver failure often develop bleeding disorders]
3062	Medicine	Hematology & Oncology	<p>Absent CD55 -> complement system causes destruction/hemolytic anemia -> Paroxysmal nocturnal hemoglobinuria</p> <p>Hereditary spherocytosis: autosomal dominant. Hemolytic anemia, jaundice, splenomegaly. Spherocytes on peripheral blood smear, anemia w/ reticulocytosis, low MCV, & *elevated MCHC & RDW* Coombs test is negative in HS. Dx-osmotic fragility test, eosin 5 maleimide binding test.</p> <p>Tx- supportive (folic acid, transfusions). Splenectomy improves anemia & reduces gallstone risk in pts</p>
3067	Medicine	Hematology & Oncology	<p>Pernicious anemia (PA) is the mcc of vitamin B12 deficiency in whites of northern European ancestry. It should be suspected in pts w/ megaloblastic anemia, atrophic glossitis (shiny tongue), vitiligo, thyroid disease, & neurologic abnormalities. Pernicious anemia confirmed by anti-intrinsic factor antibodies</p> <p>It would take 4-5 years of a pure vegan diet to cause dietary vitamin B12 deficiency. Folate deficiency can occur within 4-5 months after dietary intake is diminished</p>
3508	Medicine	Hematology & Oncology	<p>Superior vena cava syndrome: a condition where obstruction of the SVC impedes venous return from the head, neck & arms to the heart. Sx-dyspnea, venous congestion, & swelling of the head, neck, arms. Malignancy is the mcc of obstruction accounting for >60% of cases. *Chest x-ray* can identify the cause of SVC syndrome in >80% of cases. Abnormalities on CXR warrant follow up w/ chest CT & histology</p>
3596	Medicine	Hematology & Oncology	<p>*Compression ultrasonography* is the preferred initial test in pts w/ high pretest probability of DVT</p> <p>In pts w/ low pretest probability, a negative D-dimer result is useful in excluding DVT</p>
3597	Medicine	Hematology & Oncology	<p>Proximal deep leg/thigh veins (*femoral vein*, iliac, popliteal) are MOST COMMON sources (>90%) of symptomatic PE</p> <p>Thrombi originating from renal veins are most common in pts w/ nephrotic syn. Prevalence of PE in neph syn pts is 10%-30%</p> <p>Thrombi originating in right atrium: more common in pts w/ intracardiac devices. Less likely to occur spontaneously</p> <p>Spontan upper extremity DVT: uncommon, less likely to cause PE. RF-prothrombotic state, indwelling catheter, anatomical venous obstruction</p>
3608	Medicine	Hematology & Oncology	<p>Use IVC filters for hemodynamically stable pts [w/ minimal swelling] w/ DVT who have contraindications to anticoagulation (recent surgery, hemorrhagic stroke, bleeding) or recurrent DVTs after tx w/ anticoagulation.</p> <p>For proximal DVT & concurrent hemodynamically unstable PE or for a massive proximal DVT w/ severe swelling or limb-threatening ischemia, thrombolytic tx preferred (if contraindications to thrombolytic tx, iliac stenting or clot removal should be considered)</p>

3609	Medicine	Hematology & Oncology	<p>G6PD deficiency: sx-pallor & fatigue, dark urine, jaundice, abdominal/back pain. Labs-Bite cells w/ Heinz bodies. G6PD activity is often normal during the hemolytic episode as G6PD-deficient rbc's are hemolyzed early, & reticulocytes(which have normal G6PD enzyme levels) are abnormally high</p> <p>Pyruvate kinase deficiency leads to chronic hemolysis w/ hepatosplenomegaly, skin ulcers, & pigmented gallstones</p> <p>Howell-Jolly bodies seen w/ Sick cell crisis</p>
3610	Medicine	Hematology & Oncology	<p>Warm, antibody-type, autoimmune hemolytic anemia most commonly seen in women w/ some underlying disease affecting the immune system (e.g., lymphoid neoplasm, collagen vascular disease, congenital immunodeficiency diseases). It is characterized by a positive Coomb's test</p>
3680	Medicine	Hematology & Oncology	<p>Epidural spinal cord compression:suspect in pts w/ hx of malignancy who develop back pain w/ motor & sensory abnormalities.Bowel & bladder dysfunction are late neurologic sequelae.*IV glucocorticoids* & MRI are rec as initial management</p> <p>Leuprolide used in tx of metastatic prostate cancer.Its NOT useful for neurologic sx of metastatic disease.Tx w/ leuprolide causes initial rise in serum testosterone level->worsens bone pain & neuropathy & causes bladder outlet obstruction</p>
3847	Medicine	Hematology & Oncology	<p>*Radiation therapy* is useful in managing bone pain in pts w/ prostate cancer who have undergone orchiectomy</p> <p>Etidronate disodium & other bisphosphonates are useful in controlling chronic pain from bony metastasis, but its onset of action in alleviating acute bone pain is not as rapid as radiation therapy</p>
3890	Medicine	Hematology & Oncology	<p>Chronic liver disease or cirrhosis from almost any cause is a risk factor for hepatocellular cancer.</p> <p>*Hereditary hemochromatosis is ass. w/ a 20- to 200-fold increased risk of hepatocellular carcinoma* compared to the general population</p>
3943	Medicine	Hematology & Oncology	<p>Any elderly pt(even females) w/ bone pain, renal failure, & hypercalcemia has multiple myeloma until proven otherwise. 50% of multiple myeloma pts develop some degree of renal insufficiency; this is most likely due to obstruction of the distal & collecting tubules by large laminated casts containing *paraproteins* (mainly Bence Jones protein)</p>
3978	Medicine	Hematology & Oncology	<p>Major cause of anemia in pts w/ ESRD is deficiency of erythropoietin. The anemia is normocytic & normochromic. Tx of choice is recombinant erythropoietin, which is started if the Hb is <10g/dL, (and after iron deficiency has been ruled out). The most common side effects are worsening of *hypertension* (30% of pts), headaches (15% of pts) & flu-like sx (5% of pts)</p>
3999	Medicine	Hematology & Oncology	<p>*Factor V Leiden* is the most common inherited disorder causing hypercoagulability & predisposition to thromboses, esp DVT of lower extremities</p>
4013	Medicine	Hematology & Oncology	<p>Hypercalcemia *an electrolyte disturbance* is a common finding in pts w/ multiple myeloma. Hypercalcemia of >12 mg/dL may cause severe constipation, anorexia, weakness, polyuria, & neurologic sx</p>
4037	Medicine	Hematology & Oncology	<p>Sideroblastic anemia manifests as microcytic/hypochromic anemia simulating iron-deficiency anemia, but iron studies reveal elevated serum iron level & decreased TIBC. In pts w/ an identifiable cause of vit B6 deficiency (alcoholism, drugs), administration of pyridoxine can easily correct the problem</p>
4069	Medicine	Hematology & Oncology	<p>HbA2 level is elevated in pts w/ thalassemia</p>
4081	Medicine	Hematology & Oncology	<p>Chronic GI blood loss is the mcc of iron-deficiency anemia in an adult male or a post-menopausal woman. Doc needs to test for occult blood in the stool first. It isn't unusual for right sided colon cancer to manifest as iron-deficiency anemia.</p> <p>Dietary iron deficiency & malabsorption are rare causes of iron deficiency anemia</p>
4112	Medicine	Hematology & Oncology	<p>An acutely ill pt w/ underlying liver disease can become vitamin K deficient in 7-10 days. Labs show prolonged PT followed by prolonged PTT</p> <p>Factor V Leiden causes a hypercoagulable state due to activated protein C resistance</p> <p>Hypersplenism can occur in pts w/ cirrhosis,portal htn & splenomegaly.Splenic sequestration leads to thrombocytopenia.Pts rarely develop clinical bleeding or prolonged PT/PTT</p> <p>TTP: caused by widespread platelet thrombi that form in the microcirculation</p>
4147	Medicine	Hematology & Oncology	<p>The mcc of folic acid deficiency is nutritional due to poor diet or alcoholism. Folic acid deficiency can be caused by some drugs; these drugs can impair the absorption of folic acid (e.g. anti-epileptics like *phenytoin*, primidone, & phenobarbital) or antagonize its physiologic effects (e.g. methotrexate, trimethoprim). EXTREMELY HIGH YIELD QUESTION FOR USMLE!!!</p>
4160	Medicine	Hematology & Oncology	<p>Febrile nonhemolytic transfusion reaction: occurs within 1-6 hours of transfusion. Fever, chills, malaise w/o hemolysis. *Leukoreduction* of donor blood prevents this.</p> <p>Careful cross-matching of blood prevents acute hemolytic reactions within an hour of transfusion</p> <p>IgA deficient pts develop antibodies against IgA. These antibodies react w/ IgA containing donor products & cause an anaphylactic reaction. To reduce this risk, red cells should be washed</p>
4281	Medicine	Hematology & Oncology	<p>Studies have shown that the risk for sepsis is present *up to 30 years & probably longer after splenectomy*. Current recommendations state that pts should receive anti-pneumococcal, Haemophilus, & meningococcal vaccines several weeks before the operation, & daily oral penicillin prophylaxis for three to five years following splenectomy. Extremely imp question for Step 2!!</p>

4316	Medicine	Hematology & Oncology	The combo of arterial/venous thrombosis & thrombocytopenia in pts receiving heparin therapy strongly suggests type 2 heparin-induced thrombocytopenia. Antibodies against heparin-platelet factor 4 complex are responsible for the disease. [Venous thrombosis can lead to events such as DVT, pulmonary embolism, or skin necrosis. Arterial thrombosis is less common but can lead to events such as acute limb ischemia, organ infarction, & *stroke(neurologic complications)*]
4329	Medicine	Hematology & Oncology	The anemia of lymphoproliferative disorders is due to *bone marrow infiltration* w/ cancerous cells. Signs suggesting a lymphoproliferative disorder like lymphoma include firm, enlarged cervical, inguinal & supraclavicular lymph nodes[lymphadenopathy]
4331	Medicine	Hematology & Oncology	G6PD deficiency: Heinz bodies & Bite cells seen on peripheral blood smear Acute glomerulonephritis: gross or microscopic hematuria, decreased GFR, & htn
4333	Medicine	Hematology & Oncology	Acute cholecystitis(sx-fever, RUQ pain, positive Murphy's sign, leukocytosis) from pigmented gallstones is a common complication of hereditary spherocytosis(sx-increased mchc, hemolytic anemia, jaundice, splenomegaly in pt of Northern European descent)
4338	Medicine	Hematology & Oncology	Thrombotic Thrombocytopenic Purpura (TTP): thrombocytopenia(low platelets), hemolytic anemia(look for anemia & hyperbilirubinemia), & renal failure(increased BUN & creatinine) accompanied by the clinical findings of altered mental status & low grade fever. HIV is a risk factor. Management- we check the peripheral blood smear*, which will display schistocytes tx- plasma exchange
4339	Medicine	Hematology & Oncology	Thrombotic thrombocytopenic purpura(TTP): tx- plasmapheresis we do hemodialysis for renal failure cryoprecipitate contains fibrinogen and is used to treat low fibrinogen states
4343	Medicine	Hematology & Oncology	B-thalassemia is common in people of Mediterranean descent & manifests as a hypochromic microcytic anemia of moderate severity
4348	Medicine	Hematology & Oncology	Oral leukoplakia is a precancerous white patch or plaque on the oral mucoa. Approximately 1%-20% of plaques will progress to cancer within 10 years
4349	Medicine	Hematology & Oncology	Anemia of chronic kidney disease is due to erythropoietin deficiency. One must be careful to ensure adequate iron stores prior to erythropoietin replacement because the erythropoietin induced surge in RBC production can precipitate an iron deficient state.
4350	Medicine	Hematology & Oncology	*Vitamin B12 deficiency causes defective DNA synthesis* Vitamin B12 deficiency is common after a total or partial gastrectomy
4352	Medicine	Hematology & Oncology	Hard, unilateral, non-tender lymph nodes are always suspicious for cancer. In an older pt w/ a hx of smoking, such lymph nodes in the submandibular or cervical region are highly concerning for head and neck cancer. The vast majority of head and neck cancer is squamous cell carcinoma (SCC).
4356	Medicine	Hematology & Oncology	Pernicious anemia is the mcc of vitamin B12 deficiency. It's ass. w/ double the risk of gastric cancer as compared to the general population. Monitor these pts for the development of gastric cancer (w/ periodic stool testing for the presence of blood) Vit B12 deficiency sx- macrocytic anemia, glossitis, neurologic changes including peripheral neuropathy.
4357	Medicine	Hematology & Oncology	Folic acid & cobalamin deficiencies both cause a macrocytic anemia w/ hypersegmented neutrophils. Deficiencies in either nutrient will result in *increased homocysteine levels* because both are involved in homocysteine metabolism Increased urinary VMA seen in pts w/ pheochromocytomas
4358	Medicine	Hematology & Oncology	Anemia of chronic disease is a disorder of iron utilization that commonly occurs in the setting of chronic inflammation. It's characterized by a normocytic anemia w/ decreased serum iron, decreased total iron binding capacity, decreased iron saturation, & normal/elevated serum ferritin. Treating the underlying inflammatory disorder (eg tx rheumatoid arthritis w/ *methotrexate*) will improve the anemia
4374	Medicine	Hematology & Oncology	Features of androgen abuse/exogenous steroid use: Recent improvement in athletic performance, GYNECOMASTIA, elevated hematocrit
4384	Medicine	Hematology & Oncology	Vitamin B6(Pyridoxine) lowers homocysteine levels by acting as a cofactor for the enzyme cystathionine B-synthase, which metabolizes homocysteine into cystathionine
4402	Medicine	Hematology & Oncology	Pts who have received the equivalent of more than one blood volume of blood transfusions or packed red blood cells over 24 hours may develop elevated plasma levels of citrate (a substance added to stored blood). *Citrate chelates calcium & magnesium & may reduce their plasma levels, causing paresthesias*
4412	Medicine	Hematology & Oncology	The lupus anticoagulant, an anti-phospholipid antibody, is a pro-thrombotic immunoglobulin that causes a spuriously *prolonged partial thromboplastin time* in vitro
4416	Medicine	Hematology & Oncology	Pancytopenia (decreased rbc, wbc, platelets) common in SLE pts. Indicates concurrent *peripheral immune-mediated destruction of all 3 cell lines* Focal proliferative glomerulonephritis seen in SLE Hypersplenism less common in SLE & more common in cirrhosis, malaria, sickle cell disease Dilutional thrombocytopenia occurs in pts w/ massive blood transfusion requiring a large number of packed rbc transfusions, which have no platelets

4436	Medicine	Hematology & Oncology	<p>Hyposthenuria: A condition in which there is an impairment in kidney's ability to concentrate urine. Causes nocturia. Found in pts w/ sickle cell disease</p> <p>Pts w/ sickle cell anemia may develop membranoproliferative glomerulonephritis or end-stage renal disease due to focal segmental glomerulosclerosis. These diseases typically manifest w/ significant abnormalities in the urinary sediment, such as red blood cell casts</p>
4437	Medicine	Hematology & Oncology	<p>Autoimmune hemolytic anemia: normocytic anemia, splenomegaly, reticulocytosis, jaundice w/ elevated indirect bilirubin, increased serum lactate dehydrogenase, & decreased serum haptoglobin levels. Tx-high dose glucocorticoids(to decrease autoantibody production). Splenectomy or immunosuppressive agents for pts who can't tolerate glucocorticoids</p>
4440	Medicine	Hematology & Oncology	<p>Pts w/ B-thalassemia trait(minor) usually are asymptomatic w/ mild anemia, disproportionately high rbc count, low mcv, & hg >10 g/dL. No specific therapy is required for B-thalassemia minor</p> <p>Don't confuse B-thal w/ iron deficiency anemia(low rbc count, rarely becomes microcytic until hg <10 g/dL)</p>
4446	Medicine	Hematology & Oncology	<p>Carboxyhemoglobinemia is carbon monoxide(CO) poisoning. The CO binds hemoglobin w/ an affinity 250x that of oxygen</p>
4447	Medicine	Hematology & Oncology	<p>Pts w/ hereditary telangiectasia (Osler-Weber-Rendu syndrome) can develop pulmonary AV malformations (AVMs) ass w/ hemoptysis & right to left shunt physiology. This dx must be entertained in a pt w/ recurrent nose bleeds & oral lesions</p>
4448	Medicine	Hematology & Oncology	<p>Hypoxemia-induced increases in erythropoietin production are responsible for the polycythemia observed in obstructive sleep apnea</p>
4466	Medicine	Hematology & Oncology	<p>Multiple myeloma: monoclonal proliferation of plasma cells CRAB mnemonic: calcium(hypercalcemia), renal impairment, anemia, & bones(bone pain, lytic lesions, fractures) Pts are at increased risk for infection due to a *decrease in functional antibodies* & leukopenia that develops as the bone marrow is filled w/ malignant plasma cells. Look for a BIG gap in the total protein and albumin concentrations! (normally only a 3-4 difference separating total protein and albumin)</p>
4468	Medicine	Hematology & Oncology	<p>In sickle cell disease, folate deficiency can occur due to increased red blood cell turnover & increased consumption of folate in the bone marrow. Tx w/ daily folic acid supplementation</p> <p>Hydroxyurea*, trimethoprim, phenytoin, methotrexate can lead to macrocytosis</p>
4616	Medicine	Hematology & Oncology	<p>2 forms of heparin induced thrombocytopenia(HIT):</p> <p>Type 1 HIT-nonimmune direct effect of heparin on platelet activation, presents within first 2 days of heparin exposure, platelet count normalizes w/ continued heparin tx</p> <p>Type 2 HIT-immune mediated,antibodies to platelet factor 4 (PF4) complexed w/ heparin.Platelet aggregation,thrombocytopenia,thrombosis(arterial & venous).5-10 days after starting heparin,platelet count drop >50% from baseline,life threatening</p>
4633	Medicine	Hematology & Oncology	<p>Post-splenectomy pts are at increased risk for sepsis from encapsulated organisms due to impaired antibody-mediated opsonization in *phagocytosis*</p> <p>Conditions ass. w/ thymic aplasia, like DiGeorge syndrome, cause defective cell-mediated immunity</p>
4647	Medicine	Hematology & Oncology	<p>*Rivaroxaban* is a direct factor Xa inhibitor w/ rapid onset of action that can be used as a single agent in the tx of acute DVT or PE.It doesn't require frequent lab monitoring or daily injections; however,there is no antidote in the event of major hemorrhage</p> <p>Thrombolytic therapy is reserved for hemodynamically unstable PE pts.Less commonly, it's used for massive proximal lower-extremity thrombosis or iliofemoral thrombosis ass. w/ sig. symptomatic swelling or limb ischemia</p>
4671	Medicine	Hematology & Oncology	<p>Acute hemolytic transfusion reaction: Develops within an hour after transfusion is started. Due to ABO incompatibility. Sx-fever,chills,hemoglobinuria,flank pain,discomfort at infusion site,may advance to renal failure & DIC(bleeding from iv sites)</p> <p>Febrile nonhemolytic(most common reaction): within 1-6 hours of transfusion</p> <p>Delayed hemolytic: within 2-10 days after transfusion</p> <p>IgA deficient pts: Anaphylaxis in seconds to minutes. Angioedema,hypotension,difficulty breathing</p>
4672	Medicine	Hematology & Oncology	<p>Anaphylactic reactions to transfused blood products:rapid onset(within seconds to minutes) of resp. distress & hypotension,which progress to resp failure & shock</p> <p>Febrile nonhemolytic transfusion reaction:most common adverse reaction to transfusion,occurs within 1-6 hours of transfusion.During blood storage, leukocytes release cytokines that,when transfused,cause transient fevers,chills,malaise.No resp distress & shock</p>
4736	Medicine	Hematology & Oncology	<p>Aspirin inhibits COX-1, thereby inhibiting TXA2 synthesis</p> <p>Heparin activates antithrombin III, which in turn inactivates factor IIa(thrombin), factor IXa, & factor Xa</p> <p>Simvastatin functions by inhibiting 3-hydroxy-3-methylglutaryl-coenzyme reductase</p>

4859	Medicine	Hematology & Oncology	Heparin-induced thrombocytopenia(HIT): immune-mediated process that causes thrombocytopenia several days after starting heparin therapy(eg,enoxaparin). Although there can be significant thrombocytopenia, *HIT is highly thrombogenic & pts must be monitored closely for arterial and venous clots*
4860	Medicine	Hematology & Oncology	Idiopathic thrombocytopenia purpura is usually dx after excluding other possible causes of thrombocytopenia. *These pts should be tested for hepatitis C & HIV as thrombocytopenia may be the initial presentation of HIV infection(up to 5%-10% of pts).* Tx of the underlying infection can affect the platelet count
4862	Medicine	Hematology & Oncology	Adult lead toxicity: Usually due to *occupational exposure* (eg, battery manufacturing, plumbing, mining, painting, paper hanging, auto repair). Sx-fatigue, irritability, insomnia, myalgias, htn, nephropathy, neurocognitive deficits, & peripheral neuropathy Dx- blood lead levels, cbc w/ blood smear, xray fluorescence to measure bone lead concentration Tx- chelation therapy
4940	Medicine	Hematology & Oncology	*Salvage therapy* is defined as tx for a disease when standard therapy fails eg: radiation therapy given for PSA recurrence after radical prostatectomy(for prostate cancer) was already done Adjuvant therapy is tx given in addition to standard therapy eg: radiation therapy given at the same time as radical prostatectomy in a pt Neoadjuvant therapy is tx given before the standard therapy for a particular disease eg: radiation given before radical prostatectomy
6993	Medicine	Hematology & Oncology	HIT:Complication of heparin therapy.HIT antibodies bind against the surface of platelets->platelet aggregation,thrombocytopenia,& thrombotic complications(classic one in pts receiving heparin subcutaneously is *skin necrosis at the abdominal injection site*) Warfarin is an ORAL anticoagulant Delayed hypersensitivity reactions cause skin erythema,vesicles,bullae.If severe,fever/systemic sx occur Cholesterol embolization causes skin findings that affects lower extremities
8894	Medicine	Hematology & Oncology	Preconception counseling & testing can help identify couples who are at risk for hemoglobinopathies that might affect their offspring during pregnancy or after birth. *The most important initial screening test in a female is a complete blood count*. Based on the results, other appropriate screening tests should be obtained Testing the pts partner is offered if an abnormal hemoglobin level is dx in the pt
2161	Medicine	Infectious Diseases	Cellulitis: sx- swelling which is erythematous, warm, tender, not very well demarcated, high fever w/ rigors and chills, malaise, fatigue, & confusion tx- nafcillin or cefazolin when pt presents w/ systemic signs Chronic fungal foot infection can serve as a nidus for bacterial cellulitis
2236	Medicine	Infectious Diseases	Chlamydial urethritis: Mucopurulent urethral discharge in a sexually active pt, absence of identifiable bacteria on culture or Gram stain("culture-negative" urethritis). Dx made w/ nucleic acid amplification testing of a first-catch urine sample w/o pre-cleaning genital area. Tx- Azithromycin or doxycycline Acute bacterial cystitis: mucopurulent urethral discharge isn't seen
2239	Medicine	Infectious Diseases	*E.coli* is the most frequent cause of non-sexually transmitted acute epididymitis(seen in older men).[In older men, acute epididymitis is caused by gram-negative rods] Chlamydia & gonococcus are the most frequent causes of sexually transmitted acute epididymitis(seen in younger pts)
2262	Medicine	Infectious Diseases	Isoniazid side effects: Peripheral neuropathy-start pt on pyridoxine Hepatitis Jarisch-Herxheimer reaction: It may develop in the tx of syphilis. When primary or secondary syphilis is tx w/ penicillin, the spirochetes die rapidly, thereby leading to the release of antigen-antibody complexes in the blood, and consequent immunologic reaction, which seems like an acute flare-up of syphilis
2264	Medicine	Infectious Diseases	Toxoplasmosis ring enhancing lesions: tx- sulfadiazine & pyrimethamine Prophylaxis w/ trimethoprim-sulfamethoxazole.
2267	Medicine	Infectious Diseases	Encapsulated bacteria, esp *Pneumococcus/S.pneumoniae*, are the mcc of pneumonia in HIV pts
2269	Medicine	Infectious Diseases	antiviral drugs are not associated with clostridium difficile infection (unlike antibacterial agents)
2270	Medicine	Infectious Diseases	CMV infection: mononucleosis-like sx, atypical lymphocytes(large basophilic cells w/ vacuolated appearance) on blood smear, negative heterophile antibody (monospot) test. [Unlike EBV ass. infection, CMV mononucleosis presents WITHOUT pharyngitis & cervical lymphadenopathy!] Chronic fatigue syndrome: sx > 6 months

2273	Medicine	Infectious Diseases	<p>Pneumocystis jirovecii pneumonia: Tx-Trimethoprim-sulfamethoxazole(pt may experience worsening of pulmonary function following abx tx). Corticosteroids have been shown to minimize the initial abx induced worsening of respiratory function. They should be given w/ antibiotics in pts w/ PaO₂ <70 mmHg on room air or an A-a gradient >35 to minimize pulmonary complications</p> <p>IV pentamidine, oral atovaquone, clindamycin-primaquine are 2nd line tx for PCP</p>
2274	Medicine	Infectious Diseases	<p>Esophagitis is common complication of HIV, esp when CD4 count <100/uL. Sx- painful swallowing & substernal burning. Most common etiology of esophagitis in HIV pts is Candida. Candida esophagitis is likely in pts w/ oral thrush "white plaques that are removable." Tx- Oral *fluconazole*</p> <p>Antiretroviral drugs do not cause "pill esophagitis!"</p> <p>Potassium supplements, tetracyclines, bisphosphonates cause "pill esophagitis."</p>
2277	Medicine	Infectious Diseases	<p>Progressive multifocal leukoencephalopathy (PML):sx-hemiparesis & disturbances in speech, vision & gait. MRI findings-multiple demyelinating, non-enhancing lesions w/ no mass effects [Cerebral toxoplasmosis is the most common ring-enhancing mass lesion in HIV pts. It's unlikely to be the culprit if pt in vignette is receiving TMP-SMX] [Primary CNS lymphoma-second most common cause of mass lesions in HIV pts. Solitary, weakly enhancing & periventricular. Dx-EBV DNA in CSF]</p>
2292	Medicine	Infectious Diseases	<p>Suspect an anaerobic lung infection in pt w/ fever & cough productive of foul-smelling sputum after an upper GI endoscopy or any other instrumentation of upper airway or esophagus. Tx-Clindamycin</p> <p>Doxycycline for outpt CAP where macrolide resistance is suspected</p> <p>Ciprofloxacin has good gram negative coverage</p> <p>TMP+SMX for pneumocystis pneumonia, gram-negative & gram-positive agents</p> <p>Ampicillin/gentamicin combo for gram-negative aerobes. Used for Ab infections w/ metronidazole</p>
2295	Medicine	Infectious Diseases	<p>Reactivation tuberculosis: organism- Mycobacterium tuberculosis etiology- HIV pts have higher risk of reactivation tuberculosis chest xray shows upper lobe infiltrates w/ cavities</p> <p>Aspiration pneumonia: Pts are much sicker, present more acutely w/ fever, productive cough, dyspnea, usually involves lower lobes and occasionally upper lobes if pt aspirates while supine</p>
2304	Medicine	Infectious Diseases	<p>Bronchoalveolar lavage (BAL): is most useful in the evaluation of suspected malignancy & opportunistic infection. BAL is >90% sensitive & specific for PCP(common opportunistic infection in HIV pts). BAL is of less diagnostic utility in evaluating other forms of interstitial lung disease, such as interstitial pulmonary fibrosis, sarcoidosis, & connective tissue diseases. PCP has classic appearance of bilateral interstitial and/or alveolar infiltrates</p>
2616	Medicine	Infectious Diseases	<p>Pts w/ febrile neutropenia(absolute neutrophil count <1500/uL) should be started on empiric broad-spectrum abx as soon as possible after blood cultures are obtained. Empiric monotherapy w/ an anti-pseudomonal beta-lactam agent (eg, cefepime, meropenem, *piperacillin-tazobactam*) is rec for initial management as it provides both gram-negative & gram-positive coverage</p>
2845	Medicine	Infectious Diseases	<p>The most common organisms responsible for the development of epiglottitis, esp in the adult population, are *Haemophilus influenzae & Streptococcus pyogenes*. Epiglottitis is a medical emergency, & rapid tx must be initiated in order to prevent obstruction of the airway</p>
2916	Medicine	Infectious Diseases	<p>Individuals w/ hx of high risk sexual intercourse(unprotected or gay men) should be screened for HIV & hep B infection. Individuals who use injection drugs, have high risk needlestick exposure, or received blood transfusions before 1992 should be screened for hepatitis C.</p>
2961	Medicine	Infectious Diseases	<p>Consider tx Hepatitis B pts esp if they have sx like acute liver failure, clinical cirrhosis, high serum hep B virus DNA, cirrhosis w/ positive HBeAg, hep B DNA >20,000 IU/mL, & serum alanine transaminase >2x upper limit of normal. *Entecavir & tenofovir* are preferred for tx!</p> <p>Lamivudine isn't used for Hep B due to drug resistance.</p> <p>Interferon is a short term tx used for young Hep B pts w/ compensated liver disease(can't use in pts w/ decompensated cirrhosis)</p>
2968	Medicine	Infectious Diseases	<p>Entamoeba histolytica is a protozoan, which can cause *amebic liver abscess*. Remember the Mexico trip</p> <p>Pyogenic liver abscess is secondary to surgery, a GI infection, or acute appendicitis. More severe than amebic liver abscess</p>

2970	Medicine	Infectious Diseases	Hepatic hydatid cysts: due to Echinococcus granulosus. Dogs are definitive host. Cystic hepatic lesion w/ eggshell calcification
			Pyogenic liver abscess: develop following surgery, GI infection, acute appendicitis. Pain, fever, leukocytosis
			Simple hepatic cysts: congenital. Pathophys related to fluid secretion by epithelial lining. Dull RUQ pain, ab bloating, early satiety
			Amebic liver abscess: fever, RUQ pain, extraintestinal manifestation of amebiasis
2981	Medicine	Infectious Diseases	10-20% of pts on isoniazid will develop mild aminotransferase elevation in first few weeks of tx. It's self-limited & will resolve w/o intervention
			If TB pt's sputum is -ve for acid-fast bacilli, they still haven't fully cleared the dormant bacilli after 1 mo of tx
			Many 1st line anti-tb drugs are hepatotoxic & should be replaced by 2nd line anti-tb drugs in pts who develop significant hepatotoxicity
			Do liver biopsy in pts w/ elevation of liver enzymes of unknown etiology
2984	Medicine	Infectious Diseases	Chronic hepatitis B can have 4 phases: immune tolerance, immune clearance, inactive carrier state, & HBeAg-negative chronic hepatitis. In the immune clearance phase, fluctuating levels of liver inflammation can produce variable liver transaminase levels and eventual clearance of HBeAg. During this phase, the presence of HBeAg indicates active replication of virus, even in pts with normal ALT. Such pts need serial measurements of both ALT & HBeAg every 3-6 month until viral clearance
2989	Medicine	Infectious Diseases	Mycobacterium tuberculosis infection is unlikely in an HIV pt if their PPD test is negative, for example 3 mm induration (>5 mm considered positive in HIV pts). Also Mycobacterium tb demonstrates acid-fast bacilli
			Nocardia is a gram-positive, weakly acid-fast, filamentous branching rod. It can also cause pulmonary cavitation in an HIV pt. tx- trimethoprim-sulfamethoxazole
			Pneumococcus: mcc of community acquired pneumonia; manifests as lobar pneumonia
			Mucormycosis: MCC is Rhizopus. Can affect nose & maxillary sinus Poorly controlled diabetes mellitus predisposes to this disease [H.Y. fact for USMLE] Sx-low grade fever, bloody nasal discharge, nasal congestion, involvement of the eye w/ chemosis, proptosis & diplopia. Involved turbinates often become necrotic. Invasion of local tissues can lead to blindness, cavernous sinus thrombosis & coma. If left untreated, can lead to death in days to weeks
2993	Medicine	Infectious Diseases	
2994	Medicine	Infectious Diseases	Mucormycosis, most often caused by the fungus Rhizopus, requires aggressive surgical debridement plus early systemic chemotherapy w/ amphotericin B
2995	Medicine	Infectious Diseases	Histoplasmosis closely mimics the presentation of sarcoidosis & should be considered when a pt w/ suspected sarcoidosis deteriorates after immunosuppressive therapy. In endemic regions, dimorphic fungi (eg, Histoplasma, Blastomyces, Coccidioides) should be excluded before immunosuppression is initiated
			Blastomyces ass. w/ contact w/ soil or rotting wood, w/ dissemination in immunocompromised hosts presenting as skin lesions, osteolytic bone lesions, or prostate involvement
			Coccidioidomycosis: usually seen in pts from Arizona/California. Look for erythema nodosum (erythematous nodules on anterior surface of both legs)
			Blastomycosis: Affects pts in south central and north central US. Infection in immunocompetent hosts is uncommon
2998	Medicine	Infectious Diseases	
			Blastomycosis: fungal infection endemic to central USA. Causes mild pulmonary illness (eg, dry cough w/ malaise) but disseminated infection can occur even in immunocompetent individuals. Cutaneous blastomycosis manifests as well-circumscribed verrucous nodules & plaques that progress to microabscesses
			Actinomyces: Gram-positive rod, causes abscesses primarily at the head & neck w/ granular yellow pus "sulfur granules", can also cause indolent pulmonary disease
			Sporotrichosis: Initial lesion, a reddish nodule that later ulcerates, appears at the site of the thorn prick/skin injury. From the site of inoculation, the fungus spreads along the lymphatics forming subcutaneous nodules & ulcers
3000	Medicine	Infectious Diseases	
3002	Medicine	Infectious Diseases	Rabies post-exposure prophylaxis (PEP):
			Pts exposed to healthy animal- animal can be observed for 10 days w/o PEP
			Unvaccinated pts who are bitten by animals that could have rabies- Pt should receive PEP w/ active and passive immunization

			Viral encephalitis: elevated wbc, lymphocytic predominance, normal glucose & elevated protein. Tx- *acyclovir* for suspected HSV encephalitis until confirmatory tests return
3003	Medicine	Infectious Diseases	Cryptococcal meningoencephalitis: common in immunocompromised pts (HIV). Sx due to increased intracranial pressures (headache) from capsular swelling. Elevated opening pressure on spinal tap. Tx- amphotericin + flucytosine Bacterial meningitis: tx empirically w/ ceftriaxone & vancomycin (ampicillin in adults age >50)
3007	Medicine	Infectious Diseases	Pts w/ infectious mononucleosis (IM) are at risk for splenic rupture. Avoid contact sports for * >3 weeks.* Splenomegaly difficult to palpate in athletic pts w/ firm ab muscles. Also spleen may not be palpable until it's 2-3x its normal size Pts w/ S. pharyngitis are not contagious after 24 hours of antibiotics Antibiotics are not used in IM as it's caused by a virus. Antibiotics can cause a maculopapular rash in pts w/ IM
3011	Medicine	Infectious Diseases	Amoxicillin-clavulanate: antibiotic of choice for prophylaxis/tx of infections caused by a human bite. Also the drug of choice for dog bites. Coverage for Gram positives, Gram negatives, & anaerobes Clindamycin is effective against Gram-positive bacteria & anaerobes. Used for tx lung abscesses & infections of the female genital tract Erythromycin is drug of choice for Legionnaire disease & is also used for outpatient tx of community acquired pneumonia
3012	Medicine	Infectious Diseases	Blood cultures from separate venipuncture sites should be obtained over a specified period in all pts w/ suspected infective endocarditis prior to initiating antibiotic therapy
3013	Medicine	Infectious Diseases	Empiric antibiotic tx for native valve endocarditis should be geared towards MRSA, streptococci, & enterococci. tx- *Vancomycin* Ampicillin-sulbactam recommended for penicillin resistant enterococcus & HACEK organisms
3014	Medicine	Infectious Diseases	Streptococcus sanguinis belongs to the viridans group of streptococci, which also includes S mitis, S oralis, S mutans, S sobrinus, and the S milleri group. Infective endocarditis (IE) w/ viridans group streptococci is commonly encountered after dental procedures IE due to S bovis (S gallolyticus) is seen in pts w/ colon cancer Enterococci: common cause of healthcare ass. nosocomial UTIs S. aureus & S epidermidis: pts w/ iv catheters, prosthetic valves, iv drug users
3037	Medicine	Infectious Diseases	Blastomycosis: fungal infection, occurs in region of Great Lakes, Mississippi river & Ohio River basins (Wisconsin has highest infection rate). Pulmonary sx & CXR findings may resemble TB & histoplasmosis. However, systemic Blastomycosis may cause ulcerated skin lesions & lytic bone lesions
3054	Medicine	Infectious Diseases	Treat Legionella pneumophila w/ macrolides or fluoroquinolones Amoxicillin/clavulanate is used to treat sinusitis, otitis media, & some cases of CAP. It has activity against beta-lactamase-producing Haemophilus & Moraxella species Ceftriaxone has good activity against pneumococcus as well as Haemophilus & Moraxella Vancomycin treats pts w/ nosocomial pneumonia when probability of MRSA is high
3068	Medicine	Infectious Diseases	Enterococci, esp Enterococcus faecalis, are a common cause of endocarditis ass. w/ nosocomial UTIs (IE ass. w/ viridans group streptococci is usually related to dental or upper respiratory source of infection. It isn't ass. w/ genitourinary tract manipulation/infections)
3103	Medicine	Infectious Diseases	Herpes simplex esophagitis: round/ovoid ulcers & intranuclear inclusions. Tx- acyclovir CMV esophagitis: linear ulcers & intranuclear/intracytoplasmic inclusions. Tx- ganciclovir Pentamidine used for prevention/tx of Pneumocystis pneumonia in pts w/ advanced HIV who can't tolerate tmp-smx Candidiasis resistant to fluconazole may be tx w/ voriconazole, an echinocandin (caspofungin), or amphotericin
3104	Medicine	Infectious Diseases	Suspect babesiosis in a pt from northeastern US who presents w/ a tick bite, esp if there is evidence of hemolysis & the pt has been splenectomized. Tx- quinine-clindamycin & atovaquone-azithromycin Ehrlichiosis "spotless Rocky Mountain spotted fever": tick borne illness, fever, malaise, headache, nausea/vomiting. Leukopenia & thrombocytopenia Q fever: Coxiella burnetii Source- infected cattle, goat, sheep. Meat handlers & vets at risk Sx- Flu like syndrome, hepatitis, pneumonia

3105	Medicine	Infectious Diseases	All posttransplant pts should receive prophylaxis w/ TMP-SMX TMP-SMX is effective in preventing Pneumocystis Pneumonia (PCP) infection in transplant pts These pts should also be vaccinated against influenza, pneumococcus, and Hepatitis B
3107	Medicine	Infectious Diseases	Bright red, firm, friable, exophytic nodules in an HIV infected pt are most likely *bacillary angiomatosis*(google pic). Bacillary angiomatosis is caused by Bartonella, a gram-negative bacillus. Oral erythromycin is the abx of choice.
3131	Medicine	Infectious Diseases	Pts w/ infectious mononucleosis may develop *autoimmune hemolytic anemia & thrombocytopenia* up to 2-3 weeks after the onset of initial sx(initial labs may not show anemia or thrombocytopenia). This due to cross reactivity of the EBV induced antibodies against RBCs & platelets [IM-fever,sore throat,jaundice,mild hepatosplenomegaly,symmetrical lymphadenopathy involving posterior cervical chain of lymph nodes more than anterior chain,inguinal/axillary lymphadenopathy]
3172	Medicine	Infectious Diseases	Parvovirus B19: can cause an acute symmetric arthritis of the hands (metacarpophalangeal, proximal interphalangeal, & wrist), knees, & ankle joints. Commonly affects adults who have frequent contact w/ children(school teachers, daycare workers).Dx confirmed w/ anti-parvovirus B19 IgM. Syndrome is self-limited & doesn't require specific tx. Rheumatoid arthritis-joint stiffness >1 hour in morning, joint swelling, sx for >6 weeks
3243	Medicine	Infectious Diseases	Lyme disease: Doxycycline is the tx of choice in pts who are not pregnant & > 8 years old. Amoxicillin is used for children age < 8 years & pregnant women (We want to avoid doxycycline's negative side effects like tooth discoloration, skeletal problems in children & fetuses)
3245	Medicine	Infectious Diseases	Bacterial meningitis:Don't delay empiric abx while awaiting results of CT scan or lumbar puncture. *Vancomycin + ampicillin + cefepime(or ceftazidime)* is tx of choice for immunocompromised pts w/ suspected bacterial meningitis(provides coverage for S.pneumoniae,N.meningitidis,Listeria,Gram-neg rods like pseudomonas). Corticosteroids(dexamethasone)must be started at the same time as abx & should be discontinued if cultures show an organism other than S.pneumoniae
3246	Medicine	Infectious Diseases	HIV pts are at high risk for TB. A positive PPD (>5mm in HIV pts) requires prophylaxis with *isoniazid and pyridoxine for 9 months* In this stem, the pt was asymptomatic and his chest xray was negative. I mention this because a combination of 3-4 drugs is typically used to treat ACTIVE tb infection
3247	Medicine	Infectious Diseases	Ehrlichiosis: suspect in pt from endemic region w/ hx of tick bite,febrile illness w/ systemic sx,LEUKOPENIA &/or THROMBOCYTOPENIA,& ELEVATED AMINOTRANSFERASES.Rash is uncommon,drug of choice is *doxycycline* Ceftriaxone used for tx of neuro & cardio sx of Lyme disease(ABSENCE OF A RASH & PRESENCE OF A HIGH FEVER & HEMATOLOGIC & LIVER ENZYME ABNORMALITIES make Lyme disease LESS LIKELY) Erythromycin has activity against Legionella & Mycoplasma RMSF tx: Doxycycline 1st line
3248	Medicine	Infectious Diseases	MCC of bloody diarrhea in the absence of fever is E coli. The enterohemorrhagic E coli (EHEC) strain produces Shiga toxin, which causes an inflammatory diarrhea syndrome w/ acute watery to bloody stools & abdominal pain. EHEC ass. w/ consumption of raw or undercooked meats. Dx confirmed w/ a stool assay for Shiga toxin. If EHEC suspected,avoid empiric antibiotic tx as it increases risk of hemolytic uremic syndrome C.perfringens:nonbloody diarrhea ass. w/ unrefrigerated food
3249	Medicine	Infectious Diseases	Cryptosporidium is an emerging & important cause of travelers' diarrhea & should be considered in pts w/ persistent, nonbloody, watery diarrhea for >2 weeks The GI sx of strongyloidiasis are nausea, vomiting, & abdominal pain rather than diarrhea
3251	Medicine	Infectious Diseases	Postexposure HIV prophylaxis w/ 3 drug antiretroviral therapy for 4 weeks is rec following high risk occupational exposure to blood or body fluids from an HIV infected individual. Therapy should be started as soon as possible, preferably in the first few hours
3252	Medicine	Infectious Diseases	HIV infected pts w/ CD4 counts <50 cells/uL require primary prophylaxis against Mycobacterium avium complex with azithromycin or clarithromycin Acyclovir or valacyclovir can be used to prevent frequent/severe herpes simplex virus recurrences(secondary prophylaxis) regardless of CD4 count. In our Uworld question stem, the pt wasn't experiencing recurrences. Although Fluconazole is effective for candidiasis, prophylaxis against Candida infection is not rec. in HIV pts
3253	Medicine	Infectious Diseases	Kaposi sarcoma in HIV pts is caused by human herpesvirus 8 (HHV-8). Lesions are asymptomatic(no pain, itching, or burning) [google pic] Cryptococcus is an important cause of meningitis in HIV pts HPV causes common & genital warts, as well as cervical cancer

3256	Medicine	Infectious Diseases	<p>Primary syphilis: single dose of IM benzathine penicillin G is tx of choice.</p> <p>*In nonpregnant pts w/ penicillin allergy, a 2 week course of doxycycline can be used.* Pregnant pts w/ penicillin allergy should undergo desensitization before penicillin therapy(doxycycline is contraindicated during pregnancy & only penicillin based regimens are acceptable, even among those w/ hx of penicillin allergy)</p>
3257	Medicine	Infectious Diseases	<p>Amoxicillin is tx of choice for pregnant & lactating pts w/ early localized Lyme disease(doxycycline contraindicated in young children & pregnant & lactating women)</p> <p>Pregnant women should be reassured that Lyme disease is not known to cause congenital anomalies or fetal demise</p> <p>IV 3rd-generation cephalosporins(ceftriaxone & cefotaxime)reserved for meningitis, encephalopathy,or carditis</p> <p>Untreated Lyme disease progresses to facial palsy,aseptic meningitis,heart block,arthritis</p>
3259	Medicine	Infectious Diseases	<p>Chloroquine-resistant Plasmodium falciparum is common in Sub-Saharan Africa, the Amazon basin, & Southern & Southeast Asia. *Mefloquine*, atovaquone-proguanil, & doxycycline are recommended chemoprophylaxis options for travelers to edemic regions of chloroquine-resistant malaria</p> <p>Primaquine:well tolerated antimalarial but doesn't kill the schizont forms of P falciparum & used in regions where P ovale & P vivax are the dominant malaria species(eg,Korean peninsula)</p>
3261	Medicine	Infectious Diseases	<p>Ramsay Hunt syndrome(herpes zoster oticus):manifestation of varicella zoster virus reactivation charac by triad of ipsilateral facial paralysis, ear pain, & vesicles in the auditory canal & external auricle</p> <p>Classic rash in syphilis is a diffuse maculopapular eruption involving the palms and soles</p>
3262	Medicine	Infectious Diseases	<p>Proteus most likely cause of uti in pts w/ alkaline urine (check question stem for urinalysis pH value being > 7.45 aka alkalotic)</p> <p>Although E. coli is the most commonly isolated pathogen in pts w/ UTI, it deosn't alter the normal acidic pH of urine</p>
3263	Medicine	Infectious Diseases	<p>The sudden onset of a sharply demarcated, erythematous, edematous, tender skin lesion w/ raised borders in a febrile pt suggests erysipelas(a specific type of cellulitis). The most frequently implicated organism is *group A beta-hemolytic streptococcus (S.pyogenes)*</p>
3266	Medicine	Infectious Diseases	<p>Rubella presents w/ fever & occipital or posterior cervical lymphadenopathy followed by a maculopapular rash that spreads in a cranial-caudal pattern & spares the palms & soles. Affected adult women also suffer from arthritis that can last up to a month after resolution of other sx</p> <p>Measles: diff from Rubella cuz w/ measles, cranial caudal spread of rash is more gradual over days. Also arthritis doesn't occur w/ measles</p>
3267	Medicine	Infectious Diseases	<p>Trichinellosis:GI complaints(ab pain,nausea,vomiting)followed by PERIORBITAL EDEMA,MYOSITIS,& EOSINOPHILIA(hallmark of disease).Fever,subungual splinter hemorrhages,& conjunctival or retinal hemorrhages also seen.Infection more common in Mexico,China,Thailand,parts of central Europe & Argentina.Occurs after eating undercooked/raw meat(pork)</p> <p>Dengue fever:fever,headache,RETRO-ORBITAL PAIN,rash,& significant myalgia & arthralgias.Pts can also develop hemorrhagic dengue fever</p>
3320	Medicine	Infectious Diseases	<p>Disseminated gonococcal infection causes high fever, chills, tenosynovitis, polyarthralgia, & pustular lesions/rash on the trunk & extremities. Routine blood & pustule cultures can be negative due to the fastidious nature of Neisseria gonorrhoeae</p> <p>The rash ass. w/ parvovirus is a malar rash (on the face)</p> <p>Toxic shock syndrome: look for hypotension and classic diffuse erythematous rash on body including palms & soles</p>
3422	Medicine	Infectious Diseases	<p>Valacyclovir is the drug of choice in the tx of herpes zoster(shingles); *acyclovir* is an alternative.[Oral steroids can be combined w/ acyclovir (not w/ valacyclovir) if initial sx are severe & pt has no contraindications to steroids]</p> <p>Postherpetic neuralgia can be prevented &/or tx w/ tricyclic antidepressants such as amitriptyline or nortriptyline along w/ acute antiviral therapy(however this shouldn't be primary tx)</p>
3425	Medicine	Infectious Diseases	<p>Leprosy:</p> <p>asian pt w/ insensate, hypopigmented patch of skin. can progress to cause muscle atrophy</p> <p>diagnose w/ acid-fast bacilli on skin biopsy</p>
3475	Medicine	Infectious Diseases	<p>In a pt w/ Acute pyelonephritis, *urological imaging is reserved for pts w/ persistent clinical sx despite 48-72 hours of therapy, hx of nephrolithiasis, complicated pyelonephritis, or unusual urinary findings(gross hematuria, suspicion for urinary obstruction)*</p>

3530	Medicine	Infectious Diseases	<p>Ludwig's angina: Infection of the submandibular & sublingual glands, usually caused by Streptococcus & anaerobes Source of infection is commonly an infected tooth. sx- fever, dysphagia, odynophagia, drooling, induration of submandibular space, presence of anaerobes can cause crepitus due to gas formation. Asphyxiation is mcc of death in this disease. management- monitor for respiratory difficulty, intubate if necessary tx- antibiotics & removal of infected tooth</p>
3561	Medicine	Infectious Diseases	<p>Cervicofacial actinomycosis most commonly presents in the mandibular region as a slowly growing, nontender mass w/ characteristic yellow granular pus ("sulfur granules"). The infection can extend thru tissue planes & form abscesses, fistulas, & draining sinus tracts. Dx is confirmed by Gram stain (Gram-positive branching bacilli) & culture. *Penicillin* is the preferred therapy. [Actinomyces is an anaerobic bacteria that colonizes oral cavity]</p>
3590	Medicine	Infectious Diseases	<p>Cryptosporidium parvum:major cause of chronic diarrhea in HIV infected pts w/ CD4 counts < 180 cells/mm3.Modified acid-fast stain will show oocysts in the stool</p> <p>MAC:ass. w/ lung infections in immunocompetent pts w/ chronic lung disease.Causes disseminated disease w/ bowel infiltration & malabsorption in pts w/ severe immune compromise</p> <p>Microsporidia,Enterocytozoon bienersi,Encephalitozoon intestinalis:diarrhea in immunocompetent hosts,severe malabsorption/diarrhea in HIV pts</p>
3613	Medicine	Infectious Diseases	<p>Consider *CMV* as a late complication in post-bone marrow transplant recipients who present w/ pneumonitis(lung involvement) & colitis(intestinal involvement). Diarrhea & Ab pain occurs in these pts due to upper & lower GI ulcers. CXR findings-multifocal diffuse patchy infiltrates</p> <p>Incidence of PCP has fallen w/ use of prophylactic tmp-smx during pre-transplant period</p> <p>In GVHD, skin rash is always seen(most common organ involved is the skin)</p>
3674	Medicine	Infectious Diseases	<p>*Cutaneous larva migrans*, or creeping eruption, is common in travelers in tropical regions, & is charac by pruritic, elevated, serpiginous lesions on the skin, which elongate at the rate of several mm per day as the larvae migrate in the epidermis. Infection is often acquired thru contact w/ sand. It's caused by the infective-stage larvae of Ancylostoma braziliense, the dog & cat hookworm.</p>
3675	Medicine	Infectious Diseases	<p>*Malaria*:Fever in returning traveler,cyclical fever w/ nonspecific constitutional & GI sx,anemia,& thrombocytopenia</p> <p>Mosquito-borne dengue fever:sx develop 4-7 days(& never >2 weeks)following mosquito bite.Fever,headache,muscle/joint pain,retroorbital pain,rash,leukopenia(dx useful)</p> <p>In East Africa, human African trypanosomiasis(sleeping sickness),transmit by tsetse flies,causes acute febrile illness w/ skin lesion(trypanosomal chancre),myocarditis,prog to CNS involvement</p>
3743	Medicine	Infectious Diseases	<p>Toxic shock syndrome due to S.aureus ass. w/ menstruation(tampons),*nasal packing*,post-surgery infections.Pts develop fever,myalgias,hypotension & diffuse erythematous macular rash (erythroderma) that can progress to multiorgan involvement</p> <p>Acute meningococcemia:petechial rash that progresses to ecchymosis,bullae,vesicles,& ultimately gangrenous necrosis</p> <p>Scarlet fever:1st fever,headache,vomiting,sore throat.12-48 hrs later,pink blanching papules appear on neck/upper trunk</p>
3789	Medicine	Infectious Diseases	<p>Echinococcosis: majority of human infections are due to sheep strain of E. granulosus. Dogs are definitive hosts, sheep are intermediate hosts, humans are accidental intermediate host. Sheep breeders at high risk/common in areas where sheep are raised Hydatid cysts (containing inner germinal layer and outer acellular membrane) can form. The liver, followed by the lung, is the most common viscus involved</p> <p>Pig farmers are at high risk of neurocysticercosis</p>
3808	Medicine	Infectious Diseases	<p>Neurocysticercosis: caused by the larval stage of the pork tapeworm Taenia solium. It's the most common parasitic infection of the brain. It's most prevalent in rural areas w/ poorer sanitary conditions & where pigs are raised.</p>
3819	Medicine	Infectious Diseases	<p>Amebiasis should be considered in pts w/ a liver abscess who have lived/traveled in an endemic area for Entamoeba histolytica(eg,Mexico).Elevated alk phos is common & elevated transaminases may be seen.Pts that are symptomatic(fever,RUQ pain) can develop desentery.Initial evaluation includes imaging,serologic testing & empiric tx w/ *metronidazole*(to tx abscess) & a luminal agent eg,paromomycin (to eradicate intestinal colonization).Cyst drainage not recommended routinely</p>
3825	Medicine	Infectious Diseases	<p>Strong ass. between infections w/ Streptococcus gallolyticus (S bovis biotype 1) & colonic neoplasms & such pts should have further evaluation w/ colonoscopy to look for underlying occult malignancy.</p> <p>S gallolyticus (S bovis biotype 1) is 1 of the 4 major species that belong to group D streptococci (also known as S bovis/S equinus complex)</p>

3873	Medicine	Infectious Diseases	<p>*Pts w/ HIV should receive vaccination for MMR if their CD4 cell count is >200/uL*,have no hx of AIDS defining illness,& have no evidence of immunity(birth before 1957,documented evidence of prior vaccination,or positive titers)</p> <p>[Most live vaccines(BCG,anthrax,oral typhoid,oral polio,yellow fever) are contraindicated in pts w/ HIV.Exceptions are MMR & VZV vaccines;these can be used in pts w/o evidence of immunity if their CD4 >200/uL & have no hx of AIDS defining illness]</p>
3888	Medicine	Infectious Diseases	<p>Recent immunization guidelines for HIV positive individuals recommend a Tdap in adulthood,followed by tetanus-diphtheria (Td) boosters every 10 years(sooner if required due to a contaminated wound).Tdap is also indicated w/ every pregnancy to protect the infant;this applies to all women(including those who are HIV positive)</p> <p>The hpv vaccine is effective at preventing cervical & anal cancer due to HPV infection.Rec for men & women aged 9-26,but not FDA approved beyond age 26</p>
3892	Medicine	Infectious Diseases	Nontypable Haemophilus influenzae is a common cause of exacerbations of chronic bronchitis in adults
3917	Medicine	Infectious Diseases	<p>Any pt w/ HIV who has BLOODY diarrhea & CD4 count <50/mm3 should have colonoscopy w/ biopsy to look for *CMV* colitis.CMV colitis is charac by frequent,small-volume,bloody stools & ab pain.Any pt w/ HIV who has active CMV disease requires ocular examination to rule out concurrent retinitis</p> <p>Cryptosporidiosis causes chronic,profuse,watery diarrhea in pts w/ CD4 counts <180/mm3;typically no sx of colitis</p> <p>Diarrhea due to Mycobacterium avium complex infxn is watery,not bloody</p>
3928	Medicine	Infectious Diseases	<p>Risk factors for Group B streptococcal endocarditis include diabetes mellitus, carcinoma, alcoholism, hepatic failure, elective abortion, and iv drug use</p> <p>S. epidermidis is an important cause of prosthetic valve endocarditis. It is also seen in infants w/ IE secondary to umbilical venous catheter infection in neonatal intensive care units</p>
3938	Medicine	Infectious Diseases	Pneumocystis pneumonia (PCP) is likely in pts w/ HIV who have a nonproductive cough, exertional dyspnea, fever, severe hypoxia, bilateral interstitial infiltrates on CXR, & a normal white count, esp if their CD4 count is <200/mm3. *Trimethoprim-sulfamethoxazole* is the drug of choice. *Corticosteroids* have been shown to decrease mortality in pts w/ severe PCP infection. Indications for corticosteroid use in PCP include PaO2 <70 mmHg or A-a gradient >35 mm Hg on room air
4012	Medicine	Infectious Diseases	<p>Nocardiosis: Branching, filamentous, partially acid-fast bacteria Common in immunocompromised or elderly pts Presents w/ pulmonary (most common), CNS, or cutaneous manifestations Pulmonary nocardiosis- manifests as pneumonia. Pulmonary nodules also seen. Tx-trimethoprim-sulfamethoxazole</p> <p>Actinomyces-can cause sulfur granules</p> <p>Aspergillus- branching, septated hyphae</p> <p>Mucormycosis-caused by Rhizopus, appear ribbonlike,nonseptated hyphae</p> <p>Mycobacteria are fully acid fast rods</p>
4057	Medicine	Infectious Diseases	<p>Cat-scratch disease:cutaneous lesion & regional lymphadenopathy following cat scratch or bite.Dx can be made clinically & *observation* is sufficient for immunocompetent individuals w/ mild-to-moderate sx.Azithromycin rec in disseminated disease(liver,spleen,eye,bone,brain) or for immunocompromised hosts.[Biopsy when dx uncertain,material needed for culture, or malignancy is a concern]</p> <p>Amoxicillin-clavulanic acid:tx mammalian bites(covers oral anerobic flora & Pasteurella)</p>
4071	Medicine	Infectious Diseases	<p>Ventilator-ass. pneumonia(VAP) usually occurs within >48 hours after intubation & presents w/ fever,purulent secretions & abnormal chest x-ray.Pts should have lower respiratory tract sampling(Gram stain & culture) & receive empiric antibiotics.Fever,leukocytosis & lobar infiltrates are consistent w/ VAP</p> <p>CT scan of chest used to evaluate for VAP complications(empyema)if pt doesn't improve clinically.Also used to evaluate for alternate causes if Gram stain/culture are -ve</p>
4092	Medicine	Infectious Diseases	<p>C difficile colitis: sx- watery diarrhea, fever, abdominal pain, & leukocytosis. Also can get toxic megacolon(worse case scenario). White/yellow pseudomembranes on sigmoidoscopy risk factors- recent hospitalization, advanced age, antibiotic use dx- *stool studies for C difficile toxin/Stool toxin testing* (NOT STOOL CULTURES) tx- metronidazole or oral vancomycin Unexplained leukocytosis in hospitalized pts should also raise suspicion for C difficile, even w/o diarrhea</p>
4115	Medicine	Infectious Diseases	<p>P. jiroveci causes pneumonia in immunocompromised hosts. Bilateral diffuse interstitial infiltrates is finding on chest x-ray pts have nonproductive cough</p>

4120	Medicine	Infectious Diseases	<p>Vertebral osteomyelitis presents w/ fever, back pain, & focal spinal tenderness. Evaluation includes blood cultures & inflammatory markers. *MRI of the spine* is the modality of choice for dx, followed by CT-guided bone biopsy</p> <p>Technetium bone scan is less specific than gallium imaging in the dx of vertebral osteomyelitis as it also detects fractures & may result in false-positive findings</p>
4163	Medicine	Infectious Diseases	Mitral valve disease, usually mitral valve prolapse w/ coexisting mitral regurgitation, is the most common valvular abnormality detected in pts w/ infective endocarditis
4166	Medicine	Infectious Diseases	<p>S. pneumoniae is the most common pathogen causing pneumonia in nursing home pts.</p> <p>Its also the mcc of community acquired pneumonia in adults.</p> <p>Vaccination w/ Pneumovax can help prevent it.</p>
4167	Medicine	Infectious Diseases	Intermittent catheterization is an effective measure to reduce the risk of UTI in pts w/ neurogenic bladder
4168	Medicine	Infectious Diseases	<p>In diabetic pts, the pathogenic mechanism of osteomyelitis adjacent to a foot ulcer is *contiguous* spread of infection</p> <p>Hematogenous spread is the most likely pathogenic mechanism of hematogenous osteomyelitis, which is typically observed in children</p>
4169	Medicine	Infectious Diseases	<p>Diabetic pts w/ acute pyelonephritis are generally tx w/ parenteral abx for 48-72 hours. Once the pt has a clear response, tx can be switched to oral abx for a total course of 10-14 days. Fluoroquinolones & trimethoprim-sulfamethoxazole are good options for oral therapy, w/ the choice of abx usually individualized based on culture & sensitivity results</p> <p>Gentamicin used in combination therapy for UTI in pts w/ severe infection or risk for drug resistant organisms</p>
4233	Medicine	Infectious Diseases	<p>Dx for Legionnaires disease can be confirmed w/ urine antigen testing in combination w/ culture.</p> <p>Tx Legionnaires disease w/ a macrolide or fluoroquinolone</p>
4257	Medicine	Infectious Diseases	<p>Nail puncture wound in an adult resulting in osteomyelitis is most likely due to *Pseudomonas aeruginosa*.</p> <p>Tx-oral/parenteral quinolones & surgical debridement</p> <p>S.aureus(coagulase positive) is the mcc of osteomyelitis in children & adults</p>
4265	Medicine	Infectious Diseases	<p>CSF findings of elevated wbc count, elevated protein level, & decreased glucose level are suggestive of bacterial meningitis. Typical skin lesions during *meningococcal infection* include petechiae & purpura. Myalgias are common & can be more intense & painful than those seen in viral influenza</p> <p>Arboviruses cause encephalitis & include eastern equine, western equine, St. Louis, & West Nile virus</p>
4284	Medicine	Infectious Diseases	<p>Influenza: sx-fever,myalgias,headaches,abrupt onset of sx,systemic symptoms out of proportion to mild respiratory sx tx-If within 48 hrs of sx onset,treat w/ Neuraminidase inhibitors(oseltamivir,zanamivir) which can decrease severity & duration of influenza by 2-3 days.If pt presents later, manage w/ symptomatic treatment</p> <p>Viral URI:slow onset of sx, rhinorrhea, coryza, sneezing</p> <p>S.pharyngitis:tonsillar exudates,tender anterior cervical adenopathy,fever,absence of cough</p>
4327	Medicine	Infectious Diseases	<p>Crystal induced nephropathy: well known side effect of indinavir therapy (indinavir is a protease inhibitor)</p> <p>HIV therapy complications: didanosine-induced pancreatitis abacavir- related hypersensitivity syndrome lactic acidosis due to NRTI use Stevens Johnson syndrome due to NNRTI use nevirapine-associated liver failure</p>
4354	Medicine	Infectious Diseases	<p>Way to differentiate between Infectious mononucleosis and HIV:</p> <p>IM- tonsillar exudate is more common</p> <p>HIV- rash and diarrhea are more common</p>
4371	Medicine	Infectious Diseases	<p>Tenderness to gentle percussion over spinous process of the involved vertebra is the most reliable sign for spinal(vertebral) osteomyelitis. Pt will also have hx of injection drug use or recent distant site infection(eg uti)</p> <p>Lumbar disk herniation: acute onset of back pain w/ or w/o radiation down a leg. Pts can recall an inciting event. Pain worse w/ activity & improves w/ rest. Spine won't be tender to palpation</p>
4373	Medicine	Infectious Diseases	Bacillary angiomatosis: Caused by *Bartonella*, occurs in immunocompromised pts, classic lesion shows a large pedunculated exophytic papule w/ a collarette of scale-resembles a large pyogenic granuloma or cherry angioma. Be careful when biopsying these lesions because they are prone to hemorrhage
4388	Medicine	Infectious Diseases	<p>Haemophilus influenzae: causes upper respiratory tract infections, bronchitis in pts w/ copd, & pneumonia. Noncavitating infiltrates</p> <p>Streptococcus pneumoniae (pneumococcus): mcc of community acquired pneumonia. Typically causes lobar pneumonia</p>

			Nocardia: filamentous, aerobic, gram-positive bacteria that is partially acid-fast. Causes pulmonary or disseminated disease (particularly to the brain[brain abscess->seizures]) in immunocompromised hosts. Tx-*TMP-SMX*
4417	Medicine	Infectious Diseases	Aztreonam tx gram-neg infections, including Pseudomonas aeruginosa Mycobacterium tuberculosis-acid fast rods that DO NOT gram stain Penicillin G tx for Actinomyces(anaerobic)
4418	Medicine	Infectious Diseases	Influenza pneumonia: abrupt onset of fever,chills,malaise,myalgias,cough,coryza.Occurs in epidemic pattern,often in the winter.Pts will often be febrile & have wheezes,crackles,coarse breath sounds.Leukopenia & proteinuria may be present.CXR may be normal or show interstitial/alveolar pattern.Antiviral tx must be started within 48 hours. Newest therapies are the neuraminidase inhibitors *oseltamivir & zanamivir*. Rimantadine & amantadine are only effective against influenza A
4470	Medicine	Infectious Diseases	Tuberculin skin testing is used to identify pts w/ latent TB infection & a high risk of reactivation TB. In the US, an induration size of <15 mm is considered negative in healthy pts w/ a low likelihood of TB infection
4475	Medicine	Infectious Diseases	PCV13 recommended for all adults age >65 followed by the PPSV23 6-12 months later Sequential PCV13 & PPSV23 recommended for adults age <65 w/ very high risk conditions (eg, csf leaks, sickle cell disease, cochlear implants, congenital/acquired asplenia, immunocompromised status, chronic renal failure) PPSV23 alone is recommended for adults age <65 who are current smokers or have chronic medical conditions including heart or lung disease, diabetes, & chronic liver disease
4478	Medicine	Infectious Diseases	In addition to the vaccines recommended for the general population(Td every 10 years w/ one time substitution of Tdap, influenza vaccine), pts w/ HIV infection should receive pneumococcal vaccination(PCV13 followed by PPSV23 8 wks later & every 5 years thereafter). Most pts w/ HIV should also receive vaccination for hepatitis A & B if they don't have documented evidence of immunity to these viruses. Live vaccines are generally contraindicated
4488	Medicine	Infectious Diseases	Pts w/ PID are at an increased risk for other STDs & should also be screened for HIV, *syphilis(w/ RPR)*, hepatitis B, cervical cancer (pap smear), & hepatitis C(if they have a hx of IV drug use)
4517	Medicine	Infectious Diseases	S. aureus can cause post viral URI necrotizing pulmonary bronchopneumonia w/ multiple nodular infiltrates that can cavitate to cause small abscesses
4611	Medicine	Infectious Diseases	Reactivation toxoplasmosis in HIV pt: sx-fever, headaches, confusion, ataxia, & ring enhancing lesion on brain MRI. Tx prophylactically w/ *trimethoprim/sulfamethoxazole*. This also helps prevent PCP.
4634	Medicine	Infectious Diseases	Following splenectomy, pts are at increased risk for sepsis due to encapsulated organisms including Streptococcus pneumoniae, Neisseria meningitidis, & Haemophilus influenzae. *Vaccinations against each of these organisms should be administered either >14 days before scheduled splenectomy or >14 days after splenectomy*
4656	Medicine	Infectious Diseases	Secondary syphilis:diffuse maculopapular rash involving trunk & extremities,including palms & soles,w/ generalized lymphadenopathy & systemic sx(fever,malaise,sore throat) Rickettsial diseases including Rocky Mountain spotted fever or Ehrlichiosis: rash begins as maculopapular eruption on wrists & ankles that spreads to the trunk,extremities,palms,& soles around day 5 of illness.Pts are toxic appearing,w/ high fever,conjunctivitis,severe headache & diffuse myalgias
4662	Medicine	Infectious Diseases	Ticks should be removed asap. Best removed w/ tweezers. Mouthparts that break off & remain in skin can be left alone cuz infective body of tick no longer attached. Pt should seek medical attention if "bull's eye rash" develops. One dose of doxycycline given if criteria for prophylaxis are met.
4668	Medicine	Infectious Diseases	Adult Still's disease: inflammatory disorder characterized by recurrent high fevers, rash and arthritis. The rash is often maculopapular and nonpruritic, affecting the trunk and extremities during febrile episodes
4669	Medicine	Infectious Diseases	Pulmonary tuberculosis: sx- productive cough, hemoptysis, recurrent fevers, weight loss, chest CT w/ upper lobe cavitary lesions surrounded w/ alveolar infiltration risk factor- travel to country where TB endemic eg: Mexico Allergic bronchopulmonary aspergillosis: occurs in pts w/ asthma or cystic fibrosis sx- fever, malaise, productive cough, eosinophilia, hemoptysis
4714	Medicine	Infectious Diseases	Splenic abscess: fever, leukocytosis, left upper quadrant abdominal pain, left sided pleuritic chest pain, left pleural effusion, splenomegaly. Ass. w/ *Infective endocarditis* Tx-splenectomy is rec. for all pts(Abx alone has high mortality rate). Percutaneous drainage for pts that are poor surgical candidates
4727	Medicine	Infectious Diseases	Abx tx in pts w/ infective endocarditis(IE): Most viridans group streptococci(*S.mutans*) are highly *susceptible to penicillin* & should be treated w/ IV aqueous penicillin G or *IV ceftriaxone* for 4 weeks[oral abx are generally not rec. as initial tx in pts w/ IE]
4938	Medicine	Infectious Diseases	Most rapid and sensitive test to diagnose disseminated histoplasmosis in immunocompromised pts is urine or serum assay for histoplasma antigen
4939	Medicine	Infectious Diseases	Histoplasmosis: tx- Itraconazole

8880	Medicine	Infectious Diseases	Eikenella corrodens is a Gram-negative anaerobe & a common constituent of normal human oral flora. Infective endocarditis due to E corrodens is usually seen in the setting of poor dentition &/or periodontal infection, along w/ dental procedures that involve manipulation of the gingival or oral mucosa[S. aureus is the mcc of infective endocarditis seen among injection drug users]
8959	Medicine	Infectious Diseases	<p>Viral esophagitis: sx-severe odynophagia (pain w/ swallowing) WITHOUT dysphagia (difficulty swallowing) or thrush</p> <p>Candida esophagitis:sx-oral thrush, odynophagia is mild to moderate</p> <p>Medication related chemical esophagitis ("pill esophagitis") is caused by potassium chloride, tetracyclines, bisphosphonates, & nonsteroidal anti-inflammatory drugs</p> <p>HSV: round/ovoid ulcers</p> <p>CMV: deep linear ulcers</p>
9885	Medicine	Infectious Diseases	Pts w/ HIV who have subacute onset of low grade fever, headache, & signs of increased intracranial pressure(papilledema) should be evaluated for *cryptococcal meningitis*. Dx is established by detection of the cryptococcal antigen or isolation of the organism in csf
10301	Medicine	Infectious Diseases	<p>HIV screening is recommended for all pts age 15-65 regardless of risk factors</p> <p>Use the 4th generation assay that detects both the HIV p24 antigen & HIV antibodies</p>
10904	Medicine	Infectious Diseases	Meningococcal vaccination is important for military recruits, college students living in dormitories, travelers to sub-Saharan Africa, & travelers to Mecca for hajj. Vaccination should be provided to all adolescents at age 11-12. A booster is recommended at age 16.
11108	Medicine	Infectious Diseases	<p>Condyloma acuminata (anogenital warts): due to human papillomavirus sx- pts develop skin colored, whitish, or grayish verrucous and filiform papules in the anal area(often in men), penile shaft, or vulvovaginal and cervical areas</p> <p>Leukocytoclastic vasculitis: due to infections, medications, inflammatory conditions, or malignancy presents as non-blanching, 1-3 mm violaceous papules that can cluster/coalesce into plaques older lesions are brown-red; new ones are more violaceous</p>
11228	Medicine	Infectious Diseases	<p>Chikungunya fever:in Central/South America,tropical African regions,South Asia,Caribbean.Vector is Aedes mosquito.Sx-fever,malaise,rash,lymphadenopathy,polyarthralgias(almost always present),lymphopenia,&thrombocytopenia</p> <p>Disseminated gonococcemia:tenosynovitis,polyarthralgias & dermatitis(pustular or vesiculopustular lesions)</p> <p>Reactive arthritis:occurs 1-4 weeks after GI/genitourinary infection w/ asymmetric oligoarthritis,conjunctivitis,oral lesions</p>
2246	Medicine	Male Reproductive System	<p>Acute bacterial prostatitis:presents similarly to other utis but w/ the addition of perineal pain, systemic sx(fever,chills,acute illness),& tender boggy prostate on exam. *Mid-stream urine culture* should be obtained to help direct antibiotic tx.While awaiting culture results,start empiric tx w/ TMP-SMX or a fluoroquinolone</p> <p>CT scan can be useful to dx prostatic abscess</p> <p>Pts w/ acute bacterial prostatitis w/ urinary retention may require suprapubic catheterization of bladder</p>
2589	Medicine	Male Reproductive System	Testicular cancer: After the dx of a solid testicular mass has been made, (a painless hard mass in testicle + suggestive ultrasound), the initial management is removal of the testis & it's associated cord (*Radical orchiectomy*). The testis & abnormal tissue present is then examined under the microscope to determine the type of cancer. This is the tumor that we "kill first & investigate later".
3055	Medicine	Male Reproductive System	<p>Due to controversy, PSA screening should be determined on a case-by-case bases by the physician & patient</p> <p>Colonoscopy is rec. every 10 years for colorectal cancer screening if the initial screen is normal</p>
3369	Medicine	Male Reproductive System	<p>Anabolic steroid use causes infertility by suppressing production of GnRH, LH, & FSH</p> <p>Klinefelter syndrome: i.e., XXY semineferous tubule dysgenesis, characterized by testicular fibrosis (primary hypogonadism), azoospermia, gynecomastia, decreased intelligence, increased axial skeletal growth, high FSH & LH</p> <p>Myotonic dystrophy: testicular atrophy, widespread muscular atrophy, weakness, low testosterone level, high FSH & LH</p> <p>Cryptorchidism: failure to palpate two testes</p>

3916	Medicine	Male Reproductive System	<p>Most common drug that causes Priapism is Prazosin. For boards, rmr the association of priapism w/ *trazodone* [Trazodone is an antidepressant which is mainly used for sleep disturbances]</p> <p>Fluoxetine causes sexual dysfunction, resulting in impotence, decreased libido & ejaculatory probs. SSRIs cause delayed orgasm & can be used in tx of premature ejaculation</p> <p>Antihypertensives & Nonselective b-blockers cause impotence</p> <p>Some degree of erect dysfunc ass. w/ use of simvastatin (rare!)</p>
4232	Medicine	Male Reproductive System	<p>An absent or decreased Achilles tendon reflex can be a normal finding in elderly pts</p> <p>Pts w/ a hx of pelvic surgery or irradiation can develop a urinary fistula w/ continuous loss of urine thru the fistula. Dx made w/ iv pyelography, which shows dye leaking from the fistula</p>
2276	Medicine	Nervous System	<p>Primary CNS lymphoma: Presence of EBV DNA in the CSF is specific for this condition. MRI reveals a weakly ring-enhancing mass that is usually solitary & periventricular</p> <p>In pts w/ AIDS dementia complex imaging studies reveal cortical & subcortical atrophy & secondary ventricular enlargement</p>
2281	Medicine	Nervous System	<p>Frontotemporal dementia (FTD) aka Pick's disease: early personality changes (euphoria, disinhibition, apathy) & compulsive behaviors (peculiar eating habits, hyperorality), earlier age of onset, & strong hereditary component. Affects pts at 40-60 years of age</p> <p>Lewy body dementia: Visual hallucinations</p>
2282	Medicine	Nervous System	<p>Lewy body dementia: fluctuating cognitive impairment, recurrent visual hallucinations (eg, old lady saying she sees a lion roaring in the backyard or sees cats in her room, despite her son not seeing any) & motor features of parkinsonism</p> <p>Picks disease (fronto-temporal dementia): personality change (euphoria, disinhibition, apathy), compulsive behaviors (peculiar eating habits, hyperorality), & impaired memory. Visual-spatial functions remain intact</p>
2285	Medicine	Nervous System	<p>Internuclear ophthalmoplegia is a characteristic finding of multiple sclerosis. Its due to demyelination of the medial longitudinal fasciculus</p> <p>Lesion of the medial lemniscus affects touch and vibration sensations bilaterally</p> <p>Destruction of the frontal lobe causes ipsilateral deviation of the eyes</p>
2287	Medicine	Nervous System	<p>Parkinson's tremor is a resting tremor. Anticholinergic drugs (e.g., benztropine) are the drugs of choice</p> <p>Huntington's chorea: characterized by chorea & dementia. Tx- Haloperidol</p> <p>Sodium valproic acid & clonazepam used for myoclonus</p>
2288	Medicine	Nervous System	<p>Acute ischemic stroke: First do noncontrast head CT to rule out intracranial bleeding. Then assess whether iv thrombolytic therapy (alteplase) can be used. Thrombolytic therapy w/ iv recombinant *tissue plasminogen activator (alteplase)* is rec. in pts w/ acute ischemic stroke if it can be initiated within 3-4.5 hours of sx onset (unless contraindicated). Also, antiplatelet agents shouldn't be used within the first 24 hours after thrombolytic therapy</p>
2289	Medicine	Nervous System	<p>Tick-borne paralysis: ascending paralysis over hours to days (asymmetrical), no fever, no sensory problems, normal CSF exam. Paralysis due to neurotoxin release. Ticks feed for 4-7 days & are found on pts after meticulous searching. Removal of tick results in improvement</p> <p>Guillain Barre syndrome: ascending symmetrical paralysis over days to weeks, autonomic dysfunction (tachycardia, urinary retention, arrhythmias)</p> <p>Botulism: descending paralysis, cranial nerve involvement, pupillary problems</p>
2290	Medicine	Nervous System	<p>Guillain Barre syndrome (GBS): Ascending muscle weakness after recent infectious illness (respiratory or GI infection). Tx- *IVIg* or plasmapheresis</p> <p>[Glucocorticoids were used previously in the tx of GBS but studies show that they aren't beneficial & so are no longer recommended]</p>
2316	Medicine	Nervous System	<p>Most common cause of Lumbar spinal stenosis is degenerative joint disease (DJD). In DJD, disc herniation & facet osteophytes impinge upon spinal cord. DJD commonly seen in middle-aged & elderly pts</p> <p>Lumbar spinal stenosis sx are exacerbated by extension of spine (standing, downhill walking), & improved by flexion of the spine (sitting, uphill walking)</p> <p>Bone scans: identify areas of high bone turnover. Used for metastatic disease, suspected fractures, osteomyelitis, sometimes low back pain</p>
2620	Medicine	Nervous System	<p>Lung cancer is the mcc of brain metastasis in pts w/ a hx of smoking</p> <p>"multiple brain lesions in both hemispheres w/ surrounding edema" suggests metastatic disease to the brain.</p>

2634	Medicine	Nervous System	<p>Pts w/ an established dx of myasthenia gravis(fluctuating & fatigable ocular/bulbar weakness + confirmation w/ acetylcholine receptor antibodies) should subsequently receive *chest imaging (eg, CT scan or MRI)* to evaluate for thymoma</p> <p>Myasthenia gravis is caused by autoantibodies (originating in the thymus) directed against nicotinic acetylcholine receptors at the neuromuscular junction</p>
2667	Medicine	Nervous System	<p>*Myasthenia gravis*:fluctuating,fatigable muscle weakness that worsens w/ repetitive motions of same muscle groups & improves w/ rest.Ocular(diplopia,ptosis) or bulbar (dysarthria,dysphagia) dysfunction is the presenting symptom in most pts.Proximal muscle involvement(hip flexors,quadriceps,deltoids) can cause difficulty climbing stairs or blow-drying hair.Respiratory muscle weakness is a life-threatening complication that may lead to respiratory failure(myasthenic crisis)</p>
2672	Medicine	Nervous System	<p>Basal ganglia hemorrhage: Eyes deviate *away from* hemiparesis(eg. right sided weakness but left conjugate gaze deviation)</p> <p>Thalamic hemorrhage: Eyes deviate *toward* the side of hemiparesis</p> <p>Pons hemorrhage: *Pinpoint* reactive pupils</p>
2677	Medicine	Nervous System	<p>Lesion in the *upper thoracic spinal cord*->paraplegia,bladder & rectal incontinence & absent sensation from nipple downwards</p> <p>Lesion in cerebellum->posterior fossa sx (nausea,vomiting,ataxia)</p> <p>Lesion in posterior columns->ataxia</p> <p>Lesion in lower thoracic spinal cord->absent sensation from umbilicus downwards</p> <p>Lesion located supratentorially->partial or complete hemiparesis</p>
2678	Medicine	Nervous System	<p>*Vasospasm* is the major cause of delayed morbidity & mortality in [SAH]subarachnoid hemorrhage(days 3-10 after presentation) & can result in cerebral infarction. Vasospasm can best be prevented w/ initiation of nimodipine. [Rebleeding causes death within first 24 hours, esp within 6 hours of untreated SAH]</p> <p>Hemiplegic migraine: rare familial disorder that presents w/ migraine headache ass. w/ unilateral motor deficits. Neuro deficits occur at the time of the headache</p>
2679	Medicine	Nervous System	<p>Diabetic neuropathy usually presents w/ alterations in sensation,including loss of proprioception.Motor findings may be a late manifestation in the most severe cases.Hyperactive reflexes & an upgoing plantar reflex are incompatible w/ diabetic neuropathy & are suggestive of an upper motor neuron process.Along w/ this,if a pt has back pain,we worry about a mass lesion in the spine(diabetic pts are prone to developing epidural abscesses).A *spine MRI* should be performed</p>
2837	Medicine	Nervous System	<p>Aminoglycosides can cause ototoxicity(hearing loss) by damaging the cochlear cells, & some aminoglycosides (esp gentamicin) can also damage the motion-sensitive hair cells in the inner ear to cause selective vestibular injury (vestibulopathy) w/o significant ototoxicity. Pts experience oscillopsia(sensation of objects moving around in the visual field when looking in any direction). An abnormal head thrust test helps detect vestibular dysfunction due to gentamicin</p>
2938	Medicine	Nervous System	<p>Wilson's disease:children present w/ liver disease(asymptomatic aminotransferase elevations,fulminant hepatic failure).Young adults have neuropsychiatric disease(tremor & rigidity,depression,paranoia & catatonia).Dx by decreased serum ceruloplasmin,increased urinary copper & Kayser-Fleischer rings seen on slit lamp exam of eye</p> <p>Neuro sx of Wilson's disease are secondary to copper deposition in the basal ganglia</p> <p>Mallory hyaline-seen w/ Wilson's & alcohol liver injury</p>
2990	Medicine	Nervous System	<p>Creutzfeldt-Jakob disease: suspect in an older pt(between age 50-70) w/ rapidly progressive dementia, myoclonus, *sharp wave complexes on EEG*, &/or elevated 14-3-3 proteins in CSF samples</p>
3044	Medicine	Nervous System	<p>Pseudotumor cerebri: Young obese female w/ headache suggestive of brain tumor but w/ normal neuroimaging & elevated CSF pressure. *Blindness* is the most significant complication. Tx- weight reduction & acetazolamide. Shunting or optic nerve sheath fenestration may be performed to prevent blindness.</p>
3058	Medicine	Nervous System	<p>Alzheimer's disease: usually pts > 60 years old neuroimaging demonstrates atrophy that is more prominent in the temporal and parietal lobes</p> <p>Frontotemporal dementia: age of onset is earlier than Alzheimers (40-60 years) marked atrophy of the frontal and temporal lobes seen on CT initially you get more personality changes and loss of social restraints</p>
3060	Medicine	Nervous System	<p>Hypertensive intracerebral hemorrhage(intracranial bleeding):evolves over a course of minutes to hours.Pts initially present w/ focal neurologic sx(hemiplegia,hemiparesis,hemisensory disturbances).These are quickly followed by sx of increased ICP(vomiting,headache,bradycardia,decreased alertness)</p> <p>Lacunar strokes are quite small.The rapidly worsening global neurologic sx(vomiting,stupor,bradycardia) won't be seen[unlike hypertensive intracerebral hemorrhage]</p>

3072	Medicine	Nervous System	central cord syndrome: causes- hyperextension injuries in elderly pt's with degenerative changes in cervical spine, elderly pt's with spondylosis sx- weakness that's more pronounced in upper extremities than lower selective loss of pain and temperature in arms
3074	Medicine	Nervous System	Alzheimer's disease: CT shows generalized cortical atrophy
3081	Medicine	Nervous System	Idiopathic intracranial hypertension (IIH) (Pseudotumor cerebri) can occur secondary to isotretinoin. Lumbar puncture shows increased opening pressure (>250 mm H2O)
3135	Medicine	Nervous System	Neuroleptic malignant syndrome: recent onset confusion, fever, muscle rigidity, & diaphoresis. Its a drug induced idiosyncratic reaction
3162	Medicine	Nervous System	Idiopathic intracranial HTN (pseudotumor cerebri): pts present w/ holocranial headache, vision changes(blurry vision & diplopia), & pulsatile tinnitus ("whooshing" sounds in ears). Seen in young obese women. Dx involves ocular examination, neuroimaging, & *lumbar puncture*
3299	Medicine	Nervous System	CT scan of a diffuse axonal injury shows numerous minute punctate hemorrhages w/ blurring of grey white interface. MRI more sensitive than CT scan for diagnosing diffuse axonal injury. Epidural hematoma- biconvex collection Subdural hematoma- crescentic collection
3300	Medicine	Nervous System	Anterior cord syndrome:ass. w/ burst fracture of vertebra.Total loss of motor function below level of lesion w/ loss of pain & temperature on both sides below the lesion.Intact proprioception Central cord synd:burning pain/paralysis in upper extremities,relative sparing of lower extremities Acute disk prolapse:severe radicular pain w/ positive straight leg raising test Cauda equine synd:paraplegia,variable sensory loss,urinary/fecal incontinence
3327	Medicine	Nervous System	Because the facial/ophthalmic venous system is valveless, uncontrolled infection of the skin can result in cavernous sinus thrombosis. Red-flag sx include severe headache; bilateral periorbital edema; & cranial nerve III,IV,V, & VI deficits
3373	Medicine	Nervous System	Reversible acetylcholinesterase inhibitors such as donepezil, rivastigmine, and galantamine are of benefit in slowing the cognitive decline ass. w/ Alzheimer's disease Amantadine is a dopamine agonist used to delay the onset and minimize the severity of dementia in pts w/ parkinson's disease
3374	Medicine	Nervous System	Creutzfeldt-Jakob disease is charac by rapidly progressive dementia, myoclonus & *sharp, triphasic, synchronous discharges on EEG* Pick's disease: resembles Alzheimer's dementia clinically, but is more commonly seen in females. Onset of sx is around 50 years. Personality & language changes are often more prominent than cognitive sx Huntington's dementia is caused by defect in autosomal dominant gene on chromosome 4. Path involves striatal neuro-degeneration
3446	Medicine	Nervous System	Pts w/ advanced HIV can develop neurologic manifestations from HIV encephalopathy (triad of cognitive impairment, mood, and movement disorders), CNS toxoplasmosis, lymphoma, & other conditions. Sx's gradually worsen.
3460	Medicine	Nervous System	Carotidynia: neurological condition causes by inflammation of carotids and vagus pain is sharp and localized to the carotid artery distribution in neck Burning mouth syndrome: rare cause of facial pain viral sx- reddened mucosa, significant pain, aggravated by dryness
3461	Medicine	Nervous System	Drug of choice for trigeminal neuralgia is *carbamazepine*[Aplastic anemia occurs w/ prolonged carbamazepine use,so routine CBC done for these pts.If med fails to control pain, surgical gangliolysis or suboccipital craniectomy for decompression of the trigeminal nerve are options] Lithium:primary agent for manic depression.Its levels must be monitored as it can be toxic Carbidopa prevents peripheral decarboxylation of levodopa & decreases peripheral side effects
3462	Medicine	Nervous System	multiple sclerosis: young female with bilateral trigeminal neuralgia "33 y/o white female, severe bilateral lightning like pain on face, pain is burning and sharp in nature and occurs 20-30 times/day, episodes last a few seconds, transient arm weakness"

3513	Medicine	Nervous System	<p>Primidone is an anticonvulsant agent which can be used to tx benign essential tremors. Its administration can precipitate acute intermittent porphyria, which manifests as abdominal pain, neurologic & psychiatric abnormalities</p> <p>Beta blockers are 1st line tx for essential tremors. Not rec if pt bradycardic or has severe COPD</p> <p>Lithium tx mania. Monitor levels cuz it can cause hypothyroidism</p>
3528	Medicine	Nervous System	<p>Amaurosis fugax: painless loss of vision from emboli, warning sign for an impending stroke. Most emboli occur from the carotid bifurcation; hence, a *duplex ultrasound of the neck* should be performed</p> <p>When pts present w/ sx suggesting an increased intracranial pressure, always do neuroimaging(e.g. CT) before doing a lumbar puncture to avoid any chances of herniation</p>
3537	Medicine	Nervous System	<p>Hemorrhages are seen as hyperdense(bright/white) areas on CT scan(google pic)</p> <p>Infarcts have hypodense(less dense than reference structure,hypodense relative to the adjacent gray & white matter,looks darker/blacker than surrounding area) parenchymal areas on CT scan(google pic)</p> <p>Lacunar infarcts present w/ pure motor stroke, pure sensory stroke or clumsy-hand dysarthria</p>
3560	Medicine	Nervous System	<p>Acute spinal cord compression:loss of motor & sensory function,loss of rectal tone,& urinary retention Management-emergency surgical consultation, neuroimaging,& possibly iv glucocorticoids</p> <p>Conus medullaris:back pain w/ bladder & rectal dysfunction but weakness & sensory loss are less common. Symmetric motor weakness. Hyperreflexia.</p> <p>Cauda equina: lower extremity weakness,saddle anesthesia,bowel/bladder dysfunction. Asymmetric motor weakness. Hyporeflexia/areflexia</p>
3619	Medicine	Nervous System	<p>Migraine: unilateral headache w/ *pulsatile* quality,*vomiting* & *photophobia*. Common in younger females. Tx- IV antiemetics (chlorpromazine, *prochlorperazine*, or metochlopramide) can be used as monotherapy or as adjuvant therapy in combo w/ NSAIDs or triptans for tx of acute migraine headaches</p> <p>Amitriptyline & Propranolol are used for migraine prophylaxis but are not helpful in the acute setting</p>
3622	Medicine	Nervous System	<p>Non traumatic subarachnoid hemorrhage(*google CT pic*):due to *ruptured saccular/berry aneurysm*.Noncontrast head CT scan shows acute bleeding in cisterns along major proximal cerebral blood vessels arising from circle of Willis</p> <p>Amyloid angiopathy:2nd mcc of intracerebral hemorrhage,lobar in location,in pts age >75</p> <p>IIH:due to impaired cerebral spinal fluid absorption or excess production.Acute thunderclap headache(worse while flat) ass w/ vision changes/nausea</p>
3631	Medicine	Nervous System	<p>Huntington's chorea: pts present in their forties or fifties w/ chorea and/or behavioral disturbance. *Atrophy of the caudate nucleus*(seen on neuroimaging as enlargement of lateral ventricles)</p> <p>Alzheimer's: diffuse atrophy of cerebral cortex</p> <p>Wilson's disease: atrophy of lenticular nucleus</p> <p>Pick's disease: atrophy of frontal and/or temporal lobes, dementia & personality changes also seen</p>
3637	Medicine	Nervous System	<p>Idipathic intracranial hypertension or Pseudotumor cerebri: sx- features of increased intracranial pressure in alert pt, absence of focal neurologic signs, no evidence for other causes (eg tumors) on neuroimaging, normal csf examination except for increased CSF opening pressure tx- acetazolamide is 1st line!</p> <p>Migraine headache tx: sumatriptan</p> <p>Timolol drops treat glaucoma</p>
3644	Medicine	Nervous System	<p>*Oligoclonal bands* are present in 85-90% of cases of multiple sclerosis. CSF pressure, protein & cell count are grossly normal [Multiple Sclerosis presents w/sx such as paraplegia,urinary incontinence/urgency,spasticity & hyperreflexia in lower extremities,impaired vibration/proprioception in forearm]</p> <p>Albumino-cytologic (elevated protein & normal cell count) dissociation is a CSF finding of Guillain Barre Syndrome</p>
3691	Medicine	Nervous System	<p>Exertional heat stroke:charac by a temp >40 C (104 F) & CNS dysfunction.Management involves *rapid cooling,preferably w/ ice water immersion*</p> <p>When ice water immersion not available or is difficult,other cooling techniques may be considered(they are less effective than ice water immersion)</p> <p>Evaporative cooling preferred for nonexertional or classic heat stroke(seen in elderly pts w/ underlying comorbidities that limit their ability to cope w/ excessive heat)</p>

3712	Medicine	Nervous System	<p>Aspirin: Reduces risk of early recurrence of ischemic stroke. Give within 24 hrs to all pts presenting w/ stroke. Aspirin + dipyridamole OR clopidogrel is rec. for pts who have recurrent stroke on aspirin therapy</p> <p>Alteplase rec. for eligible pts presenting w/ acute ischemic stroke sx within 3-4.5 hours of sx</p> <p>Anticoagulation (eg, dabigatran, warfarin) rec. for stroke prevention in pts w/ atrial fibrillation</p> <p>Avoid unfractionated/LMWH heparin in acute stroke. Risk of bleeding!</p>
3715	Medicine	Nervous System	<p>Levodopa/carbidopa: most effective symptomatic tx for parkinsonism (but it doesn't stop progression of disorder). Most common early side effects are *hallucinations*, dizziness, headache & agitation. After several years of tx, involuntary movements are more likely to occur</p> <p>Choreiform dyskinesia commonly seen earlier w/ COMT inhibitors (entacapone/tolcapone)</p> <p>Livedo reticularis (mottled vascular pattern on lower extremities) commonly seen w/ amantadine</p>
3718	Medicine	Nervous System	<p>Trihexyphenidyl is an anticholinergic medication used in the tx of Parkinson's disease in younger pts where tremor is the primary sx</p> <p>The beta blocker propranolol is considered first line tx of essential tremor</p>
3722	Medicine	Nervous System	<p>Myasthenia Gravis:</p> <p>Oral anticholinesterase (*pyridostigmine*) is the initial tx of choice for myasthenia gravis</p> <p>Edrophonium is used for dx purposes only</p> <p>Corticosteroids are used in pts who show a poor response to anticholinesterase</p> <p>Plasmapheresis is used in seriously ill pts when other tx are not effective/contraindicated. Not used for long term basis. Used for stabilization of pt before thymectomy and myasthenia crisis.</p> <p>IV Igs used in the same setting as plasmapheresis</p>
3724	Medicine	Nervous System	<p>Syringomyelia: fluid filled cavity in the cervical & thoracic spinal cord, loss of pain/temperature sensation "cape" distribution, vibration/proprioception preserved, lower motor neuron signs in upper limbs as cavity enlarges</p> <p>Anterior spinal cord syndrome: sudden flaccid paralysis (spinal shock) & loss of pain/temperature sensation below level of spinal injury. Autonomic dysfunction may occur</p>
3725	Medicine	Nervous System	<p>Glioblastoma multiforme: CT/MRI shows butterfly appearance w/ central necrosis (google image)</p>
3726	Medicine	Nervous System	<p>*Cerebellar hemorrhage*: presents w/ occipital headache, vomiting, gaze palsy or nystagmus, neck stiffness, & gait ataxia. There is no hemiparesis or sensory loss. Early dx w/ noncontrast head CT scan is imp as emergency surgical decompression may be life-saving</p> <p>Cerebral lobe hemorrhage: Contralateral hemiparesis (frontal lobe), Contralateral hemisensory loss (parietal lobe), Homonymous hemianopsia (occipital lobe), Eyes deviate away from hemiparesis, High incidence of seizures</p>
3727	Medicine	Nervous System	<p>Management of myasthenia crisis w/ respiratory failure consists initially of endotracheal intubation followed by treatment w/ corticosteroids as well as IVIGs or plasma exchange (preferred)</p> <p>Myasthenia crisis can be exacerbated by an underlying respiratory tract infection</p> <p>Administration of edrophonium (AChE inhibitor) leads to a notable improvement of strength in pts w/ myasthenic crisis, but it causes worsening weakness & cholinergic sx in pts w/ MG cholinergic crisis</p>
3728	Medicine	Nervous System	<p>The most common (30%) site of hypertensive hemorrhages is the *putamen*. The internal capsule that lies adjacent to the putamen is almost always involved, leading to contralateral dense hemiparesis</p> <p>Pts w/ pontine hemorrhage present w/ complete paraplegia followed by deep coma within a few minutes. The pupils are pinpoint but reactive to light. Decerebrate rigidity is present</p>
3737	Medicine	Nervous System	<p>Pts who develop serious bleeding (eg. intracerebral hemorrhage) due to excess warfarin use should have it reversed w/ IV *vitamin K and prothrombin-complex concentrate*</p> <p>Protamine sulfate is used for urgent reversal of heparin</p> <p>Over the counter cold meds contain acetaminophen which can potentiate the anticoagulant effect of warfarin</p> <p>Tranexamic: antifibrinolytic agent used to tx heavy menstrual bleeding and prevent excessive blood loss during certain types of surgeries</p>

3738	Medicine	Nervous System	<p>Dominant parietal lobe lesion:contralateral sensory loss,contralateral inferior homonymous quadrantanopsia</p> <p>Nondominant frontal lobe lesions: affect the way a person conveys emotion thru speech(motor aprosodia), contralateral weakness, & apraxia</p> <p>Nondominant temporal lobe lesions:can impair ability to comprehend emotional gestures(sensory aprosodia). These pts can develop a contralateral homonymous quadrantanopsia due to inferior optic radiations involvement</p>
3771	Medicine	Nervous System	<p>Riluzole is a glutamate inhibitor that is approved for use in pts w/ amyotrophic lateral sclerosis. It may prolong survival & the time to tracheostomy. Side effects are dizziness, nausea, weight loss, elevated liver enzymes & skeletal weakness</p> <p>Donepezil is a cholinesterase inhibitor that is used to improve cognitive function in pts w/ Alzheimer's disease</p>
3804	Medicine	Nervous System	Pts w/ acute, severe pain should receive the same standard of pain management regardless of drug history. IV morphine is appropriate treatment for acute, severe pain. Never undertreat pain, even if there is a risk of abuse.
3809	Medicine	Nervous System	The basic pathology in myasthenia gravis lies at the *neuromuscular junction* & is mediated by auto-antibodies against the acetylcholine receptor.
3837	Medicine	Nervous System	Eaton Lambert syndrome: ass. w/ small cell carcinoma of the lung
3852	Medicine	Nervous System	<p>*MRI* is the test of choice for dx multiple sclerosis(MS)</p> <p>MS: look for patchy neurological problems (eg, right upper extremity, left lower extremity, & optic neuritis). Predominant immunoglobulin type is IgG. IgG index is elevated in 90% of pts w/ MS.</p>
3879	Medicine	Nervous System	Pts w/ hypertension have 4x risk of stroke! Very strong association of hypertension with stroke(compared to the other risk factors of stroke)
3891	Medicine	Nervous System	Myasthenia gravis is caused by autoantibody-mediated *degradation of acetylcholine receptors* at the neuromuscular junction, which often leads to fatigable ocular(prosis,diplopia) & bulbar muscle weakness(fatigable chewing,dysphagia w/ nasopharyngeal regurgitation,dysarthria). Most pts w/ acetylcholine receptor antibodies have thymic abnormalities(thymoma, thymic hyperplasia), which appear as an anterior mediastinal mass on chest imaging
3919	Medicine	Nervous System	<p>The dexamethasone suppression test (DST) may be used clinically to detect endogenous depression. In up to 50% of pts w/ depression, DST will be abnormal</p> <p>Difference b/w pseudodementia & dementia of Alzheimer's origin is that pts w/ pseudodementia tend to be "overly concerned" about their memory loss & often seek help. Pts w/ Alzheimer's tend to be indifferent to their memory loss & are usually brought by their families</p>
3923	Medicine	Nervous System	<p>Normal pressure hydrocephalus: "wet, wacky, wobbly." MRI or CTshows enlarged/dilated ventricles</p> <p>Pseudotumor cerebri: shrunken ventricles are seen on MRI</p>
3935	Medicine	Nervous System	<p>*100% oxygen tx of choice to abort an ACUTE ATTACK of cluster headache*</p> <p>Verapamil,prednisone,ergotamine,methysergide,cyproheptadine,indomethacin used for prophylaxis of cluster headaches(started asap after onset of acute attack)</p> <p>Lithium for prophylaxis of chronic cluster headaches</p> <p>Cluster headache: Pathophys related to alterations in circadian pacemaker, due to hypothalamic dysfunction, often occurs at the same time of the day. NOT ASS. W/ NAUSEA OR VOMITING!</p>
3954	Medicine	Nervous System	<p>Huntington's disease: affects both males & females around the age of 30-50 years. Sx- mood disturbances (depression, apathy), dementia, & choreiform movements (facial grimacing, ataxia, dystonia, tongue protrusion, writhing movements of extremities)</p> <p>Pick's disease is seen more frequently in females. It doesn't cause any extrapyramidal sx, and is not genetically acquired</p>
4022	Medicine	Nervous System	<p>ACA stroke:contralateral motor or sensory deficits predominantly in lower extremity.Urinary incontinence seen occasionally</p> <p>MCA stroke:contralateral somatosensory & motor deficit(more pronounced in the face or upper limb than lower limb)</p> <p>PCA stroke:homonymous hemianopia,alexia w/o agraphia(dominant hemisphere),visual hallucinations,sensory sx,3rd nerve palsy w/ paresis of vertical & horizontal eye movements,contralateral motor deficits</p>
4049	Medicine	Nervous System	Suspect Neurofibromatosis type II in a young pt w/ acoustic neuroma & multiple cafe-au-lait spots. *MRI w/ gadolinium* enhancement is the best method to dx acoustic neuromas
4060	Medicine	Nervous System	<p>Pseudodementia/reversible cognitive impairment: is largely reversible w/ the tx of depression using meds such as *SSRIs*</p> <p>Pts w/ pseudodementia are frequently distressed by their impaired memory; those w/ Alzheimer dementia are often relatively unconcerned & confabulate</p>

			Solitary brain metastasis: Surgical resection is recommended
4072	Medicine	Nervous System	Multiple brain metastases: Whole brain radiation therapy is used Brachytherapy: implantation of radioactive source directly into an intracerebral mass allowing higher radiation doses to be delivered directly into the brain w/o affecting other organs
4089	Medicine	Nervous System	Brain that has seized for >5 min is at increased risk of developing permanent injury due to excitatory cytotoxicity (excitatory cytotoxicity generally only affects the cortex). Cortical laminar necrosis is the hallmark of prolonged seizures. Cerebellar atrophy is caused by chronic use of certain antiepileptic drugs (eg, phenytoin) & alcohol abuse Persistent seizure activity may cause an increased intracranial pressure & could lead to an intracranial hemorrhage
4130	Medicine	Nervous System	Multiple system atrophy (Shy-Drager syndrome): when pt w/ Parkinsonism experiences orthostatic hypotension, impotence, incontinence, or other autonomic sx. Riley-Day syndrome (familial dysautonomia): autosomal recessive disease seen in children of Ashkenazi Jewish ancestry. Characterized by gross dysfunction of the autonomic nervous system w/ severe orthostatic hypotension
4153	Medicine	Nervous System	Subdural hematoma: Can also occur w/ minor trauma if pt is on anticoagulation therapy(combo of aspirin and warfarin/coumadin).CT shows semi-lenticular hematoma. Epidural hematoma: middle meningeal artery injury from trauma to temporal bone, biconvex hematoma on CT Meningoma: tumor of the arachnoid granulation. Usually seen over the convex surfaces of the brain
4159	Medicine	Nervous System	Brain death: absent cortical & brain stem functions. Spinal cord may still be functioning, therefore *deep tendon reflexes may be present! Pupillary light reaction & oculovestibular reaction are absent in pts w/ brain death. HR fails to accelerate after atropine injection cuz vagal control of heart is lost & heart becomes invariant. Apnea test shows no spontaneous respiration at PCO2 values of 50 mmHg & more, thereby demonstrating no functioning of lower brainstem center
4170	Medicine	Nervous System	Most common site of ulnar nerve entrapment is the elbow! HIGH YIELD!
4203	Medicine	Nervous System	Thalamic stroke (Dejerine-Roussy syndrome): Hemi-sensory loss w/ severe dysesthesia (touching a body part causes pain, burning, tingling) of the affected area(aka thalamic pain phenomenon) Strokes that affect the mid-brain or medulla classically involve the nuclei of the cranial nerves
4206	Medicine	Nervous System	Hemi-neglect syndrome is characterized by ignoring the left side of a space, & involves the right (non-dominant) *parietal* lobe Frontal cortex lesion results in hemiparesis (w/ motor aphasia if the dominant lobe is involved) Left temporal lobe involvement leads to receptive aphasia
4218	Medicine	Nervous System	Nonsense & frameshift mutations are more severe than missense mutations. Silent (same sense) mutations do not affect the structure of the protein
4240	Medicine	Nervous System	Interferon-beta decreases the frequency of relapse, & reduces disability in pts w/ the relapsing-remitting form of multiple sclerosis(MS) Corticosteroids are administered during the acute attack of the disease
4253	Medicine	Nervous System	Cluster headache: intense unilateral retroorbital pain which starts suddenly(usually at night, wakes pt from sleep), more common in men, accompanied by redness of ipsilateral eye, tearing, stuffed or runny nose, & ipsilateral Horner's syndrome. Prophylaxis is key to management. Prophylactic meds- verapamil, lithium, & ergotamine tx for acute attack- inhalation of 100% oxygen & subcutaneous sumatriptan Extremely high yield for USMLE!!!
4255	Medicine	Nervous System	Craniopharyngiomas: Common in children but nearly 50% occur in individuals age >20, esp between ages 55-65. Can compress optic chiasm, leading to bitemporal blindness. Sx of pituitary hormonal deficiencies eg, decreased libido due to hypogonadism
4268	Medicine	Nervous System	Lesion in posterior limb of internal capsule: unilateral motor weakness of face, arm & leg w/o any higher cortical dysfunction or visual field abnormalities Lesions in vertebrobasilar system that supply brainstem are characterized by "alternate" syndromes, w/ contralateral hemiplegia & ipsilateral cranial nerve involvement

4269	Medicine	Nervous System	<p>Lateral medullary infarct(Wallenberg syn):loss of pain/temp over ipsilateral face & contralateral body,ipsilateral bulbar muscle weakness,vestibulocerebellar impairment(vertigo,nystagmus) & Horner's syn.Motor function of face & body spared</p> <p>Medial medullary syn:pts develop contralateral paralysis of arm & leg & tongue deviation toward lesion</p> <p>Medial mid pontine infarct:contralateral ataxia & hemiparesis of face,trunk,limbs</p>
4274	Medicine	Nervous System	<p>Brown Sequard syndrome: damage to the lateral spinothalamic tracts, causing contralateral loss of pain & temperature sensation beginning two levels below the level of the lesion eg 1: a lesion of the right sided lateral spinothalamic tracts at T10 will result in a left sided loss of pain and temperature sensation beginning at T12. eg 2: a lesion at right sided T12 would result in a loss of pain and temperature sensation on the left side beginning at L2.(12 thoracic vertebrae)</p>
4311	Medicine	Nervous System	<p>Cerebellar tumors:ipsilateral ataxia,nystagmus,intention tremors,loss of coordination.Pt falls towards side of lesion</p> <p>Tabes dorsalis:Destruc of posterior columns leads to loss of proprioception.Pt walks w/ legs wide apart,feet lifted higher than usual w/ slapping sound when in contact w/ floor</p> <p>Hemiparetic pt:hx of stroke,affected arm adducted,affected leg extended,leg swung outward in semicircle as pt walks</p> <p>Muscular dystrophy:waddling gait due to weaknes of gluteal muscles</p>
4322	Medicine	Nervous System	<p>Parkinsonism: mask-like,immobile facial expression,bradykinesia,resting tremor,rigidity,general slowing of all motor activity(*hypokinetic gait*),stooped posture,feet shuffle & scrape floor,arms remain immobile & don't swing. Overactivity of cholinergic neurons & underactivity of dopaminergic neurons in substantia nigra.</p> <p>Sensory ataxia: loss of proprioception causes wide based, high stepping gait</p> <p>Vestibular ataxia: staggering gait, accompanied by vertigo & nystagmus</p>
4366	Medicine	Nervous System	<p>Metoclopramide: prokinetic agent, treats nausea, vomiting, & gastroparesis. Can cause *drug-induced extrapyramidal symptoms* eg, tardive dyskinesia, dystonic reactions, & Parkinsonism</p> <p>Tx for dystonic reaction: discontinue the med causing it & give benztropine or diphenhydramine</p> <p>Cervical nerve root compression causes chronic neck pain & inilateral radiculopathy</p>
4367	Medicine	Nervous System	<p>Acute angle-closure glaucoma: can be caused from meds like anticholinergics, sympathomimetics, or even dim light sx- severe unilateral eye pain w/ conjunctival injection, dilated pupil, pt may see halos around lights, headaches w/ subsequent nausea & vomiting complication- permanent vision loss within 2-5 hours of sx onset</p> <p>Herpes zoster ophthalmicus: unilateral rash in trigeminal distribution</p> <p>Optic neuritis: acute vision loss, pain, occurs in women age <50, initial sx of MS</p>
4372	Medicine	Nervous System	<p>Epidural abscess:fever,focal spinal tenderness/back pain,& neurologic dysfunction. RF-IV drug use,immunocompromised state(eg diabetes, HIV, alcoholism), infectious spread from distant source, spinal trauma/surgery. Evaluation includes urgent *MRI of spine*, blood cultures, inflammatory markers & CT-guided aspiration & culture.Antibiotics along with emergency surgical decompressoin & drainage of the abscess are recommended for most pts</p>
4381	Medicine	Nervous System	<p>Pronator drift is relatively sensitive & specific for *upper motor neuron disease*. Upper motor neuron lesions cause a weakness in supination that results in the pronator muscles becoming dominant. When these pts close their eyes & extend their arms w/ palms up, the affected arm will tend to pronate</p> <p>Parietal lobe is involved in sensation, perception, & the integration of sensory input</p>
4391	Medicine	Nervous System	<p>Spinal cord compression is characterized by signs & sx of upper motor neuron dysfunction distal to the site of compression. These include weakness, hyperreflexia, & an extensor plantar response. Cord compression is a medical emergency requiring prompt dx by *spinal MRI*</p> <p>Edrophonium test used to dx myasthenia gravis</p>
4392	Medicine	Nervous System	<p>Cauda equina lesion: *Spinal nerve roots* are compressed(eg,from metastatic prostate cancer). Causes lower motor neuron signs. Severe bilateral RADICULAR PAIN. ASYMMETRIC motor weakness. HYPOREFLEXIA/AREFLEXIA</p> <p>Conus medullaris lesion: causes both upper & lower motor neuron sx. SYMMETRIC motor weakness. HYPERREFLEXIA</p>
4393	Medicine	Nervous System	<p>hypokalemia: sx- weakness, fatigue, muscle cramps can lead to paralysis and arrhythmia when severe. ECG may show U waves, flat and broad T waves, premature ventricular beats</p>

			Subdural hematomas: occur due to tearing of bridging veins. Blunt trauma is the mcc. Common in older pts and alcoholics due to brain atrophy and vessel fragility. Appears as white crescent on noncontrast CT
4394	Medicine	Nervous System	<p>Lacunar strokes: caused by small vessel hyalinosis. HTN and diabetes are risk factors. Affects internal capsule & causes pure motor dysfunction</p> <p>Subarachnoid hemorrhage: ruptured aneurysms are leading cause</p>
4397	Medicine	Nervous System	Neurocardiogenic/Vasovagal syncope: due to excessive vagal tone -> transient profound hypotensive reaction & bradycardia. Benign, lasts about 10 seconds to a few minutes. Triggered by prolonged standing, emotional distress, or painful stimuli. Pts experience dizziness, nausea, pallor, diaphoresis, abdominal pain, general sensation of warmth prior to episode.
4399	Medicine	Nervous System	<p>Myoclonus: involuntary jerking of muscle/muscle group. Can be rhythmic, usually initiated by contraction or relaxation</p> <p>Chorea: brief, irregular, unintentional muscle contractions. Movements tend to flow from one to another but are NOT rhythmic/repetitive</p> <p>Athetosis: slow, writhing movements affecting hands & feet, characteristic of Huntington's disease, chorea & athetosis often occur together</p>
4400	Medicine	Nervous System	<p>Resting tremor is seen in Parkinson's disease. Tremor goes away w/ movement and reemerges when movement is stopped</p> <p>Essential tremors present as action/postural tremors. They worsen at the end of goal directed activities. Relieved w/ alcohol</p> <p>Orthostatic tremor: postural tremor, occurs in legs right after standing & relieved by sitting down</p> <p>Large fiber peripheral neuropathy: action/postural tremors. Pt get weakness, loss of proprioception, sensory ataxia, areflexia, paresthesias</p>
4401	Medicine	Nervous System	<p>Trihexyphenidyl: a med used for Parkinson's disease & drug-induced extrapyramidal sx. It's anticholinergic effects can lead to acute glaucoma (headache & retro-orbital pain). Other sx include dry skin, dry mouth, constipation, urinary retention, flushing, vision changes, & confusion</p> <p>Co-administration of selegiline (a MAO-B inhibitor) w/ SSRIs &/or tricyclic antidepressants can precipitate serotonin syndrome [agitation, confusion, tachycardia, muscle rigidity, & sometimes seizures]</p>
4408	Medicine	Nervous System	<p>Diabetic mononeuropathy often involves CN III. Nerve damage is "ischemic", & only somatic nerve fibers are affected. Parasympathetic fibers of CN III retain function. Ptosis & a "down & out" gaze in conjunction w/ normal light & accommodation reflexes indicate diabetic CN III neuropathy</p> <p>CN III neuropathy can occur due to nerve compression. Causes include transtentorial (uncal) herniation or aneurysm of the posterior communicating artery</p>
4427	Medicine	Nervous System	<p>Unilateral foot drop: "steppage" gait: exaggerated hip & knee flexion while walking. Caused by L5 radiculopathy & compression "peroneal neuropathy". L5 radiculopathy may also have weak foot inversion & planter flexion, while these will be normal in peroneal neuropathy</p> <p>Pyramidal tract/corticospinal tract lesions cause spastic ataxia. Gait appears stiff or rigid w/ circumduction & planter flexion of affected limb</p>
4443	Medicine	Nervous System	<p>*Glucocorticoid-induced myopathy*: complication of chronic corticosteroid use (eg, when tx giant cell temporal arteritis). Charac by painless proximal muscle weakness, that's more prominent in lower extremities. No muscle inflammation or tenderness. CK level & ESR are normal. It slowly improves once offending medication is discontinued</p> <p>Mononeuritis multiplex: usually seen in vasculitis, caused by nerve damage in 2 or more nerves in separate parts of the body. Pts develop wrist/foot drop</p>
4457	Medicine	Nervous System	Benign paroxysmal positional vertigo (BPPV): Due to crystalline deposits (canaliths) in semicircular canals that disrupt normal flow of fluid in the vestibular system -> contradictory signaling from corresponding canals on each side, which is interpreted as spinning/vertigo sensation. Triggered by changes in head position. Dx confirmed w/ Dix-Hallpike maneuver (vertigo & nystagmus on quickly lying back into a supine position w/ the head rotated 45 degrees)
4461	Medicine	Nervous System	Ophthalmic branch (V1) of the trigeminal nerve controls corneal sensation
4464	Medicine	Nervous System	Myasthenia gravis (MG): *neuromuscular junction disease.* Extra-ocular muscle weakness (eg, diplopia & ptosis) w/ symmetrical proximal weakness of the extremities (upper more than lower), neck (flexors &/or extensors), & bulbar muscles (eg, dysarthria or dysphagia)
4465	Medicine	Nervous System	<p>Guillain Barre syndrome: CSF analysis shows an *elevated protein level w/ normal cell count (normal wbc count, normal rbc count, normal glucose)*</p> <p>Bacterial, fungal, & tubercular meningitis presents w/ elevated protein, low glucose, elevated WBC counts</p> <p>Viral meningitis has elevated WBC count, & normal RBC & glucose counts. Protein normal to slightly elevated. [Exception is herpes meningoencephalitis, which has high RBC & protein levels reflecting temporal lobe hemorrhage]</p>

4482	Medicine	Nervous System	Lacunar strokes occur due to microatheroma formation & lipohyalinosis in the small penetrating arteries of the brain. They often affect the internal capsule & result in pure motor hemiparesis. Htn, hyperlipidemia, diabetes, & smoking are major risk factors
4483	Medicine	Nervous System	Cerebral septic emboli are one of the most dreaded consequences of endocarditis. They occur when pieces of infected valvular vegetations break off & enter the CNS circulation, causing focal neurologic deficits. Cerebral septic emboli are tx w/ antibiotics
4513	Medicine	Nervous System	<i>*Viridans streptococci*</i> (eg, <i>S. intermedius</i> , <i>S. mitis</i> , <i>S. oralis</i> , <i>S. mutans</i>) & other head & neck anaerobes (eg, <i>Prevotella</i> , <i>Peptostreptococcus</i> , <i>Bacteroides</i>) are the most common pathogens when brain abscess results from sinusitis [Brain abscess sx-headache, focal neuro deficit, ring enhancing intracranial lesions on CT scan of brain in immunocompetent pt w/ adjacent bacterial infection. Fever present in only 50% of cases]
4563	Medicine	Nervous System	Parkinson disease(PD): To date, there are no imaging or laboratory tests that can be used to confirm this dx w/ any greater accuracy than <i>*physical examination*</i> Postural instability signs like flexed axial posture, loss of balance during turning or stopping, loss of balance when pushed slightly from stationary bipedal stance, frequent falls are some physical exam findings that contribute to clinical dx of PD. Others signs are usual stuff like tremor, rigidity, bradykinesia
4618	Medicine	Nervous System	Cerebellar dysfunction: common among chronic alcohol abusers. Sx-gait instability, truncal ataxia, nystagmus, difficulty w/ rapid alternating movements, hypotonia, <i>*intention tremor*</i> , dysmetria (limb-kinetic tremor when attempting to touch a target), muscle hypotonia (leading to pendular knee reflex-persistent swinging movements of the limb after eliciting deep-tendon reflex)
4619	Medicine	Nervous System	Lewy body dementia: alterations in consciousness, disorganized speech, visual hallucinations, extrapyramidal sx, relatively early compromise of executive functions
4620	Medicine	Nervous System	How to differentiate between Alzheimers and Normal pressure hydrocephalus: NPH- Gait impairment is earliest feature Alzheimers- Gait impairment is a later finding Chronic subdural hematomas are usually found in elderly & alcoholic pts due to decreased brain volumes and their propensity for falls
4622	Medicine	Nervous System	Pts w/ dementia have an increased risk of developing agitated delirium in the hospital. Typical(<i>*haloperidol*</i>) and atypical(quetiapine, risperidone) antipsychotics are useful for treating acute agitation in elderly pts w/ dementia Amitriptyline: treats depression, sleep disorders & neuropathic pain Lorazepam/benzodiazepines: Tx agitation in young pts Memantine: Tx moderate to severe Alzheimer disease. Blocks action of glutamate on NMDA receptor
4641	Medicine	Nervous System	Multiple sclerosis(MS): pts w/ acute relapse tx w/ high-dose iv glucocorticoids(methylprednisolone). Corticotropin injection gel, a purified form of adrenocorticotrophic hormone can be used as alternate therapy. Plasma exchange also reserved for those who don't respond to high-dose glucocorticoids. Glatiramer, interferon, mitoxantrone, cyclophosphamide, methotrexate, & cladribine can be used for long-term disease-modifying therapy Argatroban used for tx of thrombosis in HIT
4644	Medicine	Nervous System	Common precipitating causes of delirium include infections (eg, urinary tract infection), polypharmacy, medication side effects, volume depletion, & <i>*electrolyte or metabolic disturbances*</i>
4651	Medicine	Nervous System	Normal pressure hydrocephalus(NPH): due to <i>*decreased CSF absorption*</i> CSF production tends to increase at night, but increases in CSF production is not ass. w/ a particular disease process
4652	Medicine	Nervous System	Normal pressure hydrocephalus(NPH) [wet, wacky, wobbly] is tx w/ large volume lumbar punctures & if successful, <i>*ventriculoperitoneal shunting*</i> In NPH, urinary incontinence is classic, but fecal incontinence may develop in advanced disease Donepezil is an acetylcholinesterase inhibitor used to slow the progression of Alzheimer's dementia
4657	Medicine	Nervous System	<i>*Fibrinolytic therapy*</i> improves neuro outcomes in pts w/ ischemic strokes(eg, pt w/ left sided weakness, positive Babinski sign, risk factors of HTN & type II diabetes) when given within 3 to 4.5 hours of sx onset. Before giving tPA, non-contrast head CT should be performed to rule out hemorrhagic stroke & the pt should be screened for other contraindications to therapy
4675	Medicine	Nervous System	Dementia: <i>*impairment of daily functioning*</i> is the most specific symptom
4687	Medicine	Nervous System	Restless legs syndrome: sx- urge to move legs, crawling/itching feelings on legs tx- dopamine agonists (pramipexole, ropinirole) if pts have insomnia, chronic pain, or anxiety, then give alpha 2 delta calcium channel ligands (gabapentin) if nothing works, then give opioids

4691	Medicine	Nervous System	<p>Neoplastic epidural spinal cord compression: gradual worsening focal back pain, bilateral lower extremity weakness, sensory loss, gait ataxia. Bower/bladder disturbances are late findings. In acute phase of spinal cord injury, pts develop spinal shock w/ absence of reflexes & flaccid paraplegia as a result. Exam shows focal point tenderness in spine, exaggerated deep tendon reflexes in legs, upgoing plantar reflexes</p> <p>Spinal cord infarction: abrupt weakness, loss of pain/temp sensation</p>
4700	Medicine	Nervous System	Wernicke encephalopathy is due to thiamine (vitamin B1) deficiency & is most commonly seen in malnourished pts w/ underlying alcoholism. Features include encephalopathy, ocular dysfunction, & gait ataxia. Pts should be tx empirically w/ *thiamine* prior to or along w/ glucose administration
4702	Medicine	Nervous System	A pt's new-onset neurological deficits, occipital headache, & past medical hx of vascular disease, hypertension, & atrial fibrillation raise suspicion for stroke. *Non-contrast head CT* is the initial dx test of choice
4703	Medicine	Nervous System	<p>Acute confusion, extreme hyperthermia >105 F, tachycardia, & coagulopathic bleeding after heavy work under direct sunlight are most likely due to exertional heat stroke</p> <p>Hypothalamic stroke may disrupt normal neural thermoregulatory mechanisms & result in neurogenic fever (NF). In NF, the hypothalamic set-point becomes pathologically elevated</p>
4708	Medicine	Nervous System	<p>Intracranial HTN: headache (worse at night), focal neuro sx (vision changes eg blurry vision, unsteady gait eg falls). Sx worsen w/ maneuvers that increase intracranial pressure (eg leaning forward, Valsalva, cough) [Cushing reflex (htn, bradycardia, resp depression) is a worrisome finding suggestive of brainstem compression]</p> <p>Sinusitis can cause frontal headache that worsens w/ leaning forward; however it's ass. w/ nasal congestion & purulent nasal discharge</p>
4744	Medicine	Nervous System	*HIV* & hepatitis C infection should be suspected in pts w/ weight loss & hx of IV drug abuse. Pts w/ HIV are at risk of developing depression & dementia
4900	Medicine	Nervous System	<p>*Papilledema*: caused by increased intracranial pressure. Presents w/ *transient vision loss lasting a few seconds w/ changes in head position*. *Blind spot enlarges* in those w/ papilledema. Requires urgent dx evaluation as persistent papilledema can lead to vision loss</p> <p>Anterior uveitis presents w/ eye pain & redness</p> <p>Posterior uveitis is often painless & ass. w/ floaters or reduced visual acuity</p>
4913	Medicine	Nervous System	Essential tremor is suppressed at rest and exacerbated at the end of goal directed movements
4914	Medicine	Nervous System	1st line tx for essential tremor is the beta-blocker propranolol. Alternate meds include primidone & topiramate.
4921	Medicine	Nervous System	<p>Embolic strokes: sudden onset w/ maximal sx at the beginning. Occur in pts w hx of structural cardiac disease (eg, atrial fibrillation [irregularly irregular], endocarditis). Pts w/ atrial fibrillation PLUS existing structural heart disease have an increased risk of cardioembolic strokes</p> <p>Subcortical lacunar strokes: occluded single penetrating branch of large cerebral artery. Presents w/ pure motor, ataxic hemiparesis, pure sensory, sensorimotor stroke, dysarthria w/ clumsy hand.</p>
10348	Medicine	Nervous System	Focal neurologic findings (eg, right sided hemiparesis, sensory deficits) are common in vascular dementia but not normal pressure hydrocephalus
10448	Medicine	Nervous System	*Vascular dementia*: sudden/stepwise decline in executive function after stroke, which interferes w/ activities of daily living. Pts have abnormal neuro findings on exam (eg, hemiparesis, pronator drift, Romberg sign)
10499	Medicine	Nervous System	<p>Vit B12 deficiency: *Serum methylmalonic acid (MMA) levels* should be obtained in pts w/ borderline B12 levels as elevations in MMA are more sensitive in detecting Vit B12 deficiency than serum vitamin levels alone</p> <p>D-lactic acidosis: occur in pts w/ short-bowel syndrome. Pts are asymptomatic but can develop confusion, ataxia, dysarthria during carb loading</p> <p>Hypothyroidism: can cause macrocytic anemia & polyneuropathy. Reduction in deep tendon reflexes & delayed relaxation phase</p>
10972	Medicine	Nervous System	<p>IV antibiotics decrease risk of septic embolic events in pts w/ native valve infective endocarditis.</p> <p>Surgery can be considered in pts w/ significant valvular dysfunction, persistent/difficult to treat infection, or recurrent embolism.</p>
11557	Medicine	Nervous System	<p>Postconcussive syndrome: Caused by traumatic brain injury. Can last a few hours or days. sx- headache, confusion, amnesia, difficulty concentrating or multitasking, vertigo, mood alteration, sleep disturbance, & anxiety tx- sx resolve w/ symptomatic tx</p> <p>Delayed subdural hematoma will present w/ focal neurologic deficits (eg, hemiparesis, slurred speech, aphasia, gait disturbance, hemianesthesia)</p>

11982	Medicine	Nervous System	<p>The initial diagnostic workup of a 1st-time seizure in an adult should include basic blood tests (eg, serum electrolytes, glucose, calcium, magnesium, complete blood count, renal & liver function tests) & a toxicology screen to evaluate for metabolic & toxic causes. Unprovoked seizures generally require further evaluation w/ neuroimaging & EEG.</p> <p>[Routine EEG is useful for risk-stratifying pts after a 1st time seizure once metabolic & toxic etiologies have been excluded]</p>
11996	Medicine	Nervous System	<p>Prrogressive bilaterally symmetric hearing loss w/ subjective bilateral tinnitus, advanced age, & absence of other neurologic signs suggest *presbycusis*</p> <p>Acoustic neuroma arises from the Schwann cells covering the vestibular branch of the 8th cranial nerve. As the tumor grows, it can cause sx such as vertigo, unilateral tinnitus, & sensorineural hearing loss</p>
12028	Medicine	Nervous System	<p>Dx of myasthenia gravis(MG) can be supported w/ the bedside ice pack test.In this test,an ice pack is applied over eyelids for several minutes,leading to an improvement in ptosis.Pts w/ positive test results should undergo confirmatory testing for *acetylcholine receptor antibodies*(highly specific)</p> <p>MG:caused by autoantibody mediated degradation of acetylcholine receptors at the neuromuscular junction.Muscle weakness may be precipitated by SURGERY,infection,medications</p>
12044	Medicine	Nervous System	<p>Phenytoin is an antiepileptic drug w/ known teratogenic effects(eg, fetal hydantoin syndrome). Women of childbearing age who have a low risk of seizure recurrence may safely discontinue phenytoin if considering becoming pregnant; however, the medication should be slowly tapered as rapid withdrawal may result in seizure recurrence</p>
12120	Medicine	Nervous System	<p>Foodborne botulism:due to ingestion of food(improperly canned fruits/veggies,cured fish) contaminated w/ botulinum toxin.Sx occur within 36 hours of ingestion & begin w/ bilateral cranial neuropathies(blurred vision,diplopia,facial weakness,dysarthria,dysphagia) followed by symmetric descending muscle weakness(initially affecting upper extremities & trunk & then lower extremities).Tx-*horse derived antitoxin/Equine serum heptavalent botulinum antitoxin*</p>
12125	Medicine	Nervous System	<p>Late neurosyphilis can manifest years after untreated T.pallidum infection w/ tabes dorsalis(sensory ataxia,lancinating pains[brief shooting or burning pain in face,back,or extremities],reduced/absent deep tendon reflexes) & Argyll Robertson pupils(normal pupillary constriction w/ accommodation but not w/ light).Neurogenic urinary incontinence also occurs. *IV penicillin* is tx of choice</p>
2374	Medicine	Ophthalmology	<p>External hordeolum or styte: common staphylococcal abscess of eyelid.</p> <p>Tx- *warm compresses*</p> <p>Incision & drainage performed if resolution doesn't begin in the next 48 hours</p> <p>Chalazion: granulomatous inflammation of the meibomian gland. Tx- incision and curettage</p>
2375	Medicine	Ophthalmology	<p>Age-related *macular degeneration*: seen in pts above 50 years of age, presents w/ progressive & bilateral loss of central vision. Peripheral fields & navigational vision are always maintained, but may become impaired by the development of cataracts</p> <p>Open angle glaucoma: gradual loss of peripheral vision(over a period of years) & consequent tunnel vision. Central vision spared</p> <p>Central retinal artery occlusion & retinal detachment are acute conditions w/ complete vision loss</p>
2760	Medicine	Ophthalmology	<p>Chalazion presents as painful swelling that progresses to a rubbery lesion. Develops when meibomian gland becomes obstructed. Persistent/recurrent chalazion may be due to meibomian gland carcinoma(sebaceous carcinoma). For this reason, recurrent chalazion requires *histopathologic examination.* Additionally, basal cell carcinoma is the most common malignancy of the lid margin & may appear clinically similar to a chalazion</p>
2849	Medicine	Ophthalmology	<p>Allergic conjunctivitis(AC):acute hypersensitivity reaction caused by environmental exposure to allergens. Characterized by intense itching, hyperemia, tearing, & edema of the conjunctiva & eyelids</p> <p>Atopic keratoconjunctivitis:Severe form of ocular allergy.More severe sx from AC & has a prolonged course,potential visual impairment due to corneal involvement,& thickening of eyelids & surrounding skin.Itching,tearing,thick mucus discharge,photophobia,& blurred vision</p>
2850	Medicine	Ophthalmology	<p>Cataract: oxidative damage of the lens occurs w/ aging & leads to cataract formation. RF-advancing age, diabetes, smoking, chronic sunlight exposure, & glucocorticoid use. Pts report blurred vision, glare, & often halos around lights. Tx- lens extraction & artificial lens implantation is indicated when loss of vision impairs activities of daily living</p>
2851	Medicine	Ophthalmology	<p>Angle closure glaucoma:severe eye pain & blurred vision ass w/ nausea & vomiting.Occurs following pupillary dilation(can occur in darkened movie theaters,times of stress,due to drug intake).Red eye w/ steamy cornea & moderately dilated pupil that is non reactive to light.Increased intraocular pressure on tonometry.Permanent cure w/ laser peripheral iridotomy</p>
2852	Medicine	Ophthalmology	<p>open angle glaucoma:</p> <p>more common in african americans & those with family hx of glaucoma and diabetes</p> <p>sx- gradual loss of peripheral vision, eventual tunnel vision</p> <p>tx- B-blocks like timolol eye drops for initial management</p> <p>laser trabeculoplasty for adjunctive measure</p> <p>surgical trabeculectomy only when continuous increase in intraocular pressure</p> <p>angle closure glaucoma:</p> <p>sudden onset of sx, blurred vision, severe eye pain, nausea, vomiting, red eye w/ hazy cornea, dilated pupil</p>

2853	Medicine	Ophthalmology	<p>Postoperative endophthalmitis: most common form of endophthalmitis, usually occurs within 6 weeks of surgery, pts present w/ pain & decreased visual acuity, exam reveals swollen eyelids & conjunctiva, hypopyon, corneal edema & infection</p> <p>Uveitis: blurred vision w/ moderate pain, conjunctival injection, & constricted pupils. Hypopyon seen in severe anterior uveitis. Keratic precipitates ("mutton fat") & iris nodules may be seen. Ass. w/ HLA B27 conditions</p>
2854	Medicine	Ophthalmology	<p>Herpes zoster ophthalmicus: dendriform corneal ulcers & vesicular rash in trigeminal distribution. Sx-fever, malaise, burning/itching sensation in periorbital region</p> <p>Dacryocystitis: infection of lacrimal sac due to obstruction of nasolacrimal duct. Pain, swelling, tenderness & redness in tear sac area. Mucous/pus can be expressed</p> <p>Bacterial keratitis: seen in contact lens wearers & following corneal trauma. Cornea is hazy w/ central ulcer & adjacent stromal abscess. Hypopyon present</p>
2855	Medicine	Ophthalmology	<p>CMV retinitis occurs when CD4 count is <50/ul. Pts may be asymptomatic. Fundoscopic findings of yellow-white patches of retinal opacification & hemorrhages are diagnostic. Tx-ganciclovir or foscarnet</p> <p>Ocular toxoplasmosis in immunocompromised host charac by necrotizing retinochoroiditis. More than half of pts w/ ocular sx have encephalitis. The necrosis involves inner layers of retina which appears as white, fluffy lesions surrounded by retinal edema & vitritis</p>
2856	Medicine	Ophthalmology	<p>Optic neuritis: suspect in pt w/ central scotoma, afferent pupillary defect, changes in color perception & decreased visual acuity. Rapid impairment of vision in one eye (or rarely both) & pain on eye movement</p> <p>Episcleritis: inflammation of episcleral tissue between conjunctiva & sclera. Acute onset of mild to moderate discomfort, photophobia, watery discharge. Exam reveals diffuse or localized bulbar conjunctival injection, & episcleritic nodules may be present</p>
2858	Medicine	Ophthalmology	<p>Dacryocystitis: inflammatory changes in *medial canthal region* of the eye. Staphylococcus aureus & beta-hemolytic Streptococcus are the usual infecting organisms</p> <p>Hordeolum: abscess located over upper or lower eyelid, usually caused by Staphylococcus aureus, appears as localized red, tender swelling over eyelid</p> <p>Orbital cellulitis: infection posterior to orbital septum, unilateral, more common in children, fever, proptosis, restriction of extraocular movements & swollen, red eyelids</p> <p>Herpes simplex keratitis: corneal vesicles & dendritic ulcers</p>
2860	Medicine	Ophthalmology	<p>Fungal keratitis occurs after corneal injury in agricultural workers or immunocompromised pts. The cornea shows multiple stromal abscesses</p>
2861	Medicine	Ophthalmology	<p>Amaurosis fugax: visual loss that is transient & usually monocular. Described as "a curtain falling down." Most commonly caused by *retinal emboli from the carotid artery/displaced retinal embolus*. Once the clot is displaced or breaks up, blood flow is restored & vision returns</p> <p>Detached retina: light flashes, floaters, curtain coming across visual field (starting from periphery)</p>
2862	Medicine	Ophthalmology	<p>Retinal detachment: floaters, "curtain over my eyes", flashes of light tx- laser therapy & cryotherapy</p> <p>Choroidal rupture: blurred vision following blunt trauma</p> <p>Central retinal artery occlusion: sudden painless loss of vision in one eye, pallor of optic disc, cherry red fovea, boxcar segmentation of blood in retinal veins</p> <p>Exudative macular degeneration: painless blurring of central vision, bilateral, central scotoma, growth of abnormal vessels in retinal space</p>
2863	Medicine	Ophthalmology	<p>Vitreous hemorrhage: sudden loss of vision & onset of floaters. Occurs in pts w/ diabetic retinopathy. Fundus hard to visualize & even if it's visualized, details may be obscured. [once a diabetic pt presents w/ sudden onset of visual loss w/ numerous floaters, vitreous hemorrhage has most likely occurred]</p> <p>Retinal detachment: separation of inner layers of retina. May be ass. w/ metabolic disorders, trauma, vascular disease, myopia, degeneration. Fundoscopy-elevated retina w/ folds/tear</p>
3328	Medicine	Ophthalmology	<p>Central retinal vein occlusion (CRVO): acute or subacute painless monocular visual loss. Fundoscopic examination shows "blood & thunder" appearance consisting of optic disk swelling, retinal hemorrhages, dilated veins, cotton wool spots. CRVO caused by thrombosis of the central retinal vein-common in pts w/ coagulopathy, hyperviscosity, chronic glaucoma, atherosclerotic risk factors (age, diabetes, htn)</p> <p>Amaurosis fugax: due to atheroemboli from carotid arteries, temporary vision loss</p>

3330	Medicine	Ophthalmology	<p>The 3 main categories of diabetic retinopathy are background or simple (microaneurysms, hemorrhages, exudates, retinal edema), pre-proliferative (cotton wool spots), & proliferative or malignant (neovascularization). Visual impairment occurs with the development of macular edema. Argon laser photocoagulation is performed for the prevention of complications</p> <p>Retinal detachment: occurs unilaterally, presents as blurred vision that progressively worsens, retina hanging in vitreous</p>
3332	Medicine	Ophthalmology	<p>Presbyopia: age-related *decrease in lens elasticity*, leads to difficulty w/ near vision. Eg, middle-aged dude who has to hold books at arms length to read</p> <p>Nonspherical cornea leads to astigmatism (blurry vision at distance & close up)</p> <p>Cataracts: difficulty w/ night vision/driving, increased lens opacity</p> <p>Primary open-angle glaucoma: peripheral visual field defects followed by central visual loss</p>
3429	Medicine	Ophthalmology	<p>Acute angle closure glaucoma: sx- headache, nausea, eye pain, mid-dilated pupil can be triggered by decongestants, antiemetics, or anticholinergics Gonioscopy is gold standard for dx Ocular tonometry helpful if ophthalmological consultation is not available</p> <p>Fluorescein staining of the eye performed to detect corneal abrasions or herpes keratitis</p>
3430	Medicine	Ophthalmology	<p>Acute glaucoma: The increased intraocular pressure is reduced w/ mannitol (1st line tx and works immediately), acetazolamide (a carbonic anhydrase inhibitor that reduces production of aqueous humor), timolol (beta blocker that decreases production of aqueous humor) or pilocarpine (allows drainage of aqueous humor) Avoid Atropine! It can dilate the pupil and worsen the glaucoma. Sometimes mydriatic agents like atropine can precipitate glaucoma</p>
3779	Medicine	Ophthalmology	<p>Spontaneous subconjunctival hemorrhage is a benign finding, & doesn't require any treatment. It may be due to simple trauma from rubbing the eyes vigorously, violent coughing spells, hypertensive episodes or coagulopathy. The condition is from minor bruising & doesn't require any workup at all. Hemorrhage disappears in 24-48 hours. *Observation* is the best treatment</p> <p>Occasional pt on anticoagulation meds may develop a subconjunctival hemorrhage. Tx is conservative</p>
3988	Medicine	Ophthalmology	<p>Central retinal artery occlusion is emergently tx w/ an *ocular massage & high-flow oxygen administration*</p>
4015	Medicine	Ophthalmology	<p>Be overly suspicious for an intraocular foreign body in pts w/ high-velocity injuries (drilling, grinding, etc). If the initial pen light exam doesn't reveal any conjunctival & corneal abrasions or foreign bodies, proceed w/ *fluorescein examination*. If still no foreign body seen despite suspicion, CT/US can be considered. [MRI contraindicated since it can dislodge foreign body]</p> <p>Topical abx applied after foreign body removed</p> <p>Tonometry performed if penetration of globe ruled out</p>
4021	Medicine	Ophthalmology	<p>Sympathetic ophthalmia aka "spared eye injury": characterized by damage of one eye (the sympathetic eye) after a penetrating injury to the other eye. It's due to an immunologic mechanism involving the *recognition of 'hidden' antigens*. Typical manifestation is anterior uveitis, but panuveitis, papillary edema, & blindness may develop</p> <p>Circulated immune complexes can affect the eye in systemic lupus erythematosus</p>
4099	Medicine	Ophthalmology	<p>In HIV pts, both HSV & VZV can cause severe, acute retinal necrosis ass. w/ PAIN, keratitis, uveitis, & funduscopy findings of peripheral pale lesions & central retinal necrosis. In contrast, CMV retinitis is PAINLESS, NOT usually ass. w/ keratitis or conjunctivitis, & characterized by funduscopy findings of hemorrhages & fluffy or granular lesions around the retinal vessels</p> <p>Candida can cause endophthalmitis, esp w/ disseminated candidiasis infection</p>
4202	Medicine	Ophthalmology	<p>*Optic glioma* occurs in 15% of pts w/ neurofibromatosis type 1 [NF1- axillary freckling, cafe au lait spots, slowly progressive unilateral visual loss & dyschromatopsia, exophthalmos, optic disk may be normal swollen or atrophic]</p>
4516	Medicine	Ophthalmology	<p>Type 2 diabetics are prone to developing nonketotic hyperosmolar syndrome after encountering physiologic stressors eg. upper respiratory infection -> severe hyperglycemia -> osmotic diuresis causing dehydration -> altered consciousness, confusion, coma, blurred vision (due to intraocular hypotension secondary to hyperosmolarity)</p>
4901	Medicine	Ophthalmology	<p>Macular degeneration: pts report that straight lines appear curved. Driving & reading are often affected first. (Visualization of straight lines is controlled by centrally located macula) risk factors- increasing age, smoking</p> <p>Visual loss from cataracts: lens opacification is a cause</p> <p>Enlarged blind spot seen w/ papilledema</p>

8925	Medicine	Ophthalmology	<p>Viral conjunctivitis("pink eye"):conjunctival inflammation & watery discharge in the setting of an upper respiratory illness,most cases caused by adenovirus,outbreaks common among small children & caregivers in late summer & early fall, no specific tx needed.Uncomplicated viral conjunctivitis can be managed symptomatically (eg, warm or cold compresses).Some pts may develop bacterial superinfection which requires topical abx</p> <p>Olopatadine/azelastine-mast cell stabilizing agents</p>
8926	Medicine	Ophthalmology	<p>Contact lens-ass. infectious keratitis: medical emergency,painful red eye & opacification & ulceration of cornea.Caused by Gram-negative organisms like *Pseudomonas* & Serratia, Gram-positive organisms,& certain fungi & amoebas</p> <p>Anterior uveitis (iritis):inflammation of anterior uveal tract,esp the iris. Ass. conjunctival inflammation adjacent to cornea but cornea itself is spared</p> <p>Episcleritis:red eye,localized/patchy distribution,doesn't affect vision or involve cornea</p>
2377	Medicine	Poisoning & Environmental Exposure	<p>Caustic ingestion w/ sodium or potassium hydroxide (lye) causes immediate esophageal injury w/ liquefaction necrosis & potential perforation. *Endoscopy* is recommended within the first 12-24 hours to assess the severity of damage & guide further therapy.</p>
2662	Medicine	Poisoning & Environmental Exposure	<p>Diphenhydramine overdose:drowsiness,confusion,anticholinergic effects like dry mouth,dilated pupils,blurred vision,reduced bowel sounds,urinary retention. Physostigmine,a cholinesterase inhibitor can counteract these anticholinergic effects</p> <p>Salicylate intoxication:tinnitus,nausea/vomiting, fever,altered mental status & acid-base abnormalities.Tx-alkalinization of urine w/ sodium bicarbonate</p> <p>Theophylline intoxication: seizures,hyperthermia,cardiac arrhythmias, hypotension</p>
2664	Medicine	Poisoning & Environmental Exposure	<p>Benzodiazepine overdose: pts have slurred speech, unsteady gait, & drowsiness. Pupil size is normal. Only mild respiratory depression. (It's distinguished from opioid overdose by lack of severe respiratory depression and lack of pupillary constriction)</p> <p>Phenytoin toxicity:horizontal nystagmus,cerebellar ataxia,confusion</p> <p>Lithium toxicity: tremor & hyperreflexia, ataxia & seizures</p>
3125	Medicine	Poisoning & Environmental Exposure	<p>Chemical contact w/ the eye: begin flushing eye w/ running water</p> <p>Cut/scratch/foreign body in eye: seeking immediate medical care is the proper course of action</p>
3126	Medicine	Poisoning & Environmental Exposure	<p>TCA overdose: hyperthermia, seizures, hypotension along w/ anticholinergic effects(dilated pupils, flushed/dry skin, intestinal ileus). Causes QRS prolongation & increases risk of ventricular arrhythmia. EKG, w/ specific attention to the *QRS complex*, is the *best indicator of the extent of overdose*. QRS duration predicts likelihood of seizures & ventricular arrhythmia. Tx-Sodium bicarbonate(it narrows QRS complex & decreases incidence of ventricular arrhythmia)</p>
3134	Medicine	Poisoning & Environmental Exposure	<p>Organophosphate poisoning side effects are reversed w/ Atropine. Always make sure to remove any contaminated clothing and wash off the skin to prevent transcutaneous absorption</p> <p>TCA overdose: obtain an emergent ECG & analyze the QRS complex</p>
3136	Medicine	Poisoning & Environmental Exposure	<p>If pt ingests toxic dose of acetaminophen(asymptomatic during first 24 hours after ingestion),first step is *gastric decontamination w/ activated charcoal & measurement of acetaminophen levels*esp if pt presents within 4 hours of ingestion</p> <p>Rumack-Matthew nomogram provides the likelihood of hepatotoxic effects of acetaminophen overdose & helps guide admin. of N-acetylcysteine in pts w/ elevated acetaminophen levels</p> <p>Aspirin overdose ass. w/ increased risk of arrhythmias</p>
3138	Medicine	Poisoning & Environmental Exposure	<p>TCA overdose can cause cardiac toxicity(characterized by prolonged QRS duration (>100 msec) & ventricular arrhythmias. *Sodium bicarbonate* increases serum pH and extracellular sodium, thereby *alleviating the cardio-depressant action on SODIUM channels*</p> <p>With aspirin overdose, sodium bicarbonate increases salicylate excretion via urine alkalinization</p>
3139	Medicine	Poisoning & Environmental Exposure	<p>*Fluphenazine is a high potency "typical" antipsychotic medication that occasionally causes hypothermia*. Fluphenazine is commonly injected every 2-3 weeks in schizophrenics w/ poor compliance. Pts taking antipsychotic meds should be advised to avoid prolonged exposure to extreme temperatures</p> <p>Ibuprofen in excess -> hypotension</p> <p>Amitriptyline s.e. -> weight change,dizziness,insomnia. Sometimes hypotension</p> <p>Cephalexin s.e.-> skin rash, vomiting, diarrhea & abdominal pain</p>

3156	Medicine	Poisoning & Environmental Exposure	<p>Opioid intoxication: MIOSIS, BRADYCARDIA, HYPOTENSION(due to histamine release), depressed mental status, decreased respiratory rate(best predictor of intoxication/frequent cause of mortality), decreased bowel sounds</p> <p>Cocaine intoxication: mydriasis, tachycardia & hypertension[exact opposite of this is seen in opioid intoxication]</p>
3161	Medicine	Poisoning & Environmental Exposure	<p>Methanol's immediate effects cause disinhibition. However within 24 hours, it can lead to headache, nausea, vomiting & epigastric pain. The most severe consequences of methanol intoxication are vision loss & coma. Physical exam in methanol intoxication reveals optic disc hyperemia while laboratory studies reveal anion gap metabolic acidosis. An increased osmolar gap is often seen as well</p> <p>Whereas methanol damages the eyes, ethylene glycol damages the kidneys</p>
3223	Medicine	Poisoning & Environmental Exposure	<p>All pts w/ smoke inhalation should be suspected to have acute carbon monoxide poisoning & tx w/ 100% oxygen via a nonrebreather facemask</p>
3690	Medicine	Poisoning & Environmental Exposure	<p>Exertional heat stroke occurs in healthy people that are training in exteme heat/humidity (eg dude in military training) due to "thermoregulation failure.* Heat stroke sx- fever 105 F, altered mental status, hypotension, tachycardia, & tachypnea</p> <p>Heat exhaustion is due to inadequate fluid & salt replacement. CNS dysfunction (eg, altered mental status) is not present in heat exhaustion.</p>
3856	Medicine	Poisoning & Environmental Exposure	<p>Caustic poisoning: doesn't cause alteration in consciousness(it's the least likely to affect pt's cognition). Presents w/ dysphagia, severe pain, heavy salivation & mouth burns. The damage is the result of necrosis of the tissue that lines the GI tract(leads to white tongue, heavy salivation, dysphagia). In severe cases, perforation of the stomach or esophagus can occur, causing peritonitis or mediastinitis.</p>
3876	Medicine	Poisoning & Environmental Exposure	<p>For frostbite injuries, the best tx is *rapid re-warming w/ warm water*</p>
4035	Medicine	Poisoning & Environmental Exposure	<p>TCA overdose: sx- cns, cardiac, & anticholinergic findings. *Sodium bicarbonate* used to tx cardiac toxicity(characterized by prolonged QRS duration & ventricular arrhythmias(eg, ventricular tachycardia, ventricular fibrillation). Benzodiazepines tx seizures due to TCA overdose.</p>
4084	Medicine	Poisoning & Environmental Exposure	<p>Carbon monoxide poisoning: suspect in smoke inhalation cases, multiple people from same confined area present w/ headache, nausea & abdominal discomfort. Pinkish-red skin hue. Dx-obtain carboxyhemoglobin levels. Tx-hyperbaric oxygen</p> <p>Cyanide poisoning: Burning of rubber or plastic (not wood) can cause cyanide inhalation. Bitter almond breath is characteristic</p> <p>Methemoglobinemia: cyanosis & bluish discoloration of skin & mucous membranes</p>
4487	Medicine	Poisoning & Environmental Exposure	<p>The major cause of mortality in TCA overdose is due to TCA induced hypotension</p> <p>Severe hypothyroidism can cause myxedema coma which has systemic effects such as CNS depression & hypotension, hypothermia & bradycardia</p> <p>Hyperkalemia presents on EKG as peaked T waves, followed by lengthening of the PR & QRS intervals, eventually resulting in a sine wave. [Calcium gluconate is cardio-protective in cases of hyperkalemia]</p>
4509	Medicine	Poisoning & Environmental Exposure	<p>Sx of opioid withdrawal include nausea, vomiting, cramps, diarrhea, dysphoria, restlessness, rhinorrhea, lacrimation, myalgias, & arthralgias. Physical exam signs include mydriasis, piloerection, & hyperactive bowel sounds. Oral or IM *methadone* is the tx of choice to relieve the sx of opioid withdrawal in dependent pts</p>
4510	Medicine	Poisoning & Environmental Exposure	<p>Opioid intoxication doesn't always present w/ miosis.Coingestions can lead to normal pupil size or even mydriasis & certain opioids(meperidine,propoxyphene) don't cause miosis even when taken alone.Pupil examination isn't as reliable as the recognition of bradypnea(decreased respiratory rare) in opioid intoxication.Tx-*naloxone(opioid antagonist)* to increase resp rate & improving O2 saturation</p> <p>Methadone:opioid agonist.Used for long term management of opioid addiction</p>
4511	Medicine	Poisoning & Environmental Exposure	<p>Ethylene glycol ass. w/ hypocalcemia & calcium oxalate deposition in kidneys -> leads to flank pain,hematuria,oliguria,acute kidney injury,anion gap metabolic acidosis.Tx-fomepizole or ethanol to inhibit alcohol dehydrogenase,sodium bicarbonate to alleviate acidosis,hemodialysis in cases of severe acidosis or end-organ damage</p> <p>Methemoglobinemia:Dapsone/anesthetics can cause it.Tx-Methylene blue</p> <p>Cyanide poisoning:Due to fires,mining,pesticides.Tx-Sodium thiosulfate</p>
4522	Medicine	Poisoning & Environmental Exposure	<p>Neuroleptic malignant syndrome(NMS) tx: *Dantrolene*(muscle relaxant) is the most common drug used to reverse the condition, followed by bromocriptine(dopamine agonist) & amantadine(antiviral drug w/ dopaminergic properties)</p> <p>Tx of NMS involves cessation of all dopaminergic antagonists</p>

10145	Medicine	Poisoning & Environmental Exposure	<p>Cyanide binds to Fe³⁺, inhibiting its reduction to Fe²⁺ and blocking production of ATP from oxidative phosphorylation. This promotes anaerobic metabolism, causing lactic acidosis.</p> <p>Impaired excretion of lactic acid occurs in renal failure</p> <p>Increased gut absorption of lactic acid may occur in blind loop syndrome</p> <p>Increased ketogenesis occurs during starvation & w/ lack of insulin dependent diabetics</p>
10146	Medicine	Poisoning & Environmental Exposure	<p>Smoke inhalation injury: etiology- victims of house fire tx- treat empirically for cyanide toxicity w/ hydroxocobalamin or sodium thiosulfate, or with nitrites to induce methemoglobinemia complications- cardiorespiratory arrest and neurologic disability</p> <p>Hydrogen cyanide (HCN) and carbon monoxide (CO) are the 2 major products of combustion in closed spaces.</p> <p>Methemoglobinemia occurs after exposure to oxidizing agents (eg, dapsone, nitrates, topical/local anesthetics).</p>
11466	Medicine	Poisoning & Environmental Exposure	<p>Endurance athletes w/ mild hypothermia are managed w/ passive rewarming. More severe hypothermia requires aggressive tx, including active external(heated blankets) & internal(heated peritoneal irrigation) rewarming. Dopamine may be needed if iv fluids/rewarming measures are ineffective in restoring normal bp.</p>
2256	Medicine	Pregnancy, Childbirth & Puerperium	<p>Antiphospholipid antibody syndrome (APS): ass w/ false positive VDRL, prolonged PTT, & thrombocytopenia can promote arterial and venous thromboses and cause spontaneous abortions tx- prophylaxis with low dose aspirin and LMWH</p>
2653	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>Phencyclidine: hallucinogenic drug, causes vertical nystagmus, psychotic & violent behavior,</p>
2661	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>Chlordiazepoxide(Librium) is a benzodiazepine & a common choice of tx for alcohol withdrawal</p>
8822	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>Advanced sleep phase disorder: inability to stay awake in the evening, pts complain of early morning insomnia due to their early bedtime</p> <p>Decreased levels of melatonin seen w/ normal aging & can cause sleep disturbances. In Alzheimer pts/senile dementia pts, the melatonin drops exceed the regular melatonin drop of normal aging</p> <p>Delayed sleep phase syndrome: inability to fall asleep at normal bedtimes, pts sleep at 4-5 am, normal sleep if pt allowed to sleep until late morning</p>
8823	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>Delayed sleep phase syndrome:circadian rhythm disorder.Inability to fall asleep at "normal" bedtimes(10 PM-midnight).Sleep is normal if allowed to continue until late morning.Sx-insomnia & excessive daytime sleepiness</p> <p>Advanced sleep phase disorder:inability to stay awake in the evening(after 7 PM).Early morning insomnia due to early bedtime</p> <p>Shift work sleep disorder:recurring pattern of sleep interruption due to shift work.Work schedule incongruent w/ normal circadian clock</p>
11811	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>Returning combat veterans are at high risk for developing post-traumatic stress disorder. Common presenting sx include sleep disturbance, nightmares, emotional numbing & detachment, intrusive flashbacks, amnesia, & hypervigilance</p>
11815	Medicine	Psychiatric/Behavioral & Substance Abuse	<p>"Bath salts"[not related to epsom salts or substances used in bathing] have amphetamine properties that can cause severe agitation, combativeness, delirium, and psychosis. Tachycardia is often present. Effects of bath salt intoxication may take several days or weeks to subside</p> <p>Compared to bath salts, Phencyclidine(PCP) intoxication sx are usually of shorter duration. PCP is also included in routine hospital urine toxicology screens</p>
2145	Medicine	Pulmonary & Critical Care	<p>massive pulmonary embolism likely in postoperative pt w/ hypotension, jugular venous distension, and new onset right bundle branch block. syncope occurs in massive pulmonary embolism pts can eventually get cardiogenic shock and suffer cns effects eg. dilated pupils, unresponsive mental status</p>
2297	Medicine	Pulmonary & Critical Care	<p>Complications of ventilation w/ a high PEEP include: 1) alveolar damage 2) tension pneumothorax(sudden-onset shortness of breath,hypotension,tachycardia,tracheal deviation,& unilateral absence of breath sounds) 3) hypotension</p>
2298	Medicine	Pulmonary & Critical Care	<p>Hypertrophic osteoarthropathy: sx- clubbing, sudden onset joint arthropathy in a chronic smoker ass. w/ lung cancer management- do chest x-ray to rule out malignancy or other lung pathology</p>

2300	Medicine	Pulmonary & Critical Care	In pts w/ pulmonary embolism, low oxygen saturation & atrial fibrillation(irregular RR intervals, no P waves, narrow QRS complexes) are ass. w/ poor prognosis Mitral valve stenosis presents w/ a mid-diastolic rumble & opening snap at the apex
2303	Medicine	Pulmonary & Critical Care	Pulmonary edema(pt w/ CAD hx w/ sudden dyspnea after IV fluids) increases the A-a gradient & the excess fluid reduces lung compliance(alveoli can't expand). Supplemental O2 corrects hypoxemia,V/Q mismatch,& A-a gradient Reduced inspired O2 tension(high altitude) & hypoventilation(cns depression)->normal A-a gradient & hypoxia correction w/ O2 COPD increases lung compliance & A-a gradient Shunt->high A-a gradient,hypoxemia doesn't correct w/ O2,low compliance
2602	Medicine	Pulmonary & Critical Care	Pancoast tumors(superior pulmonary sulcus tumors) present w/ shoulder pain.Other findings include Horner's syndrome(ipsilateral ptosis/miosis),weakness/atrophy of hand muscles,pain/paresthesias in arm/forearm, enlarged supraclavicular lymph nodes.Initial evaluation includes chest imaging(*CXR*) in pts w/ suspected lung cancer. Pts w/ Horner's syn can develop increased sympathetic activity in the contralateral side w/ flushing & facial sweating during exercise(Harlequin sign)
2615	Medicine	Pulmonary & Critical Care	Adenocarcinoma: seen in nonsmokers, located peripherally, presents as a solitary nodule. [Differentiate it from TB. Xray findings in TB often include hilar adenopathy and/or cavitary/patchy lung lesions.Solitary nodules are not typical] Large cell carcinoma is ass. w/ Gynecomastia and Galactorrhea
2632	Medicine	Pulmonary & Critical Care	Squamous cell carcinoma of the lung->hypercalcemia (remember: sCa++mous) Small cell carcinoma of the lung->ACTH production & SIADH Hypercalcemia sx: anorexia, constipation, increased thirst, & easy fatigability Adenocarcinoma is a peripheral lesion ass. w/ hypertrophic pulmonary osteoarthropathy
2635	Medicine	Pulmonary & Critical Care	Small cell lung cancer: causes the majority of cases of malignancy ass. SIADH, ectopic adrenocorticotrophic hormone production(leading to Cushing syndrome), & Lambert-Eaton syndrome. Smoking is the most imp risk factor Hypertrophic osteoarthropathy usually ass. w/ adenocarcinoma
2636	Medicine	Pulmonary & Critical Care	SIADH is a common complication of small cell lung cancer. Initial tx of choice is *fluid restriction*. Severe symptomatic or resistant hyponatremia from SIADH requires administration of 'hypertonic' saline. Demeclocycline is rarely necessary & should only be considered if fluid restriction & high salt intake fail to correct the hyponatremia
2702	Medicine	Pulmonary & Critical Care	ARDS can be due to acute pancreatitis. Look for pt to develop new or worsening respiratory sx during the past week. sx- respiratory distress, diffuse crackles, severe hypoxemia, bilateral alveolar infiltrates on chest imaging
2919	Medicine	Pulmonary & Critical Care	Alpha-1 antitrypsin deficiency: ass. w/ panacinar emphysema & cirrhosis. Histologically, the granules evident in the hepatocytes of afflicted individuals are thought to represent the unsecreted A1AT. They stain w/ the periodic acid-Schiff (PAS) reaction & resist digestion by diastase Whipple's disease:caused by Tropheryma whippelii & affects the bowel, causing malabsorption
2997	Medicine	Pulmonary & Critical Care	Invasive *aspergillosis* occurs in immunocompromised pts, who may present w/ fever, cough, dyspnea, or hemoptysis. CXR may show a cavitary lesion, & CT scan shows pulmonary nodules w/ a halo sign or lesions w/ an air crescent Blastomycosis affects lungs,skin,bones,joints,& prostate.Infection in immunocompromised hosts is uncommon.Primary pulmonary infection may be asymptomatic or present w/ flu-like sx
3016	Medicine	Pulmonary & Critical Care	Hypersensitivity pneumonitis: inflammation of lung parenchyma due to antigen exposure. Examples include aerosolized bird droppings "bird fancier's lung" and molds ass. w/ farming "farmer's lung." sx- cough, breathlessness, fever, malaise after antigen exposure. Chronic exposure leads to pulmonary fibrosis, restrictive pattern on lung spirometry. Radiographic findings include ground glass opacity, or "haziness" of lower lung fields. tx- avoidance of antigen exposure
3020	Medicine	Pulmonary & Critical Care	ARDS can be due to pneumonia. Lung injury -> alveolar damage -> *decreased lung compliance (stiff lungs)* & increased pulmonary arterial pressure (pulmonary htn) ARDS causes shunting w/ an increased A-a oxygen gradient. In contrast, hypoventilation & decreased FiO2 cause hypoxemia w/ a normal A-a gradient

3021	Medicine	Pulmonary & Critical Care	<p>Asbestos exposure: increases risk of pulmonary fibrosis and malignancy Bronchogenic carcinoma is the most common malignancy (more common than mesothelioma) Smoking acts synergistically w/ asbestos to further increase the risk of lung cancer</p> <p>Occupations associated w/ asbestosis- plumbers, electricians, carpenters, pipefitters, insulation workers, construction, shipbuilding, plastic or rubber manufacturing.</p> <p>"Pleural plaques" on imaging are pathognomonic for asbestosis</p>
3022	Medicine	Pulmonary & Critical Care	<p>Restrictive pattern (on pulmonary function tests) shows decreased lung volumes w/ normal or elevated FEV1/FVC ratio</p> <p>FEV1/FVC ratio is reduced to <80% of normal in obstructive lung diseases. In restrictive lung diseases, the values of FEV1 & FVC may also be reduced, but the ratio is >80%</p>
3024	Medicine	Pulmonary & Critical Care	<p>3 month hx of wheezing & chest tightness in pt is concerning for new-onset asthma. GERD is present in 75% of asthma pts (half of pts don't report heartburn sx). Obesity, hoarseness, & erythematous pharynx & larynx also point toward GERD as etiology of pt's asthmatic sx.</p>
3026	Medicine	Pulmonary & Critical Care	<p>Inhaled albuterol & systemic steroids are appropriate treatments for acute asthma attacks. Pts on high doses of beta-2 agonists may develop hypokalemia, which may present w/ muscle weakness, arrhythmias & EKG abnormalities. Other common side effects of beta-2 agonists include tremor, palpitations & headache. *Obtaining a serum electrolyte panel* would be helpful to confirm & assess severity of pts hypokalemia</p>
3029	Medicine	Pulmonary & Critical Care	<p>Recurrent pneumonia in same anatomic location is red flag for bronchial obstruction. Smoking is primary risk factor for bronchogenic carcinoma. *CT of chest is indicated for suspected lung cancer.* Bronchoscopic or CT-guided biopsy may be performed for any suspected lesion seen on CT scan</p> <p>CF causes infections in different areas of the lung. Rarely presents in adulthood</p> <p>Immunodeficiencies cause recurrent pneumonia in different regions of lung</p>
3031	Medicine	Pulmonary & Critical Care	<p>Alpha 1 antitrypsin (AAT) deficiency: classic radiographic pattern is emphysematous changes of the lower lobes. The involvement is panlobular. Diagnosis of AAT deficiency can be made by measuring the serum alpha 1 antitrypsin level.</p>
3033	Medicine	Pulmonary & Critical Care	<p>Obstructive sleep apnea (OSA): common in obese population. Affected pts at risk for hypertension, heart disease, cor pulmonale, & accidents. *Polysomnography used for dx*</p> <p>Surgery for OSA should only be considered when CPAP, oral appliances, & weight loss have proven ineffective</p> <p>Pulmonary function testing is not used in the dx of OSA, as affected pts tend to breathe normally while awake</p>
3038	Medicine	Pulmonary & Critical Care	<p>Bronchiectasis presents w/ cough, mucopurulent sputum, & hemoptysis that often responds to abx. CXR is frequently abnormal but isn't as sensitive or specific as *high resolution computed tomography scan* for definitive dx</p>
3042	Medicine	Pulmonary & Critical Care	<p>long term oxygen therapy prolongs survival in pts w/ COPD and hypoxemia</p>
3045	Medicine	Pulmonary & Critical Care	<p>Idiopathic pulmonary fibrosis is due to excessive collagen deposition in peri-alveolar tissues. This leads to decreased lung volumes (low total lung capacity, functional residual capacity, & residual volume) w/ preserved or increased forced expiratory volume in 1 second/forced vital capacity ratio. Pts have impaired gas exchange resulting in reduced diffusion capacity of carbon monoxide & *increased alveolar arterial gradient*.</p>
3046	Medicine	Pulmonary & Critical Care	<p>Sarcoidosis: also affects the skin (protean manifestations, most commonly erythema nodosum) and the eyes (uveitis)</p>
3048	Medicine	Pulmonary & Critical Care	<p>In mechanically ventilated pts w/ respiratory alkalosis (low pCO₂ due to hyperventilation) in the setting of an appropriate tidal volume, the respiratory rate should be lowered</p> <p>Incentive spirometry is used to prevent atelectasis in bed-bound pts following surgical procedures</p> <p>Chest physiotherapy used in pts w/ pneumonia or atelectasis to loosen and promote expectoration of secretions i.e. pts w/ bronchiectasis require chest physiotherapy</p>
3049	Medicine	Pulmonary & Critical Care	<p>Granulomatosis w/ polyangiitis (Wegener's): systemic vasculitis, upper & lower airway granulomatous inflammation, & glomerulonephritis. Onset around age 40, Upper respiratory tract common site of involvement, inflammation of nasopharynx causes epistaxis, purulent rhinorrhea, otitis, sinusitis, saddle nose deformity. Cutaneous manifestations also seen such as painful subcutaneous nodules, palpable purpura, pyoderma gangrenosum like lesions.</p>
3050	Medicine	Pulmonary & Critical Care	<p>Ipratropium: more effective in pts with COPD (than asthma pts)</p> <p>Treatment for Exercise induced bronchoconstriction: short acting beta-adrenergic agonists e.g. albuterol, used 10-20 min before exercising</p>

			Bee stings cause anaphylaxis -> tx w/ *Intramuscular* epinephrine
3400	Medicine	Pulmonary & Critical Care	Intravenous epinephrine infusion carries greater risk for adverse effects so it's only reserved for pts who don't respond to intramuscular epinephrine High doses of dopamine act on beta 1 & alpha 1 adrenergic receptors. They can be used as an additional vasopressor for persistent hypotension
3433	Medicine	Pulmonary & Critical Care	In ARDS, mechanical ventilation w/ low tidal volumes & PEEP can improve oxygenation Hypoxemia is the major derangement in ARDS Low tidal volumes help prevent lung damage & decrease mortality rates in ARDS. A 6 ml/kg tidal volume is rec. Increasing the tidal volume further could result in barotrauma
3453	Medicine	Pulmonary & Critical Care	Solitary pulmonary nodule: first step is to obtain previous radiographic lung images (absence of growth over 2-3 years rules out malignancy) if previous films not available, CT should be performed
3474	Medicine	Pulmonary & Critical Care	Bronchiectasis: Presence of dilated bronchi on CT. Hemoptysis is a potential complication. Can result in right-sided heart failure by cor pulmonale.
3579	Medicine	Pulmonary & Critical Care	Goodpasture's disease affects the lungs (causing cough, dyspnea, & hemoptysis) & kidneys (causing nephritic range proteinuria, acute renal failure, & dysmorphic red cells/red cell casts on urinalysis). Systemic symptoms are uncommon. Diagnosis is made by renal biopsy showing linear IgG *antibodies along the glomerular basement membrane*
3580	Medicine	Pulmonary & Critical Care	Wegeners disease: sx- pt presents w/ combination of glomerulonephritis & upper and lower respiratory tract disease. Chest xray shows nodular densities & alveolar/pleural opacities. dx- made by *c-ANCA* positivity and tissue biopsy. tx- high dose corticosteroids & cytotoxic agents
3606	Medicine	Pulmonary & Critical Care	Warfarin dosing should be adjusted to maintain a goal INR appropriate for the condition being treated. For pts w/ idiopathic VTE or atrial fibrillation, a target INR of 2.0 to 3.0 provides adequate anticoagulation w/o an excessive risk of bleeding INR of 2.5 to 3.5 is desired in pts w/ prosthetic heart valves
3716	Medicine	Pulmonary & Critical Care	In all pts w/ COPD, the two modalities that have been shown to decrease mortality are home oxygen therapy & *smoking cessation*
3717	Medicine	Pulmonary & Critical Care	Acute pulmonary embolism: Pt w/ sudden onset of pleuritic chest pain, dyspnea, tachypnea, tachycardia, & hypoxemia after a period of prolonged immobilization. Early anticoagulation decreases mortality risk! Initiate early empiric anticoagulation in pts w/ high clinical suspicion of acute PE, even before pursuing confirmatory diagnostic testing Pts positive for PE but w/ contraindication to anticoagulation should undergo tx w/ IVC filter
3775	Medicine	Pulmonary & Critical Care	Nonseminomatous germ cell tumors produce both alpha fetoprotein and human chorionic gonadotropin tumor markers (seminomatous ones don't produce AFP) Large mediastinal mass w/ ass. elevations of AFP and B-hCG is diagnostic of a nonseminomatous germ cell tumor Bronchogenic cysts: congenital, arise due to abnormal development of foregut, appear as fluid filled or air/fluid filled cystic structures on imaging
3776	Medicine	Pulmonary & Critical Care	Pancoast syndrome: neoplasm in the pulmonary apex at the thoracic inlet can compress the inferior portion of the brachial plexus resulting in shoulder pain radiating in an ulnar distribution Carcinoid tumors are slow growing & have the best prognosis of all lung cancers. Carcinoid syndrome is a rare presentation Aspergilloma is usually mobile & moves w/ position. Dx made by finding hyphae in specimen
3846	Medicine	Pulmonary & Critical Care	The most common adverse effect of inhaled corticosteroid therapy is oropharyngeal thrush (oral candidiasis)
3859	Medicine	Pulmonary & Critical Care	Pts w/ likely pulmonary embolism (based off Wells criteria) should be further evaluated with computed tomography angiography (CTA) Compression ultrasonography should be initial test for diagnosing DVT
4009	Medicine	Pulmonary & Critical Care	pulmonary thromboembolism/pulmonary embolism: findings- large area of perfusion defect w/o ventilation defect. this is called a mismatched defect ct angiography is test of choice area of ventilation defect without perfusion defect suggests a respiratory problem
4017	Medicine	Pulmonary & Critical Care	Asthma: you see reversal of airway obstruction with bronchodilator use tx- inhaled corticosteroids COPD: only partial bronchodilator response tx- long acting anticholinergic inhaler

4024	Medicine	Pulmonary & Critical Care	Community acquired pneumonia(CAP): Sx-dyspnea,productive cough,fever,lung infiltrate on CXR Causes-S.pneumoniae,Haemophilus,atypical organisms(Mycoplasma) Tx-Empiric outpatient tx of healthy pts includes doxycycline or macrolides Hospitalized pts require extended spectrum fluoroquinolone(levofloxacin,moxifloxacin) OR a beta-lactam + macrolide
4032	Medicine	Pulmonary & Critical Care	Sleep apnea syndrome: dx- polysomnography Tx mild to moderate disorder-*weight reduction*, avoidance of sedatives & alcohol, avoidance of supine posture during sleep. Other tx modalities include uvulopalatopharyngoplasty & nasal CPAP during sleep. Tracheostomy used in pts w/ severe disorder & when other tx modalities have failed
4036	Medicine	Pulmonary & Critical Care	Glucocorticoids cause neutrophilia by increasing the bone marrow release & mobilizing the marginated neutrophil pool. Eosinophils & lymphocytes are decreased.
4039	Medicine	Pulmonary & Critical Care	Acute exacerbation of COPD: tx- antibiotics, esp in pts w/ 2 of 3 cardinal sx (increased dyspnea, cough, sputum production), moderate to severe exacerbation, or those needing mechanical ventilation. Recommended antibiotics- macrolides, fluoroquinolones, penicillins/beta-lactamase inhibitors Roflumilast: phosphodiesterase inhibitor w/ anti-inflammatory properties that help decrease mucociliary malfunction & pulmonary remodeling
4040	Medicine	Pulmonary & Critical Care	The use of noninvasive positive-pressure ventilation (NPPV) in pts w/ acute exacerbation of COPD has been shown to decrease mortality, rate of intubation, hospital length of stay, & incidence of nosocomial infections. Endotracheal intubation w/ mechanical ventilation rec for pts who fail a 2 hour trial of NPPV [NPPV refers to ventilatory support delivered by facemask rather than endotracheal tube]
4048	Medicine	Pulmonary & Critical Care	*Theophylline toxicity* can manifest as central nervous system stimulation(eg, headache,insomnia,seizures), gastrointestinal disturbances(eg,nausea,vomiting), & cardiac toxicity(arrhythmia,atrial tachycardia,supraventricular tachycardia,&/or ventricular arrhythmias). Inhibition of the cytochrome oxidase system by other medications(eg,ciprofloxacin), diet, or underlying disease can alter its narrow therapeutic window
4052	Medicine	Pulmonary & Critical Care	*Bronchogenic cysts are usually found in the middle mediastinum.* They are benign entities. Thymoma is usually found in the anterior mediastinum All neurogenic tumors(meningocele,enteric cysts,lymphomas,diaphragmatic hernias,esophageal tumors,aortic aneurysms) are located in the posterior mediastinum
4053	Medicine	Pulmonary & Critical Care	CHF causes transudative effusions.Transudative fluid has pleural fluid pH of 7.4-7.55(normal is 7.60) Exudates have: Pleural fluid protein/serum protein ratio >0.5 Pleural fluid lactate dehydrogenase(LDH)/serum LDH ratio >0.6 Pleural fluid LDH >2/3 of the upper limit of normal serum LDH Transudates/exudative effusion:pleural fluid glucose similar to blood glucose con. High pleural fluid amylase:due to pancreatitis ass. effusion or esophageal rupture(from saliva)
4065	Medicine	Pulmonary & Critical Care	Aspirin exacerbated respiratory disease:Non-IgE mediated reaction,results from aspirin induced prostaglandin/leukotriene misbalance (pseudoallergic reaction to NSAIDs).Seen in pts w/ hx of asthma or chronic rhinosinusitis w/ nasal polyposis.Sx-bronchospasm & nasal congestion following aspirin ingestion.Tx-avoid NSAIDs, desensitization if NSAIDs are required, use leukotriene receptor antagonists(eg, montelukast) Cell-mediated(delayed) hypersensitivity: prominent skin findings
4073	Medicine	Pulmonary & Critical Care	*Pleural fluid pH* is the most helpful lab test in determining the need for chest tube placement in parapneumonic effusion(usually occur from pneumonia). When the pH of the pleural fluid is < 7.2, the probability is very high that this fluid needs to be drained. Glucose of < 60mg/dL in pleural fluid is also an indication for tube thoracostomy. Infected pleural space is usually initially drained w/ a chest tube
4087	Medicine	Pulmonary & Critical Care	Undiagnosed pleural effusion is best evaluated w/ *thoracentesis*, except in pts w/ clear cut evidence of congestive heart failure.(Extremely H.Y. for USMLE!) [Bronchoscopy is a close alternative but requires sedation & is an invasive procedure. It'll be the next step if pleural fluid cytology is non-diagnostic & the pt has lung mass. If pleural fluid cytology is positive for lung cancer, then the pt doesn't require a bronchoscopy]
4097	Medicine	Pulmonary & Critical Care	All pts w/ suspected pneumonia should be assessed w/ a *chest x-ray*
4105	Medicine	Pulmonary & Critical Care	Indicators of a severe asthma attack include *normal PCO2*/increased PCO2 values, speech difficulty, diaphoresis, altered sensorium, cyanosis, & 'silent' lungs

			The main subtypes of COPD include predominant emphysema or chronic bronchitis:
4116	Medicine	Pulmonary & Critical Care	<p>Predominant emphysema- pts are generally thin w/ severe dyspnea, hyperinflated chest, decreased vascular markings, decreased DLCO(carbon monoxide diffusing capacity of the lung), & moderate oxygen desaturation</p> <p>Predominant chronic bronchitis- pts have chronic productive cough for >3 months over 2 consecutive years,prominent bronchovascular markings,normal DLCO,mildly flattened diaphragm</p>
4118	Medicine	Pulmonary & Critical Care	<p>Humoral immune deficiency: leads to impaired antibody production that usually presents w/ recurrent, severe, & upper & lower respiratory tract infections due to encapsulated bacteria</p> <p>Cell-mediated immunity: helps eliminate infected cells w/ pathogens that replicate intracellularly. Pts w/ depressed cell-mediated immunity present w/ infections from ordinarily benign viruses, opportunistic pathogens, or fungi</p>
4119	Medicine	Pulmonary & Critical Care	Pts w/ impaired consciousness, advanced dementia, & other neurologic disorders are predisposed to aspiration pneumonia due to impaired epiglottic function
4131	Medicine	Pulmonary & Critical Care	All COPD pts w/ PaO2 <55 mmHg or SaO2 <88% are candidates for long term home oxygen treatment. Pts w/ signs of pulmonary htn or hematocrit >55% should be started on home oxygen when the PaO2 <60 mmHg
4177	Medicine	Pulmonary & Critical Care	Primary pulmonary hypertension: Seen in middle aged pts, exertional breathlessness, lungs clear to auscultation, enlargement of pulmonary arteries on cxr, enlargement of right ventricle("enlarged right heart border")
4200	Medicine	Pulmonary & Critical Care	Sarcoidosis: underlying pathologic lesion is presence of noncaseating granuloma on tissue biopsy. Up to 30% of pts present initially w/ extrathoracic manifestations such as erythema nodosum(google x-ray of bilateral adenopathy seen in sarcoidosis)
4201	Medicine	Pulmonary & Critical Care	<p>Nonallergic rhinitis(NAR) aka vasomotor rhinitis: predominant nasal congestion or stuffiness(erythematous nasal mucosa), postnasal drip(dry cough), & no specific identifiable triggers. Depending on the severity of sx, pts should be tx w/ an intranasal antihistamine, *intranasal glucocorticoids*, or combo therapy</p> <p>Allergic rhinitis: pts have predominant eye sx, itching, & sneezing, along w/ specific identifiable triggers in most cases</p>
4208	Medicine	Pulmonary & Critical Care	<p>Elevated A-a gradient commonly seen in pts w/ pulmonary embolism</p> <p>Bibasilar opacities on CXR could be caused by pulmonary infarcts from pulmonary emboli, but bibasilar pneumonia or atelectasis would be more likely</p> <p>Hemothorax opacification on CXR would most likely be secondary to a very large pleural effusion or complete collapse of a lung, possibly secondary to a mucus plug in the mainstem bronchus. Side of tracheal deviation is helpful to distinguish among these etiologies</p>
4210	Medicine	Pulmonary & Critical Care	<p>Pulmonary aspergillosis: fungal balls(aspergilloma),most commonly in pre-existing lung cavities(eg,from prior TB infection).Southeast Asia is a TB endemic area</p> <p>Actinomycosis causes pneumonia in the lower lung fields. The pneumonia can progress to abscess & empyema w/ chest wall extension & rib osteomyelitis</p> <p>Bronchoalveolar carcinoma:grows along alveolar septa. Nodule or lobar consolidation</p> <p>Histoplasmosis imaging: calcified nodes,calcification on chest xray,solitary nodule</p>
4252	Medicine	Pulmonary & Critical Care	<p>Solitary pulmonary nodule is a lesion <3 cm that is completely surrounded by pulmonary parenchyma & has no ass. lymphadenopathy:</p> <p>Pt >60 years old w/ a 2 cm nodule w/ irregular margins & quit smoking <5 years ago is at high risk for malignancy. Such*Nodules should be surgically excised.*</p> <p>Lesions w/ low risk can be monitored w/ serial CT scans</p> <p>Lesions w/ intermediate risk for malignancy should undergo further imaging & biopsy depending on radiographic findings</p>
4297	Medicine	Pulmonary & Critical Care	<p>Cor pulmonale:Isolated right sided heart failure (RHF) from pulmonary htn,due to COPD.Sx of RHF-jvd,increased intensity of P2(pulmonic component of the 2nd heart sound),right ventricular heave,*hepatomegaly*,dependent pitting edema,ascites</p> <p>Coronary artery disease may cause left sided or biventricular cardiac failure w/ pulmonary congestion.Inferior wall MI may cause isolated right sided heart failure.Sx-chest pain,nausea,diaphoresis,hypotension,elevated jvd,clear lungs</p>
4335	Medicine	Pulmonary & Critical Care	<p>Comorbid GERD: Sx-sore throat, morning hoarseness, worsening cough at night, & increased need for albuterol inhaler following meals, recent weight gain/obesity also increases risk of developing GERD. Tx-PPI eg, *esomeprazole*</p> <p>The anticholinergic effect of diphenhydramine is useful in tx of chronic cough caused by rhinitis in pts w/ upper airway cough syndrome(UACS),previously known as postnasal drip syndrome</p>

4344	Medicine	Pulmonary & Critical Care	Pleuritic chest pain(pain increasing w/ inspiration) in the setting of prolonged immobility(recent travel), hemoptysis, dyspnea, tachypnea, tachycardia, & OCP use is concerning for pulmonary embolism(PE). 10% of pts w/ PE have occlusion of a peripheral pulmonary artery by thrombus, causing *pulmonary infarction*. CT pulm angiography used for dx
4387	Medicine	Pulmonary & Critical Care	A *consolidation* presents w/ dullness to percussion, bronchial breath sounds(assuming patent airways), & egophony Emphysema: lungs are hyper-resonant to percussion bilaterally. Breath sounds are vesicular & intensity of breath sounds is significantly decreased. Wheezing may be present Interstitial lung disease: lungs that are resonant on percussion & have vesicular breath sounds. Fine crackles heard at end of inspiration Obstructive sleep apnea(OSA): airflow impeded by upper airway obstruction, normal arterial blood gas
4413	Medicine	Pulmonary & Critical Care	Obesity hypoventilation syndrome(OHS) aka Pickwickian syndrome: obesity impedes expansion of the chest & abdominal wall during breathing, unventilation of the lungs during all hours -> chronically elevated PaCO2 & reduced PaO2(we WON'T have normal arterial blood gas here)
4467	Medicine	Pulmonary & Critical Care	Light's criteria states that pleural fluid is *exudative* if the fluid protein/serum protein ratio is >0.5, the fluid LDH/serum LDH is >0.6, or the pleural fluid LDH is >2/3 the upper limits of normal serum LDH.*Exudates are caused by increased capillary permeability(eg, infection,autoimmune disease,neoplasm)* while transudates are caused by increased hydrostatic pressure(eg, CHF) or decreased oncotic pressure(eg, liver failure)
4489	Medicine	Pulmonary & Critical Care	Obesity hypoventilation syndrome (OHS) aka Pickwickian syndrome: obesity (BMI>30 kg/m^2), daytime hypercapnia (PaCO2 >45mmHg), & alveolar hypoventilation. Arterial blood gas will show hypercapnia, hypoxemia, & respiratory acidosis as a result of altered lung mechanics due to obesity and *nocturnal hypoventilation.* Tx-weight loss & noninvasive positive pressure ventilation
4519	Medicine	Pulmonary & Critical Care	The 3 mcc of chronic cough are upper airway cough syndrome (postnasal drip), asthma, & GERD. The dx of upper-airway cough syndrome is confirmed by the elimination of *nasal discharge* & cough w/ the use of H1 histamine receptor antagonists
4520	Medicine	Pulmonary & Critical Care	In a pt w/ COPD presenting w/ catastrophic worsening of their respiratory sx, spontaneous secondary pneumothorax(due to dilated alveolar blebs that rupture air into pleural space) should always be suspected. Smoking increases risk of pneumothorax. Pts w/ pneumothorax present w/ acute onset of chest pain & shortness of breath Presence of coarse crackles bilaterally on physical exam is more consistent w/ CHF, while wheezes are more commonly heard in COPD
4521	Medicine	Pulmonary & Critical Care	Lung malignancies,CF,& right-to-left cardiac shunts are mcc of secondary digital clubbing.Presence of clubbing should prompt search for malignancy [COPD DOES NOT cause digital clubbing!] Hypertrophic osteoarthropathy:digital clubbing along w/ painful joint enlargement,periostosis of long bones,& synovial effusions Megakaryocytes entrap in fingertips->they release PDGF & VEGF->they increase connective tissue hypertrophy,capillary permeability & vascularity->clubbing
4523	Medicine	Pulmonary & Critical Care	In a pt w/ hx of food allergies & urticaria, laryngeal edema can cause sx of upper respiratory obstruction(dyspnea, difficulty swallowing). Pts w/ laryngeal edema present w/ acute-onset dyspnea. In a pt w/ sudden onset of severe shortness of breath, *upper airway obstruction* should be immediately ruled out Dysphagia is unusual for an asthma attack
4536	Medicine	Pulmonary & Critical Care	Acute pancreatitis can cause ARDS in 15% of pts. First step in the initial ventilator management of ARDS is to decrease the FiO2 to non-toxic values (<60%). PEEP may be increased as needed to maintain adequate oxygenation after the FiO2 is lowered. [In pts w/ ARDS, mechanical ventilation improves oxygenation by providing an increased fraction of inspired oxygen (FiO2) & by providing PEEP to prevent alveolar collapse] Normal paCO2=normal ventilation
4562	Medicine	Pulmonary & Critical Care	Sepsis(fever,confusion,decreased food intake,blood cultures positive for E.coli) is a common cause of ARDS.AARDS causes hypoxemia refractory to high inspired oxygen concentrations.Adequate oxygenation in ARDS often requires *PEEP* delivered via mechanical ventilation. [High FiO2 is contraindicated due to risk of pulmonary oxygen toxicity. Goal should be to keep the FiO2 below 40% at all times. Reduce a pt's FiO2 by first increasing oxygenation via increasing PEEP]
4566	Medicine	Pulmonary & Critical Care	Acute bronchitis: viral common cause of blood tinged sputum(due to erosion of superficial blood vessels) tx- supportive care (assuming no signs of serious disease present) Flexible bronchoscopy useful in emergent management of major, life threatening hemoptysis. Non-emergent bronchoscopy may be used both as a diagnostic tool to find the cause of hemoptysis and as a therapeutic tool to treat the source of bleeding

4568	Medicine	Pulmonary & Critical Care	<p>Empyema can be caused by direct inoculation of bacteria into the pleural space during surgical procedures. The bacterial causes of empyema mirror those that cause pneumonia, namely <i>Streptococcus pneumoniae</i>, <i>Staphylococcus aureus</i> & <i>Klebsiella pneumoniae</i>.</p> <p>Tx- drainage & antibiotics</p> <p>Bronchopleural fistula is a possible cause of empyema. Typically occurs following surgical procedures involving the bronchi (eg. pneumonectomy), recurrent pneumothoraces, sequela of infection</p>
4569	Medicine	Pulmonary & Critical Care	Acute exacerbation of chronic obstructive pulmonary disease: exam shows wheezes, prolonged expiration, crackles at lung bases, & use of accessory muscles
4570	Medicine	Pulmonary & Critical Care	<p>CHF: risk factors-hx of coronary artery disease, htn, smoking hx, bibasilar crackles, decreased breath sounds at the bases(due to pleural effusions from CHF), wheezing sometimes (cardiac asthma), hypoxia, hypocapnia, respiratory alkalosis</p> <p>COPD: you get respiratory acidosis</p>
4575	Medicine	Pulmonary & Critical Care	<p>Ankylosing spondylitis: Low back pain in young dude, improves w/ exercise but not w/ rest, pain at night, limited chest expansion & spinal mobility, elevated ESR. Pulmonary function tests show a mildly restrictive pattern w/ reduced vital capacity & total lung capacity but normal FEV1/FVC. FRC & RV are normal or increased</p> <p>Pulmonary fibrosis: restrictive pattern, reduced FVC & FEV1, normal or increased FEV1/FVC ratio. FRC, TLC, & RV also reduced</p>
4596	Medicine	Pulmonary & Critical Care	<p>Evaluation of a solitary pulmonary nodule detected on CXR includes comparison w/ old imaging studies, if available, followed usually by *chest computed tomography*</p> <p>Bronchoscopy can be used to biopsy accessible lesions(central lesions)</p> <p>Percutaneous biopsy rec. for lesions that appear malignant & in pts w/ high clinical suspicion for malignancy. CT helps evaluate whether lesion can be accessed percutaneously w/o risk for pneumothorax</p>
4613	Medicine	Pulmonary & Critical Care	<p>Sudden onset dyspnea, chest pain, & tachycardia w/ a hemorrhagic, exudative pleural effusion & absence of consolidation on chest imaging suggest pulmonary embolism (PE)</p> <p>Light's criteria defines exudate as having at least one of the following:</p> <ul style="list-style-type: none"> -Pleural fluid protein/serum protein ratio >0.5 -Pleural fluid LDH/serum LDH >0.6 -Pleural fluid LDH >2/3 of the upper limit of normal for serum LDH
4617	Medicine	Pulmonary & Critical Care	<p>*Tx of mild persistent asthma(Sx >2 days/week,3-4 nighttime awakenings/month):PRN albuterol inhaler & inhaled corticosteroids*</p> <p>Tx of moderate persistent asthma(sx daily,weekly nighttime awakenings):PRN albuterol inhaler,low dose inhaled corticosteroids,long-acting inhaled beta 2 agonist inhaler</p> <p>Tx of severe persistent asthma(sx throughout day,frequent nighttime awakenings):PRN albuterol inhaler,long acting beta 2 agonist inhaler,high dose inhaled corticosteroids</p>
4628	Medicine	Pulmonary & Critical Care	<p>A negative D-dimer (a type of fibrin split product) is very helpful in excluding the dx of pulmonary venous thromboembolism in low risk pts</p> <p>Chest xray findings in PE pts: pleural based densities representing lung infarction (Hampton's hump) & prominent central pulmonary artery w/ local oligemia (Westermarck's sign). Not that useful for dx of PE since many PE pts have normal xrays</p> <p>Venous ultrasonography sensitive & specific for dx dvt but only 70% of PE pts have dvts</p>
4629	Medicine	Pulmonary & Critical Care	For anticoagulation, *unfractionated heparin* is preferred over low-molecular-weight heparin, fondaparinux, & rivaroxaban in pts w/ severe renal insufficiency (estimated glomerular filtration rate <30 mL/min/1.73m ²) as reduced renal clearance increases anti-Xa activity levels & bleeding risk
4631	Medicine	Pulmonary & Critical Care	Pt w/ SOB & low grade fever w/ right middle lobe infiltrate & right-sided pleural effusion(pleural effusions common in pts w/ pneumonia) suggests underlying *pneumonia* w/ complicated parapneumoic effusion(complicated cuz of bacterial invasion.Pleural fluid w/ very low pH [<7.2] & glucose [<60 mg/dL]). They require drainage(eg,chest tube) in addition to abx
4632	Medicine	Pulmonary & Critical Care	<p>Right mainstem bronchus intubation is a common complication of endotracheal intubation.It causes asymmetric chest expansion during inspiration and markedly decreased or absent breath sounds on the left side on auscultation.Repositioning the endotracheal tube by pulling back slightly will move the tip between the carina & vocal cords & solve the problem.Look for decreased breath sounds immediately after intubation in question stem.</p> <p>Tension pneumothorax tx-needle thoracostomy</p>
4645	Medicine	Pulmonary & Critical Care	<p>Alveolar-capillary membrane is the site of respiratory gas exchange. This membrane is destroyed in COPD, resulting in increased lung distensibility & compliance. [lung distensibility is decreased in pulmonary fibrosis]</p> <p>Respiratory muscle fatigue occurs in diseases like botulism, Guillain Barre syndrome, amyotrophic lateral sclerosis, & myasthenia gravis</p>

4663	Medicine	Pulmonary & Critical Care	Obesity hypoventilation syndrome: long term consequence of severe obesity & untreated obstructive sleep apnea. It causes pulmonary hypertension w/ cor pulmonale, secondary erythrocytosis, hypoxia, chronic hypercapnia(due to persistent hypoventilation) & respiratory acidosis. In a compensatory effort to maintain a normal pH, *the kidney increases bicarbonate retention & decreases chloride reabsorption*
4665	Medicine	Pulmonary & Critical Care	COPD pts have increased total lung capacity, functional residual capacity, & residual volume leading to hyperinflation & diaphragmatic flattening. Flattening of the diaphragm increases the work of breathing In COPD, pulmonary compliance is increased due to loss of alveolar & elastic tissue. In contrast, pts w/ restrictive lung disease have decreased lung compliance.
4667	Medicine	Pulmonary & Critical Care	Inhaled anti-muscarinic agents/*Muscarinic antagonists* such as ipratropium are the mainstay of sx management in COPD. These anti-cholinergic meds can be combined w/ short acting beta adrenergic agonists(eg,albuterol) for greater sx relief a-blockers tx benign prostatic hypertrophy & htn Dopamine agonists tx parkinsons, prolactinomas, & restless leg syndrome a2-adrenergic agonists: Clonidine & methyl dopa tx htn. Dexmedetomidine is used for sedation in the ICU
4677	Medicine	Pulmonary & Critical Care	Hypoventilation is a major cause of respiratory acidosis & may occur in the post-ictal state Renal failure commonly results in a metabolic acidosis, which is eventually compensated by a mild respiratory alkalosis. ABG in renal failure shows a low pCO2 & low bicarbonate level Vomiting induces a metabolic alkalosis due to loss of acid gastric secretions. This causes a high pH & elevated serum HCO3 concentrations
4689	Medicine	Pulmonary & Critical Care	*Secondary malignancy* is common in pts w/ Hodgkin lymphoma tx w/ chemotherapy & radiation Pulmonary emboli classically present w/ sudden onset pleuritic chest pain, cough, dyspnea, and hemoptysis. Low grade fever & mild leukocytosis also common. Chest CT showing a wedge-shaped infarction(google pic!) is pathognomonic for pulmonary embolism.
4690	Medicine	Pulmonary & Critical Care	Pneumocystis pneumonia: occurs in pts w/ CD4+ counts <200/uL. Imaging shows diffuse interstitial pattern Bacterial pneumonia: Alveolar infiltrates may be seen Lung cancer: rounded/spiculated mass
4692	Medicine	Pulmonary & Critical Care	Lung consolidation causes dullness to percussion and increased fremitus
4706	Medicine	Pulmonary & Critical Care	In pts w/ acute asthma exacerbation, an elevated or even normal arterial partial pressure of carbon dioxide suggests decreased respiratory drive (likely due to respiratory muscle fatigue) & impending respiratory failure. In these pts, tx involves *endotracheal intubation* & mechanical ventilation, inhaled short acting beta 2 agonist, inhaled ipratropium, & systemic corticosteroids Epinephrine is indicated in bronchospasm ass. w/ anaphylaxis
4713	Medicine	Pulmonary & Critical Care	The plateau pressure is the pressure measured during an inspiratory hold maneuver Plateau pressure = elastic pressure + PEEP Because elastic recoil is inversely related to *lung compliance*, the elastic pressure can be calculated as tidal volume/*compliance*
4716	Medicine	Pulmonary & Critical Care	Massive Pulmonary embolism: risk factor- pt w/ underlying malignancy(prothrombotic state) can get this sx- dyspnea, chest pain, tachycardia, hypoxia, clear lungs, pt w/ massive PR can have syncope, high jugular venous pressure, right ventricular dilation/obstruction, increased pulmonary vascular resistance, hypoinesis of right ventricle
4717	Medicine	Pulmonary & Critical Care	Pneumonia(pt w/ hypoxia,fever,mucosal candidiasis[suggesting an immunosuppressed state]) causes a *ventilation/perfusion mismatch*, as indicated by an increased alveolar-arterial oxygen gradient. [Fever induces a hyperdynamic state, & an audible flow murmur(soft crescendo/decrecendo systolic murmur) may be heard. Inflammation of the alveolar membrane & interstitium impairs gas exchange. Areas of ventilation/perfusion(V/Q) mismatch develop, & the A-a gradient increases]
4718	Medicine	Pulmonary & Critical Care	*Supplemental oxygen in pts w/ advanced COPD can worsen hypercapnia* due to a combo of increased dead space perfusion causing ventilation-perfusion mismatch, decreased affinity of oxyhemoglobin for CO2, & reduced alveolar ventilation.[The hypercapnia causes reflex cerebral vasodilation & may induce seizures].The goal oxyhemoglobin saturation in these pts is 90%-93%
4730	Medicine	Pulmonary & Critical Care	Acute exacerbation of COPD: IV glucocorticoids (eg, methylprednisolone) rec. for severe exacerbations & for pts unable to take oral meds Inhaled corticosteroids indicated for long term management of asthma. Their role in COPD is less beneficial, except as maintenance therapy in pts w/ advanced disease. Also ass. w/ slightly increased risk of pneumonia & fractures from long term use Long acting B2 agonists used in maintenance therapy of COPD. Not rec. for acute exacerbations

4753	Medicine	Pulmonary & Critical Care	<p>Empyemas:exudative effusions w/ low glucose concentration due to *high metabolic activity of leukocytes & bacteria within pleural fluid*</p> <p>[Pleural fluid glucose <60 mg/dL usually due to rheumatoid pleurisy,complicated parapneumonic effusion or empyema,malignant effusion,tuberculous pleurisy,lupus pleuritis,or esophageal rupture.Pleural glucose <30 mg/dL suggests an empyema or rheumatic effusion]</p> <p>Exudative effusion:low pleural glucose,high pleural LDH</p>
4770	Medicine	Pulmonary & Critical Care	<p>Early phases of acute pneumonia w/ consolidation can have persistent blood flow to areas w/ impaired ventilation. This leads to a *physiologic intrapulmonary (right-to-left) shunt* & arterial hypoxemia[consolidated regions act as a physiologic shunt, increasing delivery of deoxygenated blood to the left heart & reducing systemic arterial oxygenation saturation]. Positioning of pt w/ the affected lung in the dependent position can worsen this shunt</p>
4772	Medicine	Pulmonary & Critical Care	<p>Acute massive pulmonary embolism can present initially w/ syncope & shock. Right heart catheterization in pts w/ massive pulmonary embolism will show elevated right atrial & pulmonary artery pressures, along w/ normal pulmonary capillary wedge pressure</p>
4863	Medicine	Pulmonary & Critical Care	<p>Normal or increased FEV1/FVC ratio w/ a low VC is seen in restrictive lung disease</p> <p>DLco is decreased w/ interstitial lung disease</p>
4864	Medicine	Pulmonary & Critical Care	<p>Bronchiectasis ass. w/ hx of recurrent respiratory tract infections & chronic cough w/ daily production of copious mucopurulent sputum</p> <p>Chronic bronchitis: chronic productive cough for 3 months in 2 successive years, with cigarette smoking as the leading cause</p>
8815	Medicine	Pulmonary & Critical Care	<p>Postnasal drip, GERD, & asthma account for >90% of chronic cough in nonsmokers who do not have pulmonary disease. For pts w/ suspected postnasal drip initial empiric tx includes oral 1st-generation antihistamine (chlorpheniramine) or combined antihistamine-decongestant (brompheniramine & pseudoephedrine)</p>
8818	Medicine	Pulmonary & Critical Care	<p>*Pleural Effusion:decreased fremitus,dullness to percussion,decreased breath sounds,mediastinal shift away from effusion</p> <p>Pneumothorax: decreased tactile fremitus, hyperresonant to percussion,decreased breath sounds,mediastinal shift(small:none tension:away from pneumothorax)</p> <p>Consolidation:increased fremitus,dullness to percussion,presence of crackles,bronchial breath sounds,bronchophony,egophony,pectoriloquy</p> <p>COPD:decreased fremitus,hyperresonant,decreased breath sounds</p>
8905	Medicine	Pulmonary & Critical Care	<p>Reversible airway obstruction/positive bronchodilator response(>12% increase/improvement in FEV1) combined w/ sx like dyspnea,wheezing,& cough w/ normal diffusion capacity for carbon monoxide suggests *asthma* regardless of age</p>
10982	Medicine	Pulmonary & Critical Care	<p>If pt has chronic cough that worsens overnight and doesn't improve w/ antihistamine therapy, suspect asthma as the cause.</p> <p>Evaluate w/ spirometry to assess bronchodilator response.</p> <p>If no bronchodilator response, perform methacholine challenge test.</p> <p>Alternatively, we can treat pt w/ glucocorticoids and if their cough improves, diagnosis of asthma can be made.</p>
11417	Medicine	Pulmonary & Critical Care	<p>Hypothermia tx: active external rewarming & warmed iv fluids. Bradycardia of hypothermia improves w/ correction of hypothermia</p> <p>IV magnesium sulfate used to treat polymorphic ventricular tachycardia ass. w/ acquired QT prolongation (torsades de pointes)</p>
11669	Medicine	Pulmonary & Critical Care	<p>Aspiration pneumonitis: acute lung injury due to chemical burn from (witnessed) aspirated sterile gastric contents presents hours after aspiration no sx, nonproductive cough, tx- supportive</p> <p>Aspiration pneumonia: infectious disease caused by aspiration of infected oropharyngeal secretions presents days after (unwitnessed) aspiration event fever, cough, sputum production tx- clindamycin or B-lactam & B-lactamase inhibitor</p>
2165	Medicine	Renal, Urinary Systems & Electrolytes	<p>Primary hyperparathyroidism (PHP) or familial hypocalciuric hypercalcemia (FHH;it's due to abnormal calcium-sensing receptors on parathyroid cells & renal tubules) can cause hypercalcemia secondary to an elevated or inappropriately "normal" parathyroid hormone level. Urinary calcium creatinine clearance ratio is usually <0.01 in FHH compared to >0.02 in PHP</p>

2167	Medicine	Renal, Urinary Systems & Electrolytes	<p>The most common causes of hyperkalemia include acute or chronic kidney disease, *medications*, or disorders impairing the renin-angiotensin axis. Common offending medications include nonselective beta-adrenergic blockers, potassium-sparing diuretics(eg, triamterene), angiotensin-converting-enzyme inhibitors, angiotensin II receptor blockers, & nonsteroidal anti-inflammatory drugs</p> <p>Uncontrolled hyperglycemia due to insulin deficiency can shift K⁺ out of cells to cause hyperkalemia</p>
2169	Medicine	Renal, Urinary Systems & Electrolytes	<p>*IV saline hydration*: immediate tx of choice for pts w/ symptomatic moderate/severe hypercalcemia</p> <p>Hemodialysis(or peritoneal dialysis) w/ calcium free dialysate: for pts w/ severe hypercalcemia in the setting of renal insufficiency &/or heart failure in whom adequate hydration can't be administered safely</p> <p>Corticosteroids: useful for tx hypercalcemia in chronic granulomatous disorders. Reduce calcitriol production by activated mononuclear cells in the lungs/lymph nodes</p>
2180	Medicine	Renal, Urinary Systems & Electrolytes	<p>SIADH: low plasma osmolality (<280 mOsm/Kg) w/ high urine osmolality (>100-150 mOsm/Kg) is diagnostic</p> <p>NSAID therapy can cause SIADH. NSAIDs potentiate the action of ADH</p>
2181	Medicine	Renal, Urinary Systems & Electrolytes	<p>Asymptomatic pts or pts with mild sx from SIADH usually respond to fluid restriction and salt tablets. Severe symptomatic hyponatremia requires tx w/ *hypertonic (3%) saline* [effective management of SIADH requires infused fluid to have higher electrolyte concentration than the urine & plasma]</p> <p>D5W is a hypotonic solution used to tx hyponatremia</p>
2182	Medicine	Renal, Urinary Systems & Electrolytes	<p>*Intravenous normal (.9%) saline is preferred for treating hypovolemic hyponatremia.* The fluid can be switched to a hypotonic fluid (5% dextrose in water preferred over .45% saline) for free water supplementation once the pt is euvolemic</p> <p>Hemodialysis indicated for serum lithium level >4 mEq/L or lithium level >2.5 mEq/L plus signs of lithium toxicity (eg, seizures, depressed mental status) or inability to excrete lithium (eg, renal disease, decompensated heart failure)</p>
2183	Medicine	Renal, Urinary Systems & Electrolytes	<p>Development of nephropathy is preceded by development of excessive protein excretion, the initial stages of which is termed microalbuminuria. *Spot urine collection & timed urine collection* for the measurement of urine *microalbumin to creatinine ratio* are accepted as good screening methods for microalbuminuria</p>
2219	Medicine	Renal, Urinary Systems & Electrolytes	<p>Hepatorenal syndrome is seen in pts w/ severe liver cirrhosis secondary to systemic & renal hypoperfusion. Pts have acute renal failure (creatinine >1.5 mg/dL) w/ a very low urine sodium level, typically <10 mEq/L, & an absence of blood, casts, or protein in urine. Renal function doesn't improve w/ intravenous fluid resuscitation</p> <p>Membranoproliferative glomerulonephritis is ass w/ hepatitis C infection</p> <p>Interstitial nephritis presents w/ eosinophils or leukocytes in the urine</p>
2221	Medicine	Renal, Urinary Systems & Electrolytes	<p>Renal cell carcinoma: sx- look for unilateral varicocele that fails to empty when pt is recumbent. It obstructs venous flow. dx- *CT scan of the abdomen* is most sensitive and specific test for dx RCC!</p>
2223	Medicine	Renal, Urinary Systems & Electrolytes	<p>Focal segmental glomerulosclerosis (FSGS) is more common in African American pts & in those w/ obesity, heroin use, & HIV</p> <p>IgA nephropathy: hematuria following an upper respiratory infection</p> <p>Minimal change disease: more common in children. In adults, it's ass. w/ NSAID use & lymphoma(usually Hodgkin)</p>
2227	Medicine	Renal, Urinary Systems & Electrolytes	<p>If pt presents w/ his first renal stone, a detailed metabolic eval is not needed. Just do hydration tx. Stones <5mm pass spontaneously w/ conservative management, which includes fluid intake > 2L daily</p> <p>Pt w/ recurrent renal stones: 24 hour urine is collected to identify underlying metabolic disorder</p> <p>Recurrent stone formation due to citrate deficiency: tx- Potassium citrate</p> <p>Recurrent calcium stone due to hyperoxaluria: tx- restriction of dietary oxalate</p>
2228	Medicine	Renal, Urinary Systems & Electrolytes	<p>75% to 90% of the kidney stones are composed of calcium oxalate</p> <p>Calcium phosphate stones are common in primary hyperparathyroidism & renal tubular acidosis</p>
2229	Medicine	Renal, Urinary Systems & Electrolytes	<p>Suspect myoglobinuria whenever test results demonstrate a large amount of blood on urinalysis w/ a relative absence of RBCs on urine microscopy. Myoglobinuria is usually caused by *rhabdomyolysis*, which frequently leads to acute renal failure</p>
2230	Medicine	Renal, Urinary Systems & Electrolytes	<p>IgA nephropathy: mcc of glomerulonephritis in adults(esp young adult men age 20-30). Recurrent episodes of gross hematuria, usually within 5 days after an upper respiratory tract infection(sypharyngitic). Normal serum complements</p> <p>Postinfectious glomerulonephritis: gross hematuria, 10-21 days after URI(post-pharyngitic), more common in children. Adults asymptomatic or develop acute nephritic syndrome. Labs-low C3 complement & elevated anti-streptolysin O &/or anti-DNAse B</p>

2232	Medicine	Renal, Urinary Systems & Electrolytes	<p>Cryoglobulinemia/Mixed cryoglobulinemia: palpable purpura, glomerulonephritis, arthralgias, hepatosplenomegaly, peripheral neuropathy, hypocomplementemia, & non-specific systemic sx. Most pts also have Hepatitis C. Other sx include proteinuria & hematuria</p> <p>Henoch Schonlein purpura: palpable purpura on butt, ab pain, arthralgias, proteinuria & hematuria w/ RBC casts on UA. Normal complement levels. Not ass w/ HCV!</p>
2235	Medicine	Renal, Urinary Systems & Electrolytes	<p>Uncomplicated cystitis: sx-dysuria, urinary frequency, suprapubic tenderness. Pts CAN BE TX W/O URINE CULTURE, which may be done later in those who fail initial therapy. UA confirms dx. Tx-oral TMP/SMX, *Nitrofurantoin*, fosfomycin</p> <p>Complicated cystitis: ass. w/ infections. Tx-Fluoroquinolones, extended-spectrum abx(ampicillin/gentamicin/ceftriaxone)for severe cases. Urine culture b4 tx</p> <p>Pyelonephritis: Outpt tx-Fluoroquinolones. Inpt tx-IV abx(fluoroquinolone, aminoglycoside +/-ampicillin)</p>
2241	Medicine	Renal, Urinary Systems & Electrolytes	<p>Post-streptococcal glomerulonephritis is seen 10-20 days after streptococcal throat or skin infections. Presenting features may include periorbital swelling, hematuria & oliguria. The pt may be hypertensive & urinalysis shows hematuria w/ RBC casts & proteinuria. Serum C3 complement levels are low</p> <p>Drug-induced interstitial nephritis: RBC casts are RARE</p>
2242	Medicine	Renal, Urinary Systems & Electrolytes	<p>Drug-induced interstitial nephritis occurs w/ many drugs such as penicillins, cephalosporins & sulfonamides. Clinical features include fever, rash & arthralgias. Other features are peripheral eosinophilia, hematuria, sterile pyuria & eosinophiluria. WBC casts may be present in the urine, but red cell casts are rare. Discontinuing the offending agent is tx of drug induced interstitial nephritis</p> <p>Oral ciprofloxacin or IV ampicillin & gentamicin are used to tx acute pyelonephritis</p>
2243	Medicine	Renal, Urinary Systems & Electrolytes	Renal vein thrombosis (sx- abdominal pain, fever, & hematuria) is a complication of all causes of nephrotic syndrome. However, it's most commonly ass. w/ *membranous glomerulopathy*
2244	Medicine	Renal, Urinary Systems & Electrolytes	<p>Nephrotic syndrome -> alterations in lipid metabolism -> increased risk for accelerated *atherosclerosis*/hypercoagulable state -> risk of stroke/mi</p> <p>tx- statins or meds to lower cholesterol levels</p>
2324	Medicine	Renal, Urinary Systems & Electrolytes	<p>Uric acid stones: Pts can develop ileus(due to vagal reaction caused by ureteral colic). Needle shaped crystals on urinalysis. Radiolucent. Evaluated by *CT of abdomen*, ultrasonography, or intravenous pyelography. Ileus will resolve when ureterolithiasis is treated</p> <p>Enteroclysis is used to dx small bowel tumors & other pathology, which can cause intestinal obstruction</p>
2633	Medicine	Renal, Urinary Systems & Electrolytes	<p>Severe symptomatic hypercalcemia(calcium >14 mg/dL): 1st step in management is *vigorous hydration w/ IV normal saline*. [Hemodialysis w a calcium-free dialysate is tx of last resort. Used when pt doesn't improve after medical tx]</p> <p>Asymptomatic/mild hypercalcemia (<12 mg/dL) doesn't require immediate aggressive therapy</p> <p>Bisphosphonates used for long-term management of hypercalcemia of malignancy</p> <p>Glucocorticoids effective in tx vit D related hypercalcemia(sarcoidosis, lymphoma)</p>
2657	Medicine	Renal, Urinary Systems & Electrolytes	<p>Causes of hyponatremia include SIADH secretion & primary polydipsia. Primary polydipsia more common in pts w/ psych conditions(schizophrenia), possibly due to central defect in thirst regulation. Pts develop hyponatremia & dilute urine w/ urine osmolality <100 mOsm/kg. Those w/ sig hyponatremia can develop confusion, lethargy, psychosis & seizures</p> <p>Serum osmolality >290 mOsm/kg suggests either marked hyperglycemia or advanced renal failure as likely causes of hyponatremia</p>
2786	Medicine	Renal, Urinary Systems & Electrolytes	Classic causes of metabolic acidosis can be recalled using the mnemonic MUDPILES (anion-gap): Methanol, Uremia (renal failure), DKA, Paraldehyde, INH, Lactic acidosis, Ethylene glycol, Salicylates. Diarrhea & renal tubular acidosis are other causes (non-anion gap)
2787	Medicine	Renal, Urinary Systems & Electrolytes	<p>In any pt, the pH & PaCO₂ are the two lab values that provide the best picture of acid-base status; the HCO₃ can be calculated from these values using the Henderson-Hasselbalch equation</p> <p>Anion gap= Measured cations (positive charge) - Measured anions (negative charge)</p>
2793	Medicine	Renal, Urinary Systems & Electrolytes	<p>Anion gap= Na⁺ - (HCO₃⁻ + Cl⁻)</p> <p>Normal anion gap is <11. So lets say the calculated anion gap is 38; that's considered an abnormally elevated value! We can therefore conclude that w/ a value of 38 we have an "Anion gap metabolic acidosis"(as opposed to non-anion gap metabolic acidosis)</p> <p>Plasma anion gap must always be calculated in pts w/ metabolic acidosis</p>
2798	Medicine	Renal, Urinary Systems & Electrolytes	<p>AG = Na - (HCO₃ + Cl)</p> <p>Normal AG is between 6 & 12 mEq/L. Increase in the AG indicates presence of non-chloride acids that contain inorganic, organic, exogenous or unidentified anions. Finding an increased anion gap narrows the differential dx of metabolic acidosis to a few common causes (Lactic acidosis, ketoacidosis, methanol ingestion, ethylene glycol infestation, salicylate poisoning, uremia[ESRD])</p>

2799	Medicine	Renal, Urinary Systems & Electrolytes	<p>Ethylene glycol (anti-freeze) poisoning: calcium oxalate crystals (rectangular, envelope-shaped crystals) are seen</p> <p>Ethylene glycol, methanol, & ethanol intoxication cause metabolic acidosis w/ both an anion gap & an osmolar gap</p> <p>Methyl alcohol poisoning can cause visual changes ("snowfield vision") & acute pancreatitis</p> <p>Uremia(renal failure) causes an anion gap metabolic acidosis due to failure to excrete acids as NH₄⁺</p>
2803	Medicine	Renal, Urinary Systems & Electrolytes	<p>Aspirin intoxication should be suspected in a pt w/ the triad of fever, tinnitus, & tachypnea. Adults w/ aspirin toxicity develop a mixed respiratory alkalosis & anion gap metabolic acidosis. A normal pH in an acid-base disturbance typically signifies a mixed respiratory & metabolic acid-base disorder</p>
2810	Medicine	Renal, Urinary Systems & Electrolytes	<p>Type 4 renal tubular acidosis(hyperkalemic renal tubular acidosis) characterized by non-anion gap metabolic acidosis(low bicarbonate),hyperkalemia,& mild to moderate renal insufficiency.Occurs in pts w/ poorly controlled diabetes</p> <p>Pre-renal azotemia(renal hypoperfusion): BUN/creatinine ratio is more than 20:1 due to increased urea absorption.Renal perfusion is due to either systemic hypovolemia or impaired cardiac output</p> <p>ASS PP:Aldosterone Saves Sodium & Pushes Potassium out</p>
2813	Medicine	Renal, Urinary Systems & Electrolytes	<p>Recurrent vomiting causes depletion of fluid,acid,& sodium chloride,leading to metabolic alkalosis,activation of RAAS,& urinary K⁺ loss.Volume resuscitation w/ normal saline corrects contraction alkalosis.Hypokalemia should be tx as well</p> <p>Acetazolamide:diuretic,inhibits proximal renal bicarb reabsorption,used in pts w/ hypervolemia & metabolic alkalosis</p> <p>IV sodium bicarb tx severe metabolic acidosis</p> <p>Propranolol:prophylaxis of variceal hemorrhage in pts w/ liver cirrhosis</p>
2817	Medicine	Renal, Urinary Systems & Electrolytes	<p>Tuberculosis: sx- fever, cough, upper lobe cavitory lesion, fatigue, weakness, hypotension, hyperkalemia, hypoglycemia, & eosinophilia. TB can cause chronic primary adrenal insufficiency in endemic areas(eg Russia). Primary adrenal insufficiency (Addison's disease) causes aldosterone deficiency and presents with a *non-anion gap & hyperkalemic & hyponatremic metabolic acidosis*</p> <p>Metabolic alkalosis most commonly occurs w/ vomiting</p>
2819	Medicine	Renal, Urinary Systems & Electrolytes	<p>Saline responsive metabolic alkalosis: ass. w/ low urinary chloride excretion (<20mEq/L) & volume contraction, & corrects w/ saline infusion alone(e.g. vomiting/nasogastric aspiration, diuretic use)</p> <p>Saline unresponsive metabolic alkalosis: typically presents w/ a higher level of urinary chloride (>20 mEq/L) (e.g. Bartter & Gitelman syndromes, Excess mineralocorticoid activity such as primary hyperaldosteronism, cushing disease, ectopic ACTH production)</p> <p>Aspirin intoxication causes a mixed respiratory alkalosis and metabolic acidosis</p>
2820	Medicine	Renal, Urinary Systems & Electrolytes	<p>Asthma exacerbation usually leads to an acute respiratory alkalosis due to tachypnea</p> <p>Persistent vomiting causes hypochloremic metabolic alkalosis resulting from H⁺ losses in the gastric contents</p>
2821	Medicine	Renal, Urinary Systems & Electrolytes	<p>Postictal lactic acidosis can occur following a grand mal(tonic-clonic) seizure.It's a transient anion gap met acidosis that *resolves w/o tx within 60 to 90 min following resolution of seizure activity*</p> <p>Bicarb in tx lactic acidosis/ketoacidosis is controversial.Rec only in severe acute acidosis(pH<7.2).Full correction w/ bicarb shouldn't be sought;only sufficient amount of bicarb should be given to correct pH to 7.2</p>
2826	Medicine	Renal, Urinary Systems & Electrolytes	<p>*Loop diuretics* are frequently administered to cirrhotic pts w/ volume overload & ascites. Potential side effects include hypokalemia, metabolic alkalosis, & prerenal kidney injury</p> <p>Acute kidney injury causes an anion gap metabolic acidosis & hyperkalemia</p> <p>Bowel ischemia results in an anion gap acidosis from increased circulating lactate</p>
2958	Medicine	Renal, Urinary Systems & Electrolytes	<p>Mixed cryoglobulinemia ass. w/ hepatitis C:</p> <p>sx- arthralgia, palpable purpura, elevated transaminases (ast and alt), increased rheumatoid factor</p> <p>dx- confirmed serologically (serum cryoglobulins, low complement levels) or w/ kidney/skin biopsy</p>
3061	Medicine	Renal, Urinary Systems & Electrolytes	<p>Drug induced interstitial nephritis: pts present w/ arthralgias, rash, renal failure & urinalysis will show eosinophiluria</p>
3085	Medicine	Renal, Urinary Systems & Electrolytes	<p>Diuretic abuse leads to increased excretion of water & electrolytes by the kidneys. Dehydration, weight loss, orthostatic hypotension as well as hypokalemia & hyponatremia result. Urinary sodium & potassium will be elevated. Pts w/ eating disorders sometimes abuse diuretics to induce weight loss</p>

3228	Medicine	Renal, Urinary Systems & Electrolytes	<p>Surreptitious vomiting: sx- scars/calluses on dorsum of hands & dental erosions. Causes hypokalemic alkalosis. LOW urine chloride concentration</p> <p>Pts w/ diuretic abuse & Bartter/Gitelman's syndrome may also present w/ hypokalemia, alkalosis & normotension, but their urine chloride concentrations are HIGH</p> <p>Pts w/ chronic diarrhea have metabolic acidosis & hypokalemia. Metabolic acidosis occurs due to loss of bicarbonate in the stool</p>
3336	Medicine	Renal, Urinary Systems & Electrolytes	<p>Pts w/ severe benign prostatic hyperplasia can eventually progress to urinary obstruction & renal failure. A *renal ultrasound* is advised for assessment of hydronephrosis & worsening kidney function</p>
3435	Medicine	Renal, Urinary Systems & Electrolytes	<p>Oxalate absorption is increased in Crohn disease & all other intestinal diseases causing fat malabsorption. Increased absorption is the mcc of symptomatic hyperoxaluria and oxalate stone formation. The nephrolithiasis caused by this will present w/ flank pain, hematuria, nausea & vomiting.</p> <p>Bile salt recycling & fatty acid absorption are decreased in Crohn disease</p>
3477	Medicine	Renal, Urinary Systems & Electrolytes	<p>Benign prostatic hyperplasia (BPH) tx: alpha 1-blockers (eg, tamsulosin, doxazosin) alone or in combo w/ 5-alpha reductase inhibitors (eg, finasteride) for symptomatic relief</p> <p>BPH affects central portion (transitional zone). Prostate cancer usually affects lateral lobes of prostate</p> <p>In a BPH pt w/ sx, if bladder scanner shows <100 mL of urine, then that is considered a normal amount. This means that there is no obstruction & so we won't need to place a Foley catheter.</p>
3481	Medicine	Renal, Urinary Systems & Electrolytes	<p>evaluate benign prostatic hyperplasia (BPH) pts with urinalysis to assess for urinary infection and hematuria</p> <p>cystoscopy not generally required in evaluation of BPH unless there is hematuria</p> <p>indications for intravenous urography include hematuria, renal stones, or previous urinary tract surgery</p> <p>transrectal ultrasound of prostate helps guide prostate biopsy in pts w/ prostate nodules or elevated PSA</p>
3648	Medicine	Renal, Urinary Systems & Electrolytes	<p>Rapid treatment w/ calcium gluconate is necessary in a pt w/ hyperkalemia who develops significant EKG changes/arrhythmia</p> <p>Sodium polystyrene sulfonate removes potassium via the gi tract</p>
3654	Medicine	Renal, Urinary Systems & Electrolytes	<p>Pts w/ hyperkalemia in the setting of chronic kidney disease, esp those on ACE inhibitors have excess total body K+. They need to remove K+ from the body w/ either diuretics, cation exchange resins, & hemodialysis.</p> <p>Moderate hyperkalemia w/o sig. ECG abnormalities- use a *loop diuretic*, along w/ saline hydration(to enhance urine production & Na+ delivery to the distal tubule)</p> <p>Severe hyperkalemia/ESRD-urgent hemodialysis</p> <p>Severe hyperkalemia w/o ESRD-cation exchange resins</p>
3693	Medicine	Renal, Urinary Systems & Electrolytes	<p>Acute pyelonephritis: sx- pyuria, significant bacteriuria positive for both nitrites and esterase</p>
3884	Medicine	Renal, Urinary Systems & Electrolytes	<p>Increased incidence of urinary tract infections in women is due to the *shorter length of the female urethra compared to males*</p>
3894	Medicine	Renal, Urinary Systems & Electrolytes	<p>Fibromuscular dysplasia(FMD):causes renal artery stenosis(RAS) in young adults. Renal artery stenosis -> renovascular hypertension -> headache,elevated BP,renal bruit Tx-angioplasty w/ stent placement (HIGH YIELD!) [Surgery rec. only if angioplasty fails]</p> <p>Medical therapy for FMD:only partially effective.Reserved for older pts w/ renal artery stenosis(due to atherosclerosis) who aren't good candidates for surgery/refuse surgery.ACE inhibitors contraindicated in bilateral RAS</p>
3895	Medicine	Renal, Urinary Systems & Electrolytes	<p>Dietary recommendations for pts w/ renal calculi: 1. increased fluid intake 2.*decreased/limited sodium intake* 3. normal dietary calcium intake</p> <p>[Most common renal stones are calcium stones]</p> <p>Calcium binds oxalate to form inabsorbable calcium oxalate in the GI tract.Calcium restriction increases free oxalate absorption,leading to hyperoxaluria & urinary calcium oxalate stone formatoin.Increased vit C also promotes hyperoxaluria.Advise to restrict oxalate containing foods</p>
3898	Medicine	Renal, Urinary Systems & Electrolytes	<p>Main mechanism of kidney damage in SLE pts is immune complex-mediated</p> <p>IgE mediated reaction is imp in allergic interstitial nephritis like methicillin-induced interstitial nephritis</p> <p>Cytotoxic antibodies cause Goodpasture's syndrome</p>

3939	Medicine	Renal, Urinary Systems & Electrolytes	Autosomal dominant polycystic kidney: sx- hypertension, palpable bilateral abdominal masses, hematuria Intracranial berry aneurysm/intracranial bleeding is a common complication
3942	Medicine	Renal, Urinary Systems & Electrolytes	The most common renal vascular lesions seen in hypertension are arteriosclerotic lesions of afferent & efferent renal arterioles & glomerular capillary tufts Diabetes mellitus nephropathy is charac by increased extracellular matrix, basement membrane thickening, mesangial expansion, & fibrosis
3946	Medicine	Renal, Urinary Systems & Electrolytes	Membranoproliferative glomerulonephritis: sx- nephrotic range proteinuria & hematuria Deposits that stain for C3 is characteristic for membranoproliferative glomerulonephritis type 2, caused by IgG antibodies (aka C3 nephritic factor) directed against C3 convertase -> Persistent activation of the alternative complement pathway Cell mediated injury may be important in idiopathic crescentic glomerulonephritis
3949	Medicine	Renal, Urinary Systems & Electrolytes	Cystinuria: group of disorders charac by *impaired amino acid transport*. Causes recurrent renal stone formation, personal hx of recurrent kidney stones from childhood & positive family hx, UA shows hexagonal crystals, urinary cyanide nitroprusside test used as a qualitative screening procedure. Extremely H.Y.!!!
3951	Medicine	Renal, Urinary Systems & Electrolytes	Abnormal hemostasis in pts w/ chronic renal failure is most commonly due to *platelet dysfunction*. PT, PTT, & platelet count are NORMAL. Bleeding time is prolonged! Tx-DDAVP (desmopressin)
3955	Medicine	Renal, Urinary Systems & Electrolytes	Prolonged hypotension from any cause -> Acute tubular necrosis (ATN) -> muddy brown granular casts Glomerular disease or vasculitis -> RBC casts Interstitial nephritis & pyelonephritis -> WBC casts Nephrotic syndrome -> Fatty casts Chronic renal failure -> Broad & waxy casts HIGH YIELD!
3966	Medicine	Renal, Urinary Systems & Electrolytes	Minimal change disease (MCD) is the most common form of nephrotic syndrome in pts w/ Hodgkin lymphoma. Nephrotic syndrome will usually resolve w/ successful tx of the lymphoma Crescentic glomerulonephritis: pts will have acute kidney injury (present in almost all cases), hematuria, or hypertension. Ass w/ autoimmune disorders
3984	Medicine	Renal, Urinary Systems & Electrolytes	Focal and segmental glomerulosclerosis aka HIV related nephropathy: is the most common form of glomerulopathy ass. w/ HIV more common in blacks
3986	Medicine	Renal, Urinary Systems & Electrolytes	Glomerular hyperfiltration is the earliest renal abnormality & also the major pathophysiologic mechanism of glomerular injury seen in pts w/ diabetic nephropathy. Thickening of the glomerular basement membrane is the first change to be quantified. This is followed by mesangial expansion. Nodular sclerosis is superimposed later & is specific for diabetic nephropathy. ACE inhibitors reduce intraglomerular htn -> decrease glomerular damage
3987	Medicine	Renal, Urinary Systems & Electrolytes	High-dose iv acyclovir can cause crystalluria w/ *renal tubular obstruction*. Administering iv fluids along w/ drug can help reduce the risk of acute kidney injury Crystal induced acute kidney injury also caused by sulfonamides, methotrexate, ethylene glycol, & protease inhibitors, along w/ acyclovir Acute interstitial nephritis: ass. w/ exposure beta lactams & proton pump inhibitors, 7-10 days after drug exposure, skin rash, eosinophilia/uria, pyuria
3997	Medicine	Renal, Urinary Systems & Electrolytes	Rheumatoid arthritis predisposes to amyloidosis. Renal involvement is characterized by nephrotic syndrome. The classic pathologic finding is amyloid deposits that stain w/ Congo red & demonstrate apple-green birefringence under polarized light. Multiple myeloma is the mcc of AL amyloidosis, & rheumatoid arthritis is the mcc of AA amyloidosis
4004	Medicine	Renal, Urinary Systems & Electrolytes	Analgesic nephropathy: ass w/ long term use of 1 or multiple analgesics (like aspirin or ibuprofen) usually asymptomatic but can have chronic *tubulointerstitial nephritis* or hematuria due to papillary necrosis labs- elevated creatinine, hematuria, sterile pyuria, mild proteinuria Glomerulonephritis: look for dysmorphic red blood cells, nephrotic range proteinuria, and RBC casts
4007	Medicine	Renal, Urinary Systems & Electrolytes	Analgesic nephropathy is the most common form of drug induced chronic renal failure (eg pts on aspirin & naproxen). *Papillary necrosis* & *chronic tubulointerstitial nephritis* are the most common pathologies seen. Pts w/ chronic analgesic abuse are more likely to develop premature aging, atherosclerotic vascular disease, & urinary tract cancer.
4026	Medicine	Renal, Urinary Systems & Electrolytes	Cardiovascular disease is the mcc of death in dialysis pts & renal transplant pts

4027	Medicine	Renal, Urinary Systems & Electrolytes	<p>*Uric acid stones* [usually seen in pts w/ low urine pH] are highly soluble in alkaline urine; alkalinization of the urine to pH 6-6.5 w/ oral *potassium citrate* is tx of choice</p> <p>Purine-restricted diet indicated in pts w/ uric acid stones secondary to hyperuricosuria</p> <p>Uric acid stones are often radiolucent but may be seen on US or CT scan</p>
4034	Medicine	Renal, Urinary Systems & Electrolytes	<p>Elderly pts are predisposed to dehydration after a minor febrile illness. Sx of dehydration-dry mucosa, marginally high values for hematocrit & serum electrolytes, BUN/creatinine ratio > 20. Tx-*IV sodium-containing crystalloid solutions (0.9% NaCl=normal saline)*</p> <p>Rehydration therapy in elderly pts should be undertaken w/ caution cuz sodium loading can unmask subclinical heart failure</p> <p>Colloid solutions (albumin) are used in burns or conditions accompanied by hypoproteinemia</p>
4058	Medicine	Renal, Urinary Systems & Electrolytes	<p>*Thiazide diuretics* lower urinary calcium excretion -> prevent urinary calcium stone formation</p> <p>Calcium binds w/ oxalate in the gut to form unabsorbable calcium oxalate. Reduced dietary calcium leads to an increase in oxalate absorption in the gut, which is then excreted into the urine & binds urinary calcium to form calcium oxalate stones. Excess calcium supplementation is also ass. w/ increased stone formation</p>
4152	Medicine	Renal, Urinary Systems & Electrolytes	Renal transplant dysfunction in the early post-operative period manifests as oliguria, hypertension, & increased creatinine/BUN. Acute rejection is best tx w/ *IV steroids* Extremely high yield!!!
4171	Medicine	Renal, Urinary Systems & Electrolytes	Thiazide diuretics have unfavorable metabolic side effects like *hyperglycemia*, increased LDL cholesterol, and plasma triglycerides. Electrolyte abnormalities that can be induced by thiazide diuretics include hyponatremia, hypokalemia, & hypercalcemia
4181	Medicine	Renal, Urinary Systems & Electrolytes	<p>Simple renal cysts(thin, smooth, unilocular, no septae, homogenous content, asymptomatic) are almost always benign & do not require further evaluation. *Reassure pt*.</p> <p>Malignant renal mass have a multilocular mass, irregular walls, thickened septae, & contrast enhancement.</p> <p>Percutaneous aspiration considered if cyst is large & painful or infected w/ purulent material</p> <p>Ureteral stent placement indicated for urinary obstruction at the ureter or renal pelvis</p>
4228	Medicine	Renal, Urinary Systems & Electrolytes	Diabetic autonomic neuropathy -> neurogenic bladder w/ urinary retention & distended bladder -> overflow incontinence
4236	Medicine	Renal, Urinary Systems & Electrolytes	Gastric contents are rich in hydrogen, chloride, & potassium. Therefore vomiting causes hypochloremic metabolic alkalosis & hypokalemia. Bicarbonate levels rise as a result of hydrogen loss & activation of the renin angiotensin system.
4266	Medicine	Renal, Urinary Systems & Electrolytes	*Nephrotic syndrome is a hypercoagulable condition.* Manifests as venous or arterial thrombosis, & even pulmonary embolism. Renal vein thrombosis is the most frequent manifestation.
4288	Medicine	Renal, Urinary Systems & Electrolytes	Common medications that cause hyperkalemia include nonselective beta-adrenergic blockers, potassium sparing diuretics (eg, triamterene, *amiloride*), ACE inhibitors, ARBs, & NSAIDs
4361	Medicine	Renal, Urinary Systems & Electrolytes	<p>Ureteral calculi may cause flank/ab pain radiating to perineum, often w/ nausea/vomiting.*Ultrasonography* or noncontrast spiral CT scan of ab & pelvis to confirm dx. US preferred in pregnant pts to reduce radiation exposure</p> <p>Exploratory laparotomy indicated when there is evidence of peritonitis</p> <p>Intravenous pyelogram uses IV contrast & plain xray to visualize urinary system</p> <p>HIDA scan:used for pts w/ acute cholecystitis when US fails to show obstruction at neck of gallbladder</p>
4379	Medicine	Renal, Urinary Systems & Electrolytes	<p>Aminoglycosides(eg Amikacin): treats pyelonephritis(gram-negative rod)/serious gram-negative infections. Urine sediment won't have wbcs[wbc casts & eosinophils present in AIN]. Has adverse effects & needs monitoring. Used w/ decreasing frequency, esp in older pts. Look for pt to have sudden rise in creatinine in question stem(an acute renal failure all of a sudden in the setting of chronic kidney disease)</p> <p>Naftcilin:causes acute renal failure due to AIN.Targets MSSA</p>
4414	Medicine	Renal, Urinary Systems & Electrolytes	<p>Acyclovir can cause crystalline nephropathy if adequate hydration is not also provided</p> <p>Pre-treatment w/ prednisone may be used to minimize radiocontrast-induced allergic reactions</p>
4422	Medicine	Renal, Urinary Systems & Electrolytes	<p>*Insulin/glucose administration is the quickest way to decrease the serum potassium concentration(drives potassium intracellularly in 15-30 minutes)*</p> <p>Hemodialysis is the most definitive way to remove K+ from the body in pts w/ renal failure</p> <p>Sodium polystyrene sulfonate (Kayexalate) is a K+ binding resin that decreases total body K+ content by catharsis in the gut. Na+ is exchanged for K+</p> <p>Furosemide: promotes renal K+ excretion</p> <p>B2 agonists: transiently moves K+ into cells</p>

4423	Medicine	Renal, Urinary Systems & Electrolytes	<p>Chronic alcoholics present w/ hypokalemia, hypomagnesemia, & hypophosphatemia. *Hypomagnesemia causes refractory hypokalemia*; therefore it's imp to correct the magnesium along w/ potassium levels</p> <p>Hypophosphatemia: causes weakness, rhabdomyolysis, paresthesias, respiratory failure in severe cases</p> <p>Hypoalbuminemia: seen in alcoholics. May indicate poor nutrition, decreased hepatic synthetic function, proteinuria. May result in spurious hypocalcemia since calcium is largely albumin-bound</p>
4424	Medicine	Renal, Urinary Systems & Electrolytes	<p>MCC of hypernatremia is hypovolemia. Mild cases can be tx w/ 5% dextrose in 0.45% saline. Severe cases should be initially tx w/ 0.9% saline</p>
4425	Medicine	Renal, Urinary Systems & Electrolytes	<p>Lithium (used to tx bipolar disorder) is a common cause of nephrogenic diabetes insipidus</p> <p>Pts w/ Diabetes insipidus are hypernatremic</p> <p>Pts w/ psychogenic polydipsia are hyponatremic</p>
4428	Medicine	Renal, Urinary Systems & Electrolytes	<p>Succinylcholine is a depolarizing neuromuscular blocker often used during rapid sequence intubation. It can cause life threatening hyperkalemia. Don't use it in pts w/ high risk for hyperkalemia! Hyperkalemia is a contraindication to the use of succinylcholine.</p>
4432	Medicine	Renal, Urinary Systems & Electrolytes	<p>Drugs w/ anticholinergic properties (amitriptyline) can cause acute urinary retention -> abdominal pain, suprapubic fullness. Tx-urinary catheterization, discontinuing med w/ anticholinergic property</p> <p>Barium enemas are used to dx luminal abnormalities of the colon (colon cancer or diverticulosis)</p>
4435	Medicine	Renal, Urinary Systems & Electrolytes	<p>Pts w/ COPD often have chronic CO2 retention, resulting in respiratory acidosis & compensatory metabolic alkalosis. *Diuretics* are often administered to tx cor pulmonale sx but must be used cautiously as they can lead to a reduction in cardiac output & subsequent development of *prerenal acute renal injury*</p>
4491	Medicine	Renal, Urinary Systems & Electrolytes	<p>Contrast-induced nephropathy: Spike in creatinine within 24 hours of contrast administration followed by a return to normal renal function within 5 days. Pts w/ hx of diabetes & chronic renal insufficiency @ increased risk. Adequate *IV hydration* w/ isotonic bicarbonate or normal saline & administration of acetylcysteine help to minimize risk</p> <p>Prednisone prevents hypersensitivity reactions to contrast media in pts w/ known allergy. It DOESN'T prevent contrast-induced nephropathy</p>
4502	Medicine	Renal, Urinary Systems & Electrolytes	<p>Screening for bladder cancer is not recommended, even in pts who are at risk of developing the disease</p>
4506	Medicine	Renal, Urinary Systems & Electrolytes	<p>Bladder tumors are the most common malignancy ass. w/ painless hematuria in adults</p>
4515	Medicine	Renal, Urinary Systems & Electrolytes	<p>Pts w/ diabetes for >10 years can develop diabetic microangiopathy, nephropathy, & glomerulosclerosis. Risk factors include poor glycemic control, elevated blood pressure, smoking, increasing age, & ethnicity (African American, Mexican American). Clinical findings include mild to moderate proteinuria & chronic kidney disease w/ elevated creatinine. Pts also have evidence of retinopathy/decreased visual acuity or neuropathy.</p>
4535	Medicine	Renal, Urinary Systems & Electrolytes	<p>Type 2 renal tubular acidosis (RTA) aka proximal RTA: defective tubular bicarbonate reabsorption in the proximal tubules. Often inherited & may be a component of Fanconi syndrome. Can also occur w/ use of carbonic anhydrase inhibitors (acetazolamide)</p> <p>Renal tubular chloride loss as seen in aggressive loop or thiazide diuretic use causes metabolic alkalosis (loss of extracellular volume along w/ chloride loss -> Renin-Angio-Aldo stimulated -> increased urinary excretion of H+)</p>
4591	Medicine	Renal, Urinary Systems & Electrolytes	<p>Acute nephritic syndrome w/ fluid overload: *primary glomerular damage* -> decreased GFR -> volume overload sx-anasarca, pulmonary & facial edema, hypertension, & abnormal urinalysis w/ proteinuria & microscopic hematuria</p> <p>Decreased GFR causes edema in pts w/ ESRD</p> <p>Hypoalbuminemia can cause significant peripheral edema but doesn't cause pulmonary edema</p> <p>Cirrhotic pts: edema in lower extremities</p> <p>Renal hypoperfusion in heart failure -> increased renal Na+ & water retention & edema</p>
4615	Medicine	Renal, Urinary Systems & Electrolytes	<p>Severe pain in a pt w/ a mild urinary obstruction, such as BPH, may cause urinary retention due to inability to Valsalva</p> <p>Disk herniation can cause nerve root injury aka cauda equina syndrome: sx-bladder atony w/ overflow incontinence, bilateral sciatica, saddle anesthesia, and loss of anal sphincter tone</p> <p>Detrusor instability aka urge incontinence: incontinence preceded by sudden urinary urgency. Caused by unregulated spontaneous contractions of the bladder</p>
4643	Medicine	Renal, Urinary Systems & Electrolytes	<p>SIADH: hyponatremia, decreased serum osmolality, elevated urine osmolality, increased urine sodium concentration, & failure to correct w/ normal saline infusion (urine sodium excretion appears to increase while serum sodium is unaffected when you give saline)</p>

4683	Medicine	Renal, Urinary Systems & Electrolytes	<p>20% of cocaine overdoses are complicated by rhabdomyolysis(look for elevations in serum CPK). Main danger ass. w/ CPK levels >20,000 U/L is acute renal tubular necrosis due to myoglobinuria</p> <p>Aseptic meningitis: no causative organisms found on routine CSF stains & cultures. Commonly caused by Coxsackie virus or Echovirus</p> <p>Post transplant EBV-mediated pseudolymphoma can predispose to splenic rupture</p>
4701	Medicine	Renal, Urinary Systems & Electrolytes	<p>Urgent bladder scan & *catheterization* should be performed in all pts w/ oliguria & acute renal failure due to suspected bladder outlet obstruction in the 'postoperative' setting. Placement of *bladder catheter* in a timely fashion can rapidly improve sx, reverse acute renal failure, & prevent long-term renal damage</p>
4733	Medicine	Renal, Urinary Systems & Electrolytes	<p>1st generation H1-antihistamines such as *diphenhydramine* have anticholinergic effects & can result in urinary retention from *failure of detrusor contraction*</p> <p>Detrusor-sphincter dyssynergia occurs in the setting of neuro disease. Detrusor muscle contracts while the urethral sphincter contracts causing difficulty in initiating urination & inadvertent interruption of the urinary stream</p> <p>Overactive bladder defined by sx of urgency, frequency, & nocturia</p>
4739	Medicine	Renal, Urinary Systems & Electrolytes	<p>Kidney compensates for respiratory alkalosis by excreting bicarbonate in the urine->alkalinized urine *increased urine pH*</p> <p>"Contraction alkalosis" occurs in states of intracellular volume contraction,where increased levels of aldosterone function to restore intravascular volume but also cause increased proton loss</p> <p>High serum anion gap occurs in met. acidoses resulting from diabetic ketoacidosis,renal failure,lactic acidosis,& methanol,ethylene glycol,or salicylate poisoning</p>
4749	Medicine	Renal, Urinary Systems & Electrolytes	<p>Obstructive uropathy: flank pain, low volume voids with or without occasional high volume voids, and (if bilateral) renal dysfunction</p> <p>Renal artery stenosis does not cause flank pain or urinary sx</p>
4750	Medicine	Renal, Urinary Systems & Electrolytes	<p>Diabetic nephropathy: etiology- longstanding diabetes mellitus sx- proteinuria nodular glomerulosclerosis, diffuse glomerulosclerosis</p>
4760	Medicine	Renal, Urinary Systems & Electrolytes	<p>Agents used to shift potassium intracellularly(eg, in a hyperkalemic pt) include insulin & glucose, sodium bicarbonate, & *beta-2 agonists*</p>
4807	Medicine	Renal, Urinary Systems & Electrolytes	<p>Interstitial cystitis (painful bladder syndrome): bladder pain that is worsened by filling & relieved by voiding. Dyspareunia, urinary frequency & urgency can also be present</p> <p>Cystocele: bladder prolapse into the anterior vaginal wall</p>
4866	Medicine	Renal, Urinary Systems & Electrolytes	<p>In saline responsive metabolic alkalosis(rmr met. alk. has increased bicarbonate), normal saline administration restores arterial volume, corrects hypochloremia, & increases urinary bicarbonate excretion</p> <p>Acetazolamide can improve alkalosis a little, however it can worsen a pts volume depletion. It can also cause hypokalemia. Give to edematous pts w/ metabolic alkalosis</p> <p>Calcium gluconate & insulin used as acute therapy for hyperkalemia</p>
7722	Medicine	Renal, Urinary Systems & Electrolytes	<p>Hypovolemia->ADH release->elevated ADH increases renal water reabsorption to cause hyponatremia until correction of hypovolemia</p>
8331	Medicine	Renal, Urinary Systems & Electrolytes	<p>Trimethoprim: can cause *hyperkalemia*. Occurs commonly in HIV infected pts tx w/ trimethoprim. May also cause an artificial increase in serum creatinine(w/o affecting gfr).</p> <p>TMP-SMX commonly used for tx uncomplicated UTIs(Gram-negative rods), Pneumocystis jirovecii pneumonia, community acquired MRSA skin infections, & nocardiosis</p> <p>Albuterol & insulin lower serum K+ (drives K+ intracellularly)</p> <p>Macrolides cause prolonged QT & cholestasis</p> <p>Ceftriaxone ass. w/ cholestasis</p>
8929	Medicine	Renal, Urinary Systems & Electrolytes	<p>Cystoscopy is next step in management of pts w/ gross hematuria or with microscopic hematuria and other risk factors for bladder cancer(eg 30 pack year smoking hx), even if they have BPH sx at the same time. Once bladder ca is ruled out, then we can focus on the BPH tx with alpha adrenergic antagonists or with 5-alpha reductase inhibitors</p>
10287	Medicine	Renal, Urinary Systems & Electrolytes	<p>Glomerular hematuria: microscopic hematuria, Blood AND Protein on UA.[source of hematuria is more likely to be glomerular if the urine studies reveal proteinuria, dysmorphic RBCs or RBC casts]</p> <p>Non-glomerular hematuria: gross hematuria, Blood but NO protein</p> <p>Papillary necrosis: "NSAID" Nonsteroidal antiinflam drugs,Sickle cell dis,Analgesic abuse,Infection(pyelonephritis),Diabetes</p>

10776	Medicine	Renal, Urinary Systems & Electrolytes	<p>Asterixis is seen in hepatic encephalopathy, uremic encephalopathy, & CO2 retention. Uremic encephalopathy is an indication for urgent *hemodialysis*, which will improve neurological status & resolve asterixis</p> <p>An asymptomatic anemic pt w/ hemoglobin >8 g/dL who doesn't have ongoing bleeding will NOT need a blood transfusion</p>
11109	Medicine	Renal, Urinary Systems & Electrolytes	<p>Alpha-1 receptor blockers such as tamsulosin facilitate ureteral stone passage</p> <p>Furosemide is a loop diuretic that promotes calciuria, which can predispose to renal calculi</p> <p>Bethanechol tx urinary retention/atonic bladder. Oxybutynin tx overactive bladder (detrusor instability)</p> <p>Phenazopyridine: analgesic for urinary tract mucosa, used to tx the dysuria of cystitis (after infection/instrumentation)</p> <p>Imipramine is an antidepressant, tx childhood enuresis, promotes urinary retention</p>
11566	Medicine	Renal, Urinary Systems & Electrolytes	<p>Cyanide toxicity: can be caused by prolonged infusion of sodium nitroprusside at high rates, esp in pts w/ chronic kidney disease. Sx-headache, confusion, arrhythmias, flushing, & respiratory depression. Tx-sodium thiosulfate</p> <p>Uremic encephalopathy can present w/ altered mentation & occasional myoclonus & usually occurs in pts w/ advanced renal failure</p>
12033	Medicine	Renal, Urinary Systems & Electrolytes	<p>1st line tx for URGENCY incontinence are bladder training & pelvic floor muscle exercises. Nonresponders can use an antimuscarinic agent (eg, *oxybutynin*) to decrease detrusor activity</p> <p>Vaginal pessary is used for STRESS incontinence when surgical correction fails/is contraindicated [Pessary would exacerbate an urge incontinence!]</p> <p>Duloxetine (serotonin/norepinephrine reuptake inhibitor) may be considered for tx of stress incontinence in pts w/ unipolar depression</p>
2144	Medicine	Rheumatology/Orthopedics & Sports	<p>[UPTODATE] Moyamoya disease: a chronic progressive cerebrovascular disease characterized by bilateral stenosis or occlusion of the arteries around the circle of Willis w/ prominent arterial collateral circulation. High incidence among Japanese & Asian population. Ischemic cerebrovascular events, either TIA or infarction are more prevalent than hemorrhagic events in children w/ moyamoya while hemorrhagic stroke is more common in adults</p>
2305	Medicine	Rheumatology/Orthopedics & Sports	<p>Acetaminophen should be initial tx for pts w/ mild to moderate pain from osteoarthritis (OA)</p> <p>Ketorolac is an NSAID. NSAIDs are 2nd line agents for OA due to GI & renal side effects w/ long term use</p> <p>Colchicine tx OA that is refractory to NSAIDs & intra-articular steroids</p>
2306	Medicine	Rheumatology/Orthopedics & Sports	<p>SLE's effects on the kidneys range from minimal mesangial lupus nephritis to advanced sclerosing lupus nephritis & are graded class I-VI. Tx & outcomes are different depending on the class of lupus nephritis. Therefore, renal biopsy is required in all pts w/ new onset lupus nephritis. Biopsy also provides baseline histology against which future biopsies may be compared to monitor disease progression. Immunosuppressive therapy is given once the lupus nephritis is classified</p>
2314	Medicine	Rheumatology/Orthopedics & Sports	<p>Pseudogout: acute form of *calcium pyrophosphate dihydrate (CPPD) crystal disease.* Rhomboid, positively birefringent crystals are seen on synovial fluid analysis. Knee most commonly affected. Monosodium urate crystal deposition is seen in gout. These crystals are needle-shaped & negatively birefringent on synovial fluid analysis.</p> <p>Hydroxyapatite: complexed form of calcium found in teeth & bones. Can exist in cartilage of pts w/ degenerative osteoarthritis.</p>
2315	Medicine	Rheumatology/Orthopedics & Sports	<p>Systemic lupus erythematosus (SLE): Common in African-American women aged 20-40 years. Fatigue, arthritis affecting MCP & PIP joints of hands, oral ulcers, proteinuria</p> <p>Dermatomyositis: proximal muscle weakness, rash of the shoulders & back, & scales on the hands</p> <p>X-ray in Rheumatoid arthritis (RA) may show joint space erosions, juxtaarticular demineralization, & soft tissue swelling</p>
2317	Medicine	Rheumatology/Orthopedics & Sports	<p>Erythema Nodosum (EN): painful, subcutaneous, pretibial nodules. Can be a symptom of more serious disease processes including sarcoidosis, TB, histoplasmosis, recent streptococcal infection, & inflammatory bowel disease. Association of EN w/ sarcoidosis is strong in young, African American women. Cough, arthritis, uveitis & hilar adenopathy on *chest x-ray* ass. w/ sarcoidosis</p>
2329	Medicine	Rheumatology/Orthopedics & Sports	<p>Stress fractures are common in pts who suddenly increase their physical activity, esp in female runners w/ the female athlete triad (oligomenorrhea, osteoporosis, & decreased caloric intake). Typical sx include localized pain to palpation & possible swelling</p> <p>Morton neuroma ass w/ pain between 3rd & 4th toes on the plantar surface & w/ a clicking sensation (Mulder sign) that occurs when simultaneously palpating this space & squeezing the metatarsal joints</p>
2380	Medicine	Rheumatology/Orthopedics & Sports	<p>The USPSTF recommends a one time screening for osteoporosis in all women age >65 w/ *dual-energy x-ray absorptiometry (DEXA) scan*. [x-rays are less sensitive & specific than DEXA & don't provide quantitative data to follow the course of the disease]</p>

2450	Medicine	Rheumatology/Orthopedics & Sports	Positive *anti-Smith antibodies* &/or anti-double stranded DNA antibodies is specific & confirmatory for the dx of *SLE*
2880	Medicine	Rheumatology/Orthopedics & Sports	Hemochromatosis is commonly ass. w/ calcium pyrophosphate dihydrate deposition in joints, leading to chondrocalcinosis & ass. sx including acute episodic synovitis (pseudogout) & chronic arthropathy. Other manifestations include diabetes, hyperpigmentation, dilated cardiomyopathy, & liver disease w/ hepatomegaly & fibrosis. Dx is suggested by iron overload on serum iron studies, & can be confirmed by genetic tests (HFE) or liver biopsy. Tx-phlebotomy
3059	Medicine	Rheumatology/Orthopedics & Sports	Polymyositis & dermatomyositis are two forms of inflammatory myopathy. Dx of inflammatory myopathy is made w/ elevated ESR & CK, & confirmed by muscle biopsy. Inflammatory myopathies are best tx w/ high dose *corticosteroids*
3148	Medicine	Rheumatology/Orthopedics & Sports	Gouty arthritis:punched out erosions w/ a rim of cortical bone on xray Rheumatoid arthritis:periarticular osteopenia & joint margin erosions Pseudogout/calcium pyrophosphate dihydrate (CPPD) deposition:calcification of cartilaginous structures(chondrocalcinosis) seen.Acute swelling,stiffness & pain of knee after surgery or medical illness
3149	Medicine	Rheumatology/Orthopedics & Sports	*Synovial fluid* should be obtained urgently for cell count, Gram stain, & culture in any pt w/ possible septic arthritis. Preexisting joint disorders can increase the risk for secondary infection of the joint. In pts w/ crystal-induced arthritis (eg, gout), the presence of crystals in the synovial fluid does not rule out septic arthritis as these will be present between attacks Lyme arthritis develops months after initial infection
3150	Medicine	Rheumatology/Orthopedics & Sports	Gout presents as an acute monoarticular arthritis that quickly progresses to maximum intensity within 12-24 hours. Triggers include alcohol use, surgery/trauma, recent hospitalization, dehydration, & certain medications(eg,diuretics)
3151	Medicine	Rheumatology/Orthopedics & Sports	*Hyperparathyroidism predisposes to the development of pseudogout(affects knee)*.Look for sx of hypercalcemia in these pts like constipation,fatigue,excessive urination,OR abdominal pain,urinary stones,mental status changes,osteoporosis Struvite crystals have shape of coffin lids,seen in nephrolithiasis caused by chronic uti w/ urease-producing organisms Polymorphonuclear cells filled w/ gram positive cocci->septic arthritis Lymphocytes & budding yeast->fungal arthritis
3153	Medicine	Rheumatology/Orthopedics & Sports	Neisseria gonorrhoeae is the mcc of septic arthritis in young, sexually active pts
3157	Medicine	Rheumatology/Orthopedics & Sports	Lumbar spinal stenosis: leg pain aggravated by spinal extension(standing, walking upright) & relieved w/ flexion(sitting, leaning forward). Flexion of spine causes widening of the spinal canal. Extension causes narrowing of the canal. This is known as "neurogenic claudication" Caused by narrowing of spinal canal -> compression of lumbar nerve roots. Occurs in older pts since it's a degenerative disorder. dx- MRI of spine tx- physical therapy, exercise program, surgical
3164	Medicine	Rheumatology/Orthopedics & Sports	Pts w/ suspected giant cell arteritis (temporal arteritis) who have visual sx should be started IMMEDIATELY on *high-dose systemic glucocorticoids* to reduce the progression of visual complications Anterior ischemic optic neuropathy is the most common ocular manifestation of giant cell arteritis & is detected on funduscopy by the presence of a swollen & pale disc w/ blurred margins
3165	Medicine	Rheumatology/Orthopedics & Sports	Ankylosing spondylitis(AS): *anterior uveitis* is the most common extraskeletal complication. Back pain improves w/ activity/exercise, warm showers, nonsteroidal agents AS is ass w/ aortic valve disease, typically aortic regurgitation, due to scarring of the valve cusps Episcleritis is ass. w/ rheumatoid arthritis & inflammatory bowel disease Ischemic optic neuropathy: feared complication of temporal arteritis. Results from vasculitis of retinal artery. May cause blindness
3166	Medicine	Rheumatology/Orthopedics & Sports	Glutamic acid decarboxylase antibodies are seen in 70% of type I diabetics at the time of dx
3167	Medicine	Rheumatology/Orthopedics & Sports	Ankylosing spondylitis(AS):In young pts(even females) w/ characteristic pain, *plain x-rays* showing *sacroiliitis* can confirm dx. Fusion of vertebral bodies w/ ossification of intervertebral discs(bamboo spine) also suggests the dx. [AS strongly ass. w/ HLA-B27, but HLA-B27 isn't specific for AS & not necessary for dx]

3169	Medicine	Rheumatology/Orthopedics & Sports	<p>Long term cyclophosphamide use is ass w/ the increased incidence of acute hemorrhagic cystitis & *bladder carcinoma*</p> <p>Cisplatin,carboplatin,aminoglycosides can cause cochlear dysfunction</p> <p>Ethambutol & hydroxychloroquine can cause optic neuritis</p> <p>Beta-blockers & ergotamine can cause digital vasospasm (Raynaud's phenomenon)</p> <p>Cyclosporine can cause gout as a side effect</p>
3170	Medicine	Rheumatology/Orthopedics & Sports	<p>Lidocaine injection ameliorates the pain & weakness of rotator cuff tendonitis, while it doesn't improve sx of a rotator cuff tear. MRI is study of choice for dx rotator cuff tears</p> <p>MRI is excellent at visualizing soft tissue structures</p> <p>Cervical radiculopathy:results from disc herniation (osteophytes), sx-arm weakness, paresthesias, & neck pain</p>
3171	Medicine	Rheumatology/Orthopedics & Sports	<p>Viral infection may present w/ symmetric arthritis. Viral arthritis is distinguished from rheumatoid arthritis & other causes of symmetric arthritis by its acute onset(eg,sx started only 1 week ago), lack of elevated inflammatory markers, lack of joint swelling, morning stiffness <30 min,absence of systemic sx, & resolution within two months. Parvovirus is the mcc of viral arthritis & likely in adults who have frequent contact w/ children(daycare workers)</p>
3173	Medicine	Rheumatology/Orthopedics & Sports	<p>Hydroxychloroquine:</p> <p>excellent choice for SLE pts w/ isolated skin & joint involvement</p> <p>side effect:may damage the eye, cause retinopathy, damage cornea. Thats why you have to you have to do eye exams every 6 months in pts taking hydroxychloroquine</p>
3176	Medicine	Rheumatology/Orthopedics & Sports	<p>Sarcoidosis:common in African American woman durin 3rd & 4th decades of life.Lungs are affected. Sx-cough,erythema nodosum,anterior uveitis(red eye w/ leukocytes in anterior chamber),& arthritis seen.Hilar adenopathy & reticular opacities on CXR</p>
3177	Medicine	Rheumatology/Orthopedics & Sports	<p>Pts w/ symptomatic Sarcoidosis should be given systemic *glucocorticoids*</p>
3202	Medicine	Rheumatology/Orthopedics & Sports	<p>Fibromyalgia management: *Exercise* is the foundation of management, w/ medications(duloxetine,tricyclic antidepressants) reserved for pts who fail initial measures</p>
3203	Medicine	Rheumatology/Orthopedics & Sports	<p>Carpal tunnel syndrome(CTS) occurs in 30% of pts w/ hypothyroidism due to deposition of mucopolysaccharide protein complexes/accumulation of matrix substances within the perineurium & endoneurium of the median nerve</p> <p>tx- sx of CTS improve w/ thyroid hormone replacement therapy.</p> <p>accumulation of fluid in carpal tunnel can cause CTS in pregnancy</p> <p>most common CTS due to amyloid deposition occurs in ESRD or chronic hemodialysis</p> <p>Pts w/ acromegaly and RA can have CTS</p>
3205	Medicine	Rheumatology/Orthopedics & Sports	<p>Fibromyalgia(FM): pain syndrome, occurs in young to middle aged women.Sx- fatigue, widespread pain, & cognitive/mood disturbances. Initial FM tx should be aerobic exercise & good sleep hygiene. Pts that don't respond to this need meds. TCAs eg,*Amitriptyline* is an effective initial therapy. Pregabalin, duloxetine, & milnacipran are alternate therapies for pts not responding to tricyclic antidepressants</p>
3208	Medicine	Rheumatology/Orthopedics & Sports	<p>Dermatomyositis is charac by classic cutaneous findings accompanied by proximal muscle weakness. Over 15% of adult pts will have or develop an internal *malignancy*, most commonly ovarian, lung, pancreatic, stomach, or colorectal cancers, or non-Hodgkin lymphoma. Regular, age-appropriate cancer screening is essential in these pts</p> <p>The classic autoantibodies ass. w/ dermatomyositis are anti-Jo-1(antisynthetase antibody) & anti-Mi-2 (against helicase)</p>
3209	Medicine	Rheumatology/Orthopedics & Sports	<p>Polymyositis(PM): slowly progressive proximal weakness of lower extremities, difficulty ascending & descending stairs, rising from a seated position. Proximal arm weakness follows leading to difficulty combing hair or working w/ hands overhead. Pts may develop dysphagia. NO skin findings in PM, distinguishing it from dermatomyositis.*Muscle biopsy* is best dx test</p> <p>EEG used to evaluate pts w/ seizure or sleep disorders</p>
3211	Medicine	Rheumatology/Orthopedics & Sports	<p>disc herniation:</p> <p>sx- low back pain radiating down buttock and below the knee in dermatomal distribution</p> <p>positive straight leg and crossed straight leg tests are specific for disc herniation</p>

3303	Medicine	Rheumatology/Orthopedics & Sports	<p>Anserine bursitis:sharply localized pain over anteromedial part of tibial plateau just below the joint line of the knee.Valgus stress test fails to reproduce pain,thereby ruling out damage to the medial collateral ligament.Radiographs are normal</p> <p>Prepatellar bursitis:pain/swelling over patella, cystic swelling over patella w/ variable signs of inflammation. Trauma is mcc</p>
3304	Medicine	Rheumatology/Orthopedics & Sports	<p>The mcc of an asymptomatic elevation of alkaline phosphatase in an elderly pt is "Paget disease of bone", which is frequently discovered incidentally on routine blood tests. X-rays will show osteolytic or mixed lytic-sclerotic lesions, & radionuclide bone scan can fully stage the disease</p> <p>Statins and alcoholic liver disease cause a hepatocellular pattern(predominant elevations in transaminases) rather than a cholestatic pattern(predominant elevation in alkaline phosphatase)</p>
3311	Medicine	Rheumatology/Orthopedics & Sports	<p>Whipple disease sx: chronic malabsorptive diarrhea, weight loss, *migratory non-deforming arthritis*, lymphadenopathy & a low grade fever</p> <p>Intestinal lymphoma sx: ab pain, weight loss, nausea/vomiting,distension,occult blood in stool. [malabsorption is not a typical feature].Histopath would show a diffuse infiltrate by atypical lymphocytes</p>
3312	Medicine	Rheumatology/Orthopedics & Sports	<p>Inflammatory bowel disease may occur in ass. w/ an inflammatory arthritis. Ankylosing spondylitis & IBD are both ass. w/ HLA-B27 & may occur in ass. w/ one another. Both conditions may also be ass. w/ a positive p-ANCA despite the absence of vasculitis in both conditions</p> <p>Ulcerative colitis: young age, hx of acute-onset bloody diarrhea, anemia & negative stool cultures. p-ANCA is positive</p>
3317	Medicine	Rheumatology/Orthopedics & Sports	<p>Polymyalgia rheumatica(PMR): affects pts age >50 & is charac by pain & STIFFNESS in the neck, shoulders, & pelvic girdle, along w/ an elevated ESR. Tx-*low dose prednisone* which results in rapid relief of sx</p> <p>PMR is frequently ass w/ giant cell temporal arteritis(GCA). GCA sx-headache,jaw claudication,vision loss,tenderness over temporal artery. If GCA suspected, pts should be considered for an expedited temporal artery biopsy & receive higher doses of glucocorticoids</p>
3318	Medicine	Rheumatology/Orthopedics & Sports	<p>Treat rheumatoid arthritis pts w/ Methotrexate, a disease modifying antirheumatic drug, early in the disease course. Methotrexate is the preferred DMARD for RA.</p> <p>Before giving methotrexate, test pt for Hep B & C and TB. Also don't give it to pregnant pts or those planning pregnancy, those w/ renal insufficiency, liver disease, excessive alcohol intake.</p> <p>If no response to 6 month DMARD therapy, give TNFa inhibitors</p> <p>Azathioprine- ass. w/ hematologic & gi toxicity</p>
3321	Medicine	Rheumatology/Orthopedics & Sports	Lymphocytic infiltration of the salivary glands in Sjogren syndrome will cause enlargement & firmness to palpation of these glands
3322	Medicine	Rheumatology/Orthopedics & Sports	Systemic sclerosis: Antinuclear autoantibodies & *anti-topoisomerase-I antibodies* present
3515	Medicine	Rheumatology/Orthopedics & Sports	<p>CREST syndrome:</p> <ol style="list-style-type: none"> 1)Calcinosis cutis-localized dystrophic deposition of calcium in the skin, manifests as subcutaneous pink-to-white nodules on upper extremities, may ulcerate & drain a chalky material 2)Raynaud phenomenon 3)Esophageal dysmotility-food "stuck" in esophagus/GERD 4)Sclerodactyly-fibrosis of the skin of the fingers distal to mcp joints resulting in shiny appearance of skin & flexion contractures & joint pain 5)Telangiectasias-"mat-like" patches on face & palms
3516	Medicine	Rheumatology/Orthopedics & Sports	Paget disease of bone (osteitis deformans): normal serum calcium and phosphate levels. Increased alkaline phosphatase and urinary hydroxyproline levels. Pt will have lower extremity pain, headaches/deafness
3518	Medicine	Rheumatology/Orthopedics & Sports	<p>Paget's disease pts that are symptomatic are tx w/ *bisphosphonates*. Bisphosphonates inhibit osteoclasts to suppress bone turnover.</p> <p>[Calcitonin has a weaker effect than bisphosphonates. It's reserved for pts intolerant to bisphosphonates]</p>
3574	Medicine	Rheumatology/Orthopedics & Sports	<p>Subacromial bursitis: due to repetitive overhead motions.Pts complain of pain w/ active range of motion of shoulder.Passive internal rotation & forward flexion at the shoulder elicits tenderness</p> <p>Tear of the proximal end of the long head of bicep tendon ass. w/ rotator cuff injury</p> <p>Axillary nerve supplies deltoid and teres minor w/ motor innervation</p> <p>Axillary nerve injury may occur as a result of anterior dislocation of the humerus out of the glenoid fossa</p>
3575	Medicine	Rheumatology/Orthopedics & Sports	<p>Lateral epicondylitis (tennis elbow) manifests as pain w/ supination or extension of the wrist & point tenderness just distal to the lateral epicondyle</p> <p>Rotator cuff injury: Result of impingement of the supraspinatus tendon</p> <p>Posterior interosseous nerve entrapment results in weakness of the extrinsic extensors of the hand & fingers</p>

3576	Medicine	Rheumatology/Orthopedics & Sports	De Quervain tenosynovitis affects new mothers who hold their infants w/ the thumb outstretched (abducted/extended)
			Trigger thumb results in pain over the palmar aspect of the first metacarpophalangeal joint and locking of the thumb in flexion
			Scaphoid fractures occur during forceful hyperextension of wrist as may occur in a fall on outstretched hand. Pain localizes to anatomic snuffbox
			Flexor carpi radialis tenosynovitis: pain w/ radial flexion of wrist, tender trapezium
3778	Medicine	Rheumatology/Orthopedics & Sports	Chronic tophaceous gout: urate crystals can be deposited in the skin resulting in the formation of tumors w/ a chalky white appearance (known as tophi). If they take thiazide diuretics for their high bp, that will cause a hyperuricemic effect due to hypovolemia associated enhancement of uric acid reabsorption in proximal tubule
3815	Medicine	Rheumatology/Orthopedics & Sports	Behcet syndrome: recurrent oral/genital ulcers. Skin & ocular involvement is common. Thrombosis is a major cause of morbidity. Common in pts of Turkish, Middle Eastern, & Asian descent
			Reactive arthritis: arthritis, uveitis, oral ulcerations. Follows an acute GI (salmonella, yersinia) or GU (chlamydia) infection & causes subacute to chronic sx
4000	Medicine	Rheumatology/Orthopedics & Sports	In pts w/ acute 'mechanical' back pain w/o significant neurologic deficit, conservative approach is preferred for a period of 4-6 weeks. This includes *early mobilization, muscle relaxants, & NSAIDs*. Bed rest & physical therapy hasn't been shown to be helpful
			Emergency surgical decompression indicated in case of significant or rapidly progressive neuro deficit (foot drop, weakness of legs)
4014	Medicine	Rheumatology/Orthopedics & Sports	Plain roentgenogram used in pts w/ osteoporosis & possible vertebral crush fractures
			The most common pulmonary complication in pts w/ systemic sclerosis (SSc) is *interstitial fibrosis/interstitial lung disease*
4038	Medicine	Rheumatology/Orthopedics & Sports	Aseptic/Avascular necrosis of the femoral head is a common complication of sickle cell disease sx- Pain in the hip that gradually progresses Very High Yield!
			Aseptic necrosis of the femoral head is uncommon children
4047	Medicine	Rheumatology/Orthopedics & Sports	Corticosteroid-induced avascular necrosis of the femoral head usually presents as progressive hip or groin pain w/o restriction of motion range & normal radiograph on early stages. *MRI* is gold standard for the dx of avascular necrosis of hip
4078	Medicine	Rheumatology/Orthopedics & Sports	Lumbosacral strain: acute onset of back pain after physical exertion, absence of radiation, presence of paravertebral tenderness, negative straight-leg raising test, & normal neurologic examination
			Ankylosing spondylitis & multiple myeloma are characterized by chronic back pain
			Herniated disk charac by acute pain that radiates to thighs & typically below the knee. Straight leg raising test positive
4083	Medicine	Rheumatology/Orthopedics & Sports	Vertebral compression fracture (VCF): complication of advanced osteoporosis. Pts w/ osteoporosis can develop compression fracture w/ acute back pain following minimal trauma (lifting). Examination shows point tenderness. Neuro exam usually normal
			Herniated disk: radicular pain radiating along thigh to below the knee (sciatica). Positive straight leg raise test
			Lumbosacral strain: seen after specific event. Increased pain w/ movement, decreased pain w/ rest. Pain in paraspinal area
4110	Medicine	Rheumatology/Orthopedics & Sports	*Osteoarthritis* involves the DIP joints. Radiographic features include joint space narrowing, subchondral sclerosis, osteophytes, & subchondral cysts. (*Google image xray*)
			Rheumatoid arthritis spares the DIP joints & involves MCP & PIP joints. (Google image xray)
			Hemochromatosis ass. arthropathy: Radiographic findings- squared off bone ends & hook like osteophytes in 2nd & 3rd MCP joints
			Reactive arthritis: follows an infectious illness, asymmetric oligoarthritis
4123	Medicine	Rheumatology/Orthopedics & Sports	Pts w/ suspected malignancy can develop paraneoplastic syn due to tumor producing hormones/cytokines. Paraneoplastic syn are not directly related to cancer's invasion. Paraneoplastic syn affecting peripheral nerve or muscle (myasthenia gravis, Lambert-Eaton synd, dermatomyositis) commonly presents w/ muscle weakness. Dermatomyositis pts have symmetrical proximal muscle weakness & erythematous rash on dorsum of fingers (Gottron's sign) &/or upper eyelids (heliotrope eruption)
4173	Medicine	Rheumatology/Orthopedics & Sports	Carpal tunnel syndrome (CTS): Pain & paresthesias in the first 3 digits & the radial half of the fourth. *Nerve conduction studies* confirm the dx
			CTS risk factors: female sex, obesity, hypothyroidism

4205	Medicine	Rheumatology/Orthopedics & Sports	Cervical spondylosis: affects 10% of people older than 50 years of age. Hx of chronic neck pain is typical. Limited neck rotation & lateral bending due to osteoarthritis & secondary muscle spasm. Sensory deficit due to osteophyte-induced radiculopathy. Radiographic findings-*bony spurs* & sclerotic facet joints. Other findings include narrowing of disk spaces & hypertrophic vertebral bodies
4264	Medicine	Rheumatology/Orthopedics & Sports	When lifting a heavy object, one should also bend the knees, keeping the back straight; this technique is useful in preventing strains & back injuries
4295	Medicine	Rheumatology/Orthopedics & Sports	Methotrexate can cause a macrocytic anemia(Hb < 12 g/dl & MCV > 100) Common adverse effects of Hydroxychloroquine are GI distress, visual disturbances, & hemolysis in G6PD deficiency Azathioprine is ass. w/ pancreatitis, liver toxicity & dose dependent bone marrow suppression
4328	Medicine	Rheumatology/Orthopedics & Sports	systemic sclerosis causes decreased LES pressure
4368	Medicine	Rheumatology/Orthopedics & Sports	In pts with signs of back pain of serious etiology, initial workup should be plain x-ray films of the back(to look for lytic lesions and compression fractures) along with ESR. If x-rays or ESR are abnormal, MRI of back should be done to evaluate for possible disc disease, cancer, and spinal infections For simple/acute low back pain, NSAIDs more effective than acetaminophen For chronic low back pain, physical therapy is effective
4369	Medicine	Rheumatology/Orthopedics & Sports	*Lumbar spinal stenosis*:common cause of back pain in pts age >60. Charc by back pain radiating to thighs that's worse w/ lumbar extension & persists while standing still.Its an example of a neurogenic claudication. [Neurogenic claudication is relieved by walking while leaning forward & exercise w/ the spine flexed(cycling,walking uphill,leaning on cane) doesn't incite sx. Vascular claudication on the other hand is exertion-dependent & resolves w/ standing still]
4370	Medicine	Rheumatology/Orthopedics & Sports	Low back pain due to inflammatory causes include Ankylosing spondylitis, reactive arthritis, psoriatic arthritis, & inflammatory bowel disease. Features include gradual onset of pain, onset at age <40, pain at night that doesn't improve w/ rest, & pain that improves w/ activity or exercise
4375	Medicine	Rheumatology/Orthopedics & Sports	The most common causes of nontraumatic vertebral compression fractures are osteoporosis(*loss of bone mineral density*) & osteomalacia [acute back pain & point tenderness after strenuous activity suggests a vertebral compression fracture] Ligamentous back sprain:pain increases w/ movement & decreases w/ rest. Pain is typically in the paraspinal area w/o significant tenderness to palpation of the vertebra
4449	Medicine	Rheumatology/Orthopedics & Sports	Gout is a common complication of *myeloproliferative disorders(eg,polycythemia vera)* due to excessive turnover of purines & the resulting increase in uric acid production
4460	Medicine	Rheumatology/Orthopedics & Sports	Aortic aneurysm is a complication of giant cell or temporal arteritis
4564	Medicine	Rheumatology/Orthopedics & Sports	Degenerative joint disease(osteoarthritis) presents in adults over age 40 w/ indolent progressive anterior hip pain worsened by activity & relieved by rest. The hip is not tender & systemic sx are absent. Short-lived morning stiffness may occur Cutaneous nerve compression may cause hip pain in meralgia paresthetica, a condition where compression of lateral femoral cutaneous nerve causes lateral hip paresthesia unaffected by motion or palpation
4565	Medicine	Rheumatology/Orthopedics & Sports	Chronic corticosteroid use & chronic excessive ingestion of alcohol account for over 90% of cases of avascular necrosis of bone(osteonecrosis).In the hip,pts present w/ slowly progressive anterior hip pain w/ limitation of range of motion Trochanteric bursitis:inflammation of trochanteric bursa.Due to friction between tendons of gluteus medius & tensor fascia lata over greater trochanter of femur.Pain localized over lateral hip & worsened by palpation(interferes w/ sleep)
4571	Medicine	Rheumatology/Orthopedics & Sports	Septic arthritis is charac by acute monoarthritis, often w/ fever & restricted range of motion. It's more common in pts w/ underlying joint disease such as rheumatoid arthritis. Tx-IV *antibiotics* & joint drainage Repeated glucocorticoid injections are an imp risk factor for septic arthritis
4572	Medicine	Rheumatology/Orthopedics & Sports	Rheumatoid arthritis pts at increased risk of developing osteopenia,osteoporosis & bone fractures esp if risk factors for osteoporosis(low body weight,female sex,family hx of osteoporosis,cigarette smoking,postmenopausal state,excessive alcohol use) are present Osteitis fibrosa cystica(Von Recklinghausen disease of bone):bony pain,osteoclastic resorption of bone,replacement w/ fibrous tissue(brown tumors),seen in pts w/ parathyroid carcinoma & 1*/2*/3* hyperparathyroidism
4573	Medicine	Rheumatology/Orthopedics & Sports	Methotrexate (MTX) is the DMARD of choice in tx pts w/ rheumatoid arthritis(RA). MTX side effects include GI sx, *oral ulcers* or stomatitis, rash, alopecia, hepatotoxicity(rise in serum transaminases), pulmonary toxicity, & bone marrow suppression. Folic acid supplementation shown to reduce adverse effects of MTX tx w/o loss of efficacy Felty syndrome: Pts w/ RA >10 years. Both neutropenia AND splenomegaly seen!

4574	Medicine	Rheumatology/Orthopedics & Sports	<p>Rheumatoid arthritis: Improves w/ activity Affects the cervical spine joints -> eventually get spinal cord compression Rheumatoid nodules present (esp on elbows) "reduced grip strength is a sign of early disease"</p> <p>Thoracic spine: has great stability, rarely affected by arthritis, disc herniation, or spinal disorders</p> <p>Lumbar spine: common site of disc herniation and spinal stenosis</p> <p>Sacroiliac joints: affected in seronegative spondyloarthropathies</p>
4576	Medicine	Rheumatology/Orthopedics & Sports	<p>Enthesitis: inflammation & pain at site of tendon & ligament attachment to bone, common finding in ankylosing spondylitis (AS). Typical sites include heels, tibial tuberosities & iliac crests. Shoulder & hip pain, stiffness, low back pain, & *limited spinal mobility* are common manifestations of AS</p>
4577	Medicine	Rheumatology/Orthopedics & Sports	<p>Reactive arthritis: seronegative spondyloarthropathy resulting from enteric or genitourinary infection. Findings-urethritis, conjunctivitis, mucocutaneous lesions (mouth ulcers), enthesitis (Achilles tendon pain) & asymmetric oligoarthritis (arthritis often involves knee & sacroiliac spine [back pain]). Not all extra-articular manifestations need to be present to suspect dx. *NSAIDs* are 1st line therapy</p> <p>Colchicine tx acute gout</p> <p>Allopurinol for management of chronic hyperuricemia</p>
4578	Medicine	Rheumatology/Orthopedics & Sports	<p>Pts w/ long-standing ankylosing spondylitis can develop bone loss due to increased osteoclast activity in the setting of chronic inflammation. In addition, spinal rigidity in these pts can increase the risk of vertebral fracture, which often results from minimal trauma</p> <p>A murmur suggesting aortic regurgitation is a common finding in chronic ankylosing spondylitis</p>
4579	Medicine	Rheumatology/Orthopedics & Sports	<p>Viral arthritis can present w/ symmetric small joint inflammatory arthritis. It tends to resolve within 2 months. Positive inflammatory markers such as ANA and rheumatoid factor may occur. Tx- NSAIDs for resolution of sx</p>
4580	Medicine	Rheumatology/Orthopedics & Sports	<p>Polymyalgia rheumatica: occurs in pts age >50. Pain/stiffness of shoulders/pelvic girdle. No significant muscle tenderness. ESR elevated. Ass w/ temporal arteritis</p> <p>Giant cell (temporal) arteritis: ass w/ polymyalgia rheumatica. Systemic sx, headache, jaw claudication, visual disturbances, elevated ESR</p> <p>Polyarteritis nodosa presents w/ systemic sx, skin findings (livedo reticularis, purpura), kidney disease, ab pain, muscle aches or weakness. ESR elevated</p>
4581	Medicine	Rheumatology/Orthopedics & Sports	<p>Psoriatic arthritis: involves DIP joints, morning stiffness, dactylitis ("sausage digit," diffusely swollen finger), nails show pitting & onycholysis (separation of nail bed), well demarcated red plaques w/ silvery scaling seen on dorsum of each hand. tx- NSAIDs, methotrexate, & Anti-TNF agents (google pic)</p> <p>Dermatomyositis: presents w/ Gottron's papules (violaceous plaques, slightly scaly) over MCP joints. Not ass. w/ dactylitis or nail changes (onycholysis or nail pitting)</p>
4582	Medicine	Rheumatology/Orthopedics & Sports	<p>Pseudogout: radiographic evidence of chondrocalcinosis (calcified articular cartilage)</p> <p>Tophi: collections of urate crystals which form firm, yellowish nodules at the sites of involved joints in pts w/ chronic gout</p> <p>Heberden nodes occur in the DIP joints in osteoarthritis & form from calcified cartilaginous spurs</p>
4583	Medicine	Rheumatology/Orthopedics & Sports	<p>Baker cysts develop as a result of excessive fluid production by an inflamed synovium, as occurs in cases of rheumatoid arthritis, osteoarthritis & cartilage tears. The excess fluid accumulates in the popliteal bursa which expands, creating a tender mass in the popliteal fossa. Baker cysts occasionally burst & release their contents into the calf, resulting in an appearance similar to a DVT</p> <p>Crystal deposition in the knee joint may lead to a painful, red & swollen knee</p>
4585	Medicine	Rheumatology/Orthopedics & Sports	<p>Secondary amyloidosis (AA): nephrotic syndrome (bilateral lower extremity edema, proteinuria), palpable kidneys, hepatomegaly, & ventricular hypertrophy (audible fourth heart sound) in setting of chronic inflammatory disease (recurrent pulmonary infections, bronchiectasis). Tx-Colchicine for both tx & prophylaxis of AA</p> <p>Hypertensive nephrosclerosis: seen in pts w/ chronic htn, ass w/ retinopathy, left ventricular hypertrophy, progressive renal failure, mild proteinuria, small kidneys</p>
4586	Medicine	Rheumatology/Orthopedics & Sports	<p>Six criteria used to establish the dx of osteoarthritis (OA) in the setting of a painful knee: age >50, crepitus, bony enlargement, bony tenderness, & lack of warmth/morning stiffness. If three or more criteria are met, specificity for OA is 69%</p>
4590	Medicine	Rheumatology/Orthopedics & Sports	<p>Disseminated *gonococcal* infection often presents w/ a triad of polyarthralgias (wrist, elbow, & ankle pain), tenosynovitis (pain along tendon sheaths), & vesiculopustular skin lesions. Hx of recent unprotected sex w/ a new partner ass w/ disseminated gonococcal infection</p>
4627	Medicine	Rheumatology/Orthopedics & Sports	<p>Paget disease of bone: *increased bone remodeling* & abnormal osteoid formation. Headaches, deafness, neuropathy, bone/back pain. Elevated alkaline phosphatase. Tx-bisphosphonates</p>

4636	Medicine	Rheumatology/Orthopedics & Sports	<p>Carpal tunnel syndrome can occur in pregnancy. Initial tx involve neutral position *wrist splinting* and NSAIDs. Local corticosteroid injection is used when wrist splinting doesn't relieve sx. Surgical decompression of the carpal tunnel is performed when conservative management fails.</p> <p>NSAID use during pregnancy is ass. w/ an increased risk of miscarriage & may promote premature closure of the fetal ductus arteriosus</p>
4659	Medicine	Rheumatology/Orthopedics & Sports	<p>Paget's disease: *osteoclast dysfunction*, femoral bowing, hearing loss</p> <p>Overproduction of calcitriol(active form of Vit D) is seen in granulomatous diseases such as sarcoidosis & tuberculosis. Hypercalciuria & hypercalcemia may occur</p>
4743	Medicine	Rheumatology/Orthopedics & Sports	<p>Neurogenic arthropathy (charcot joint) is a complication of neuropathy & repeated joint trauma. It affects weight-bearing joints & manifests w/ functional limitation, deformity, & degenerative joint disease & loose bodies on joint imaging</p> <p>Gout: from uric acid deposition within joints. X-rays of joints reveal punched out erosions w/ an overhanging rim of cortical bone known as a "rat bite" lesion</p>
4933	Medicine	Rheumatology/Orthopedics & Sports	<p>Morton neuroma: Mechanically induced degenerative neuropathy.Common in runners. Numbness or pain between the 3rd & 4th toes. Clicking sensation when palpating space between 3rd & 4th toes while squeezing the metatarsal joints. Tx-conservative, w/ metatarsal support or padded shoe inserts</p> <p>Tarsal tunnel syndrome: compression of tibial nerve as it passes thru ankle. Burning,numbness & aching of the distal plantar surfaces of the foot/toes</p>
8866	Medicine	Rheumatology/Orthopedics & Sports	<p>Fluoroquinolone use is ass w/ tendinopathy & tendon rupture (Achilles most common)</p> <p>Osteonecrosis(aka aseptic, avascular, atraumatic or ischemic necrosis) typically presents w/ gradual onset of pain in weight bearing joints(hip most common). Risk factors include corticosteroid use, excessive alcohol intake, SLE, sickle cell disease</p>
8886	Medicine	Rheumatology/Orthopedics & Sports	<p>Patellofemoral syndrome:In young female athletes.Pain that increases w/ squatting,running,prolonged sitting,using stairs.Patellofemoral compression test(pain elicited by extending knee while compressing the patella)</p> <p>Patellar tendonitis:In athletes("jumper's knee").Episodic pain/tenderness at inferior patella</p> <p>Osgood-Schlatter disease:In preadolescent/adolescent athletes,recent growth spurt.Increase in pain w/ sports,relieved by rest.Tenderness/swelling at tibial tubercle</p>
8895	Medicine	Rheumatology/Orthopedics & Sports	<p>ACL injuries present w/ rapid onset of pain & swelling w/ hemarthrosis</p> <p>MCL tears: tenderness at medial knee,laxity when foot is forced into abduction w/ the knee stationary.No hemarthrosis unless there is concurrent ACL injury</p> <p>Rupture of popliteal cyst(Baker cyst): posterior knee pain, common in older adults, ass. w/ osteoarthritis of knee, swelling at posterior knee & calf. Knee effusions & hemarthrosis are usually not present.</p>
8933	Medicine	Rheumatology/Orthopedics & Sports	<p>Acute gout:acute monoarthritis, usually in the first metatarsophalangeal joint or knee. Synovial fluid analysis shows leukocytosis & *monosodium urate crystals*, which are needle-shaped(google pic) & negatively birefringent</p> <p>Google what Calcium pyrophosphate crystals look like! They are rhomboid shaped</p> <p>Sarcoid arthritis:charac by noncaseating granulomas involving synovial membrane.Presents w/ gradual onset symmetrical oligoarticular arthritis,commonly in the ankles</p>
9906	Medicine	Rheumatology/Orthopedics & Sports	Primary Raynaud phenomenon: Tx involves mainly calcium channel blockers (eg, nifedipine, amlodipine) & avoiding aggravating factors
9939	Medicine	Rheumatology/Orthopedics & Sports	Pts w/ suspected secondary Raynaud phenomenon should be tested for autoantibodies(eg,*antinuclear antibodies*) & inflammatory markers
10434	Medicine	Rheumatology/Orthopedics & Sports	<p>Pyoderma gangrenosum causes a rapidly progressive & painful ulcer w/ a purulent base & violaceous borders. More than 50% of pts have associated systemic disease (eg, inflammatory bowel disease). Dx w/ skin biopsy. Tx w/ corticosteroids.</p> <p>Ecthyma gangrenosum (EG): hemorrhagic pustules w/ surrounding erythema that evolve into necrotic ulcers. Often due to Pseudomonas aeruginosa & occurs in the setting of profound neutropenia & P aeruginosa bacteremia</p>
11254	Medicine	Rheumatology/Orthopedics & Sports	<p>Adhesive capsulitis(frozen shoulder): More stiffness than pain. Decreased passive & active range of motion(ROM)</p> <p>Glenohumeral osteoarthritis: sx gradual in onset, hx of past trauma to shoulder</p> <p>Rotator cuff tears:fall on outstretched arm,pain on lifting or abduction,defect in active ROM,passive ROM is preserved,age >40,weakness w/ external rotation</p> <p>Rotator cuff tendinopathy:pain w/ abduction,external rotation,normal ROM w/ positive impingement tests,subacromial tenderness</p>

11915	Medicine	Rheumatology/Orthopedics & Sports	Autoimmune sialadenitis in Sjogren syndrome causes enlargement of the parotid & submandibular glands. Involvement of salivary & other exocrine glands (eg, lacrimal glands) can produce sicca syndrome, characterized by generalized dryness of mucous membranes, leading to dry mouth, irritated/itchy eyes, cough, & *dyspareunia* Pts w/ atopic diathesis present w/ seasonal allergies characterized by nasal congestion, rhinorrhea, & often allergic conjunctivitis
11980	Medicine	Rheumatology/Orthopedics & Sports	Felty syndrome: triad of inflammatory arthritis, splenomegaly, & neutropenia. It's most common in pts w/ established rheumatoid arthritis(RA) but can sometimes precede this dx. Pts have severe, seropositive RA w/ increased risk for extra-articular manifestations(vasculitis, skin ulcers). Usually improves w/ tx of the underlying RA(eg, methotrexate)
11988	Medicine	Rheumatology/Orthopedics & Sports	*Antinuclear antibody* is a very sensitive but nonspecific marker for systemic lupus erythematosus. If antinuclear antibody is elevated, more specific autoantibodies (eg, anti-double-stranded DNA) can confirm the diagnosis. Complement levels & erythrocyte sedimentation rate or C-reactive protein can assess ongoing disease activity Anti-cyclic citrullinated antibodies are a specific marker for rheumatoid arthritis
12057	Medicine	Rheumatology/Orthopedics & Sports	Takayasu arteritis: large artery vasculitis, most common in young Asian women. Initial sx-fever, 'arthralgias', weight loss'. Later features-arterio occlusive sx('exertional arm pain[claudication]', ulcers) in upper extremities, 'BP discrepancies', pulse deficits. Also get arterial bruits, elevated inflam markers(ESR, CRP). CT/MRI can reveal aneurysm formation or luminal narrowing. Tx-systemic glucocorticoids Aortic coarctation cause pulse deficits & BP discrepancies in lower extremities
12059	Medicine	Rheumatology/Orthopedics & Sports	Mngmt of chronic back pain(>12 wks) should include an *exercise program* emphasizing stretching & strengthening of the back muscles & aerobic conditioning. Acetaminophen or NSAIDs can be used intermittently. Some pts may benefit from tricyclic antidepressants or duloxetine. [Opioids, benzodiazepines, & muscle relaxants ARE NOT advised!] Pts w/ acute low back pain(<4 wks) should be advised to maintain moderate activity w/ short courses of acetaminophen or NSAIDs for pain relief
12060	Medicine	Rheumatology/Orthopedics & Sports	Hinged knee orthotic braces are primarily used for the prevention & tx of ligamentous injuries Rigid knee immobilizers are used acutely for patellar fractures or tears of the quadriceps or patellar tendon Surgery is rarely needed in patellofemoral pain syndrome & generally only rec when pts have failed 6-12 mo of conservative management
3614	Medicine	Social Sciences (Ethics/Legal/Professional)	Doc can respond to an employer's request for health info only if pt has provided verbal or written authorization for release of info to the employer. [A written (rather than verbal) release of info document is preferred to protect pt & physician from any misunderstanding, but this is not a HIPAA requirement]. Doc should disclose only minimum amount of protected health info needed to respond to specific request (no need to disclose pts dx to employer) "minimum necessary" disclosure
3625	Medicine	Social Sciences (Ethics/Legal/Professional)	Meningococcal meningitis is a highly contagious disease that can lead to devastating complications & outbreaks in the community. Tx involves isolation, IV abx, & supportive care in an intensive care setting to monitor disease progression. A pt who doesn't comply voluntarily needs to be hospitalized against his/her wishes. It's ethical for the doc to isolate a noncompliant pt until the pt no longer poses a risk
4653	Medicine	Social Sciences (Ethics/Legal/Professional)	Brain death is a legally acceptable definition of death, and artificial life support does not need to be continued
8942	Medicine	Social Sciences (Ethics/Legal/Professional)	Hospice requirement: Pts w/ prognosis of <6 months
10660	Medicine	Social Sciences (Ethics/Legal/Professional)	Communication failures between physicians during pt handoffs are a large contributor to medical errors & adverse pt outcomes
10661	Medicine	Social Sciences (Ethics/Legal/Professional)	Medical errors resulting from communication failures between medical providers are most effectively addressed by implementing a systematic signout process that includes *checklists* to improve efficacy & accuracy
11911	Medicine	Social Sciences (Ethics/Legal/Professional)	Accepting gifts from interested third parties can influence a physician's practice in subtle or subconscious ways. Only nonmonetary gifts that are of minimal value & that directly benefit the pt, such as unbiased educational material or drug samples, should be considered. [A flash drive (example used in question), although not of high monetary value, doesn't directly benefit pt care & shouldn't be accepted]
4734	Obstetrics & Gynecology	Allergy & Immunology	Congenital rubella syndrome: cataracts, patent ductus arteriosus, sensorineural hearing loss, intrauterine growth retardation, & purpura. Best way to protect infant is by maternal vaccination prior to conception
10505	Obstetrics & Gynecology	Biostatistics & Epidemiology	Hemophilia A is an X-linked recessive disorder. Carrier mothers & unaffected fathers- 25% of their children would be expected to have hemophilia A, 25% would be silent carriers, & 50% would be unaffected
2400	Obstetrics & Gynecology	Cardiovascular System	1st line agents for management of essential htn during pregnancy are *labetalol* & methyldopa. Calcium channel blockers & hydralazine are acceptable alternate therapies. (ACE inhibitors & ARBs are contraindicated in pregnancy!)

3914	Obstetrics & Gynecology	Cardiovascular System	An oral contraceptive can cause hypertension, & discontinuing its use can correct the problem in most pts
4715	Obstetrics & Gynecology	Cardiovascular System	Mitral stenosis: sx- worsening dyspnea, orthopnea, hemoptysis causes left atrial enlargement 70% of pts develop atrial fibrillation rheumatic heart disease is leading cause of mitral stenosis physical exam reveals diastolic rumble at apex and/or opening snap occurs in countries with limited access to antibiotics e.g. eastern europe
2423	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	*Infants born to women w/ Graves' disease* at risk for thyrotoxicosis due to passage of maternal *TSH receptor antibodies* across placenta(antibodies bind to infant's TSH receptors & cause excessive thyroid hormone release). Affected infants are irritable,tachycardic,& gain weight poorly.Methimazole + B blocker are given to symptomatic pts until the condition self-resolves over few weeks to months TSH levels surge in newborns after delivery->rise in T3 & T4 (physiologic)
2425	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	Adrenocortical cancers are rare,aggressive tumors.Androgen producing adrenal tumors (androblastoma,arrhenoblastoma,stromal & hilus cell tumor) typically present in adulthood w/ rapidly progressive hirsutism & sometimes virilization.Serum DHEA-S,an adrenal androgen,is markedly elevated w/ concentrations >700 ug/dL Ovarian germ cell tumors:present w ab enlargement,precocious puberty,abnormal vaginal bleeding,pregnancy sx due to increased B-hCG.Dont usually cause hirsutism
4124	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	Pregnant women have increased thyroid hormone production(increased total T4 & T3) as well as increased thyroxine binding globulin, w/ a net result of slightly elevated free T4 & T3, & decreased TSH compared to non-pregnant women
4149	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	The major source of estrogen in menopausal women is from peripheral conversion of adrenal androgens by the aromatase enzyme present in adipose tissue/peripheral fat. This process is increased in obese women & may result in milder menopausal sx Increased levels of FSH are a response to the decrease in estrogen levels (via feedback to the pituitary gland)
4220	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	Secondary amenorrhea: absence of menses for >3 cycles or >6 months in women who menstruated previously. Initial evaluation includes B-hCG to exclude pregnancy. Next order serum prolactin, TSH, & FSH to differentiate between the mcc of secondary amenorrhea (hyperprolactinemia, thyroid dysfunction, premature ovarian failure) Pts w/ hx of uterine procedures or infection may have scarring of the uterine cavity (Asherman syndrome)
4678	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	Sheehan syndrome(postpartum ischemic necrosis of the anterior pituitary) is a potentially life-threatening complication of massive postpartum hemorrhage. It typically presents w/ lactation failure (prolactin deficiency) as well as hypotension & anorexia (secondary adrenal insufficiency) Pituitary apoplexy: spontaneous hemorrhage into pituitary gland,sudden pituitary enlargement can compress oculomotor nerves & cause acute headache,diplopia,vision loss
8888	Obstetrics & Gynecology	Endocrine, Diabetes & Metabolism	*Levothyroxine dose is increased* during pregnancy in the majority of patients w/ hypothyroidism It is essential to adequately treat hypothyroidism during pregnancy. Studies have shown that children of pts w/ inadequately treated hypothyroidism have a lower IQ
2330	Obstetrics & Gynecology	Female Reproductive System & Breast	Diagnostic peritoneal lavage: invasive procedure to evaluate for intraabdominal bleeding. Performed on pts w/ trauma.
2344	Obstetrics & Gynecology	Female Reproductive System & Breast	Lactational mastitis: breast feeding women are at risk for it if there are missed nursing sessions leading to inadequate milk drainage. Tx- analgesics, frequent breastfeeding(every 2-3 hours) w/ both breasts, & antibiotics directed at S.aureus(dicloxacillin or cephalixin for MSSA & clindamycin,TMP-SMX, vancomycin for MRSA)
2345	Obstetrics & Gynecology	Female Reproductive System & Breast	Palpable breast mass in pt < 30 years of age -> evaluate w/ ultrasound Palpable breast mass in pt > 30 years of age -> evaluate w/ mammogram & ultrasound Bottom line, palpable breast masses should have an imaging evaluation done even if the findings are benign on physical exam(physical exam alone is not sufficient for excluding the possibility of malignancy). Don't provide reassurance without doing imaging. [Family hx of breast cancer in first degree relative is concerning]
2362	Obstetrics & Gynecology	Female Reproductive System & Breast	Fat necrosis shows clinical & radiographic findings similar to those seen in breast cancer, including skin or nipple retraction & calcifications on mammography. Biopsy of the mass will reveal fat globules & foamy histiocytes in fat necrosis. No tx is indicated for this self-limited condition
2391	Obstetrics & Gynecology	Female Reproductive System & Breast	*Endometrial biopsy* is indicated for evaluating abnormal uterine bleeding in: -Women >45 & all postmenopausal women -Women age <45 w/ persistent sx or risk factors for endometrial cancer(obesity,diabetes,unopposed estrogen exposure,PCOS,early menarche/late menopause) -Unopposed estrogen exposure(eg,obesity,PCOS) -Prolonged amenorrhea w/ anovulation

2392	Obstetrics & Gynecology	Female Reproductive System & Breast	Combination estrogen/progestin oral contraceptive pills (OCPs) contain a low dose of estrogen. *A potential side effect is an increase in blood pressure.*
2393	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Copper IUD: most effective postcoital contraceptive. Can insert within 5 days after sex. Age & parity are not contraindications. Only contraindications are acute cervicitis & PID</p> <p>Depot medroxyprogesterone acetate & etonogestrel subdermal implant: precoital contraceptive. Inhibit GnRH secretion → inhibit follicular development dependent on FSH/LH</p> <p>Levonorgestrel & ulipristal: pills for emergency contraception only. Most effective before ovulation. Less effective than copper IUD</p>
2394	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Primary dysmenorrhea: crampy lower abdomen &/back pain DURING menses, absence of dyspareunia or GI sx, & normal physical examination. Tx-NSAIDs & hormonal contraception for pain relief</p> <p>Endometriosis: pain peaks before menses, dyspareunia, infertility</p> <p>Adenomyosis: menorrhagia, bulky globular & tender uterus, dysmenorrhea, pelvic pain</p> <p>Pelvic congestion: dull & ill-defined pelvic ache that worsens w/ standing, dyspareunia</p>
2398	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Stress incontinence: loss of urine w/ increased intra-abdominal pressure (laughing, coughing, sneezing). Urethral hypermobility (demonstrates angle >30 degrees upon increase in intra-abdominal pressure). Tx-Kegel exercises & restoration of urethrovesical angle by *urethropexy*</p> <p>Urge incontinence: sudden urge to urinate that can occur at any time (not just w/ increases in intra-abdominal pressure), due to detrusor hyperactivity. Tx-Oxybutynin</p> <p>Overflow incont. tx: bethanechol & α-blockers</p>
2408	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Raloxifene: Antagonist in breast & vaginal tissue. Agonist in bone tissue (increases bone mineral density). 1st line agent for prevention of osteoporosis. Decreases breast cancer risk. *Increased risk of venous thromboembolism* so it's *contraindicated in pts w/ a hx of DVT*</p> <p>Unlike tamoxifen, raloxifene doesn't increase the risk for endometrial cancer</p>
2410	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Tamoxifen:</p> <ul style="list-style-type: none"> *Antagonist of estrogen receptors in the breast (prevention of breast cancer) *Partial-agonist of estrogen on the endometrium & increases risk for endometrial carcinoma *Agonist of estrogen receptor on osteoclasts, thus decreasing risk of osteoporosis <p>Tamoxifen tx shows an overall mortality benefit, which outweighs the increased risk of endometrial cancer</p> <p>Ischemic optic neuropathy ass. w/ use of phosphodiesterase inhibitors like sildenafil (Viagra) & vardenafil</p>
2418	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Pt w/ abnormal uterine bleeding:</p> <p>First do endometrial biopsy</p> <ol style="list-style-type: none"> 1) If hyperplasia w/o atypia, do Progestin therapy. 2) If hyperplasia with atypia, no plans for pregnancy, or fails medical management, perform Hysterectomy. 3) If hyperplasia with atypia but considering future pregnancy, do Progestin therapy
2419	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Premenstrual syndrome (PMS): bloating, fatigue, headaches, & breast tenderness, anxiety, mood swings, difficulty concentrating, decreased libido, & irritability. Sx begin 1-2 weeks prior to menses and regress around the time of menstrual flow.</p> <p>In order to confirm diagnosis, recommend pt keep a *menstrual diary* for 2-3 months and note associated sx.</p> <p>Premenstrual dysphoric disorder (PMDD) is a severe variant of PMS, w/ prominent irritability & anger</p> <p>Tx for PMS/PMDD- SSRI's</p>
2420	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Vaginismus: caused by involuntary contraction of the perineal musculature. Underlying cause is psychological (fear of vaginal penetration). Tx-*relaxation, Kegel exercises (to relax vaginal muscles), & insertion of dilators, fingers, etc. to bring about desensitization*</p> <p>Tx for anorgasmia: self stimulation techniques</p> <p>Tx for postmenopausal women w/ vaginal dryness: lubricants</p> <p>Tx for hypoactive sexual desire: referral to a sex therapist</p>
2546	Obstetrics & Gynecology	Female Reproductive System & Breast	Endometriosis is a common cause of infertility and chronic pelvic pain. Commonly affects women w/ nulliparity or early menarche. A cystic ovarian mass (endometrioma) can be seen on pelvic ultrasound dx- laparoscopy, which shows "chocolate" appearing material representing old blood
2606	Obstetrics & Gynecology	Female Reproductive System & Breast	Estrogenic effects of tamoxifen increase the risk of endometrial cancer, which arises in the lining of the uterus and uterine sarcoma, which arises in the muscular wall of the uterus. Also increases risk of venous thrombosis. Women taking tamoxifen but have had a hysterectomy are not at increased risk for these cancers.
2607	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Paget's disease of breast:</p> <p>suspect in pt w/ no prior hx of skin disease who presents w/ an eczematous rash near nipple that doesn't improve w/ topical treatments.</p> <p>pts w/ paget's disease have an underlying breast adenocarcinoma</p>

2608	Obstetrics & Gynecology	Female Reproductive System & Breast	TRASTUZUMAB aka Herceptin is used to tx breast cancer that is HER2 positive. *Echocardiogram* rec before tx as there is a risk of developing CARDIOTOXICITY, esp in pts w/ baseline low ejection fractions(less than 55%)
2611	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Fibrocystic disease: rubbery, firm, mobile & painful mass in a young pt, more tenderness during menses, aspiration of cyst yields clear fluid & results in disappearance of the mass. Observe pts afterwards for 4 to 6 weeks</p> <p>Mammograms in women < 35 years of age isn't useful since the dense breast tissue at this age doesn't allow adequate visualization of any masses if present</p> <p>We do cytology if aspirated fluid(from cyst in breast) is bloody or foul smelling</p>
2612	Obstetrics & Gynecology	Female Reproductive System & Breast	Overexpression of the oncogene HER2 can be detected either by immunohistochemical staining or FISH. Positivity predicts a positive response to trastuzumab & anthracycline chemotherapy.
2613	Obstetrics & Gynecology	Female Reproductive System & Breast	Despite the fact that serum antigen CA125 & pelvic ultrasound can help to dx ovarian cancer in pts w/ sx or as a screening tool in pts w/ an increased risk secondary to hereditary factors(BRCA gene), *SCREENING IS CURRENTLY NOT REC FOR PTS AT AVERAGE RISK OF OVARIAN CANCER*
3120	Obstetrics & Gynecology	Female Reproductive System & Breast	Adenomyosis: common in multiparous women age >40. Ass. w/ early menarche, short menstrual cycles, prior uterine surgery, & preterm birth. Symmetrically enlarged uterus may feel boggy, globular, & soft. Sx of dysmenorrhea, menorrhagia, & sometimes mid-cycle bleeding. Eventually, untreated pts have chronic pelvic pain. Dx made w/ surgical pathology after hysterectomy.[Sx of mass effect, such as constipation & urinary frequency are not features of adenomyosis]
3278	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>First trimester ultrasound w/ crown rump length measurement is the most accurate method of determining gestational age.</p> <p>It becomes less accurate as the pregnancy progresses.</p> <p>After first trimester, fetal abdominal circumference, biparietal diameter, femur length, & head circumference are used to estimate gestational age</p> <p>After 20 wks gestation, fundal height can be used to determine gestational age(however it's confounded by leiomyomata and obesity)</p>
3338	Obstetrics & Gynecology	Female Reproductive System & Breast	There is no role for meds in the suppression of breast milk production. Pts are advised to wear a tight-fitting bra, avoid nipple manipulation & use ice packs & analgesics to relieve ass. pain [Emptying of the breasts will only maintain milk production & thus, make the condition worse]
3339	Obstetrics & Gynecology	Female Reproductive System & Breast	Progestin only oral contraceptives: preferred form of hormonal contraception for lactating mothers
3340	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Amenorrhea occurs in lactating mothers due to high levels of circulating prolactin, which has an inhibitory effect on GnRH(GnRH production from hypothalamus is necessary for production of LH & FSH by anterior pituitary. LH & FSH induce ovulation. Menses can't occur when ovulation is suppressed in this manner)</p> <p>Oxytocin imp for uterine involution in postpartum period</p> <p>hPL->maternal lipolysis & insulin resistance->increased delivery of fatty acids/glucose to fetus</p>
3359	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Important side effects of oral contraceptive pills include breakthrough bleeding, htn, & increased risk of venous thromboembolism. Weight gain is usually not an ass. adverse effect</p> <p>Cervical cancer screening should only begin at age 21, regardless of when pt started sexual activity. The only exceptions are women w/ HIV or SLE or organ transplant pts receiving immunosuppression</p>
3365	Obstetrics & Gynecology	Female Reproductive System & Breast	A *hysterosalpingogram* is used to dx an anatomic cause of infertility such as tubal obstruction from prior pelvic infection
3367	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Because the ovaries are functional in pts w/ PCOS, ovulation can be induced by tx w/ *clomiphene citrate* (CC). CC is an estrogen analog that improves GnRH release & FSH release thereby improving the chances of ovulation. PCOS pts are also tx w/ metformin, which has been independently shown to improve ovulation</p> <p>Luteal phase defect: give progesterone supplementation</p> <p>In vitro fertilization may be appropriate after other less costly avenues for fertility tx have been exhausted</p>
3368	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Infertility in premature ovarian failure: tx-in vitro fertilization w/ donor oocytes</p> <p>Some cases of idiopathic premature ovarian failure are of autoimmune origin</p> <p>Clomiphene citrate induces ovulation in anovulatory women who have some ovulatory reserve eg PCOS pts. Metformin also used for PCOS</p> <p>Progesterone corrects luteal phase defect (failure of corpus luteum to produce progesterone to maintain endometrium & allow implantation of an embryo)</p>

3370	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>In the ovulatory phase of the menstrual cycle, cervical mucus is profuse, clear & thin. It will stretch to approximately 6 cm(spinnbarkeit) & exhibit ferning on a microscope slide smear preparation. pH is 6.5 or greater(more basic than other phases)</p> <p>Mucus of the post- & pre-ovulatory phases is scant, opaque, & thick</p>
3480	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Midcycle pain (Mittelschmerz): abdominal pain in a young female in the middle of her cycle(2 weeks after LMP). Benign hx & clinical exam</p> <p>Ovarian torsion: Medical emergency. Sudden onset lower quadrant abdominal pain that radiates to the groin or back. Accompanied by nausea & vomiting. Adnexal mass present.</p> <p>Ovarian hyperstimulation syndrome: complication of ovulation inducing drugs. Abdominal pain due to ovarian enlargement. Accompanied by ascites & respiratory difficulty.</p>
3509	Obstetrics & Gynecology	Female Reproductive System & Breast	The proteinuria in preeclampsia is best evaluated by a *urine protein-to-creatinine ratio* or a *24-hour urine collection for total protein (gold standard)*
3656	Obstetrics & Gynecology	Female Reproductive System & Breast	Treat Candida vaginitis w/ Fluconazole
3757	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>*Genital warts*(condyloma acuminata): caused by *HPV*, present as clusters of pink/skin-colored lesions w/ smooth, teardrop appearance on genitalia. Small lesions can be tx in office w/ *trichloroacetic acid* or podophyllin</p> <p>Condyloma lata: caused by secondary syphilis, charac by flat velvety lesions, responds to penicillin</p> <p>Vulvar lichen planus affects middle-aged women. Lesions may be hyperkeratotic, erosive or papulosquamous in appearance. Pruritus, soreness, vaginal discharge common</p>
3814	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Causes of premature ovarian failure include *chemotherapy*, radiation, autoimmune ovarian failure, Turner's syndrome, & fragile X syndrome</p> <p>Sx of premature ovarian failure include amenorrhea, hot flashes, vaginal & breast atrophy, anxiety, depression, & irritability</p>
3861	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Genito-pelvic pain/penetration disorder (vaginismus): female pt expressing pain w/ intercourse/penetration</p> <p>Gender dysphoria: incongruence between pt's expressed gender & assigned gender for at least 6 months. Pts may wish to be treated as the other gender or to be rid of their sexual characteristics</p> <p>Sexual masochism disorder: sexual arousal from being humiliated, beaten, suffering</p> <p>Testicular feminization: male genotype has female phenotype due to in utero resistance to androgens</p>
3862	Obstetrics & Gynecology	Female Reproductive System & Breast	Endometriosis(the "3 Ds"): dyspareunia, dysmenorrhea(painful menstruation), & dyschezia(pain w/ defecation). For pts w/ pelvic pain w/o complications, tx w/ NSAIDs, *combined oral contraceptives*, progestins, or gonadotropin-releasing hormone agonists. For complicated endometriosis(eg, bowel/bladder obstruction, rupture of endometrioma) & for pts refractory to medical therapy, laparoscopy useful for dx & tx
3913	Obstetrics & Gynecology	Female Reproductive System & Breast	Transverse vaginal septum: is due to malformation of urogenital sinus & Mullerian ducts. Breast development occurs. Normal axillary & pubic hair. Normal uterus and ovaries. Abnormal vagina. Can cause amenorrhea. 46,XX karyotype
4135	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>*hCG is responsible for the preservation of the corpus luteum in early pregnancy*</p> <p>Progesterone is responsible for preparing the endometrium for implantation of a fertilized ovum. It also helps to inhibit uterine contractions</p> <p>Estrogen is responsible for induction of prolactin production during pregnancy</p>
4136	Obstetrics & Gynecology	Female Reproductive System & Breast	Hyperthyroidism & menopause can have similar presentations, & serum TSH & FSH levels should be checked in pts w/ these sx
4221	Obstetrics & Gynecology	Female Reproductive System & Breast	*Prolactin production* is *stimulated by* serotonin & *TRH* & inhibited by dopamine. Hypothyroidism may result in amenorrhea & galactorrhea
4224	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Stress incontinence: hx of loss of small amounts of urine simultaneously occurring w/ activities that increase intraabdominal pressure(coughing, sneezing, laughing), common in older women, high parity is a risk factor, *pelvic floor weakness*(due to high number of vaginal deliveries). [Uterine prolapse and/or cystocele indicate pelvic floor weakness]</p> <p>Urge incontinence: sudden/frequent loss of moderate to large amounts of urine, nocturia & frequency, urgency</p>
4283	Obstetrics & Gynecology	Female Reproductive System & Breast	Secondary amenorrhea is relatively common in elite female athletes & results from estrogen deficiency

4480	Obstetrics & Gynecology	Female Reproductive System & Breast	Functional hypothalamic amenorrhea: suppression of HPO axis w/o a known anatomic or metabolic cause. May occur in women who undergo excessive physical training(w/ or w/o weight loss or caloric restriction). Factors implicated in suppression of HPO axis are low body fat mass & leptin, & elevated Ghrelin, neuropeptide Y, GABA, beta-endorphine, & corticotropin-releasing hormone. Pts at high risk for *bone loss* due to low estrogen levels
4496	Obstetrics & Gynecology	Female Reproductive System & Breast	Aromatase deficiency:hx of normal internal genitalia w/ ambiguous external genitalia,clitoral hypertrophy,high FSH/LH w/ low estrogen,& multiple ovarian cysts/polycystic ovaries Congenital adrenal hyperplasia: pseudohermaphroditism in females w/ virilization,salt wasting McCune-Albright syndrome:cafe au lait spots, polyostotic fibrous dysplasia,endocrine hyperfunction,precocious puberty Kallmans syndrome:hypogonadotropic hypogonadism w/ anosmia,delayed puberty,low FSH & LH
4542	Obstetrics & Gynecology	Female Reproductive System & Breast	Intraductal papilloma: intermittent bloody discharge from one nipple no masses
4543	Obstetrics & Gynecology	Female Reproductive System & Breast	Physiologic galactorrhea is usually bilateral & can be milky(most common), yellow, brown, gray, or green. Hyperprolactinemia is the mcc of physiologic galactorrhea. Galactorrhea should be evaluated w/ *serum prolactin, thyroid-stimulating hormone, & possible brain MRI.*
4756	Obstetrics & Gynecology	Female Reproductive System & Breast	37 y/o lady w/ regular menstrual cycles is having a difficult time getting pregnant due to age related *decreased ovarian reserve*
4758	Obstetrics & Gynecology	Female Reproductive System & Breast	Pregnant women w/ high-grade squamous intraepithelial lesion on Pap testing should be evaluated w/ colposcopy. If initial colposcopy is negative, repeat cytology & colposcopy are recommended after delivery. Cervical biopsy & LEEP are not performed during pregnancy unless there is a lesion suggestive of invasive cancer
4759	Obstetrics & Gynecology	Female Reproductive System & Breast	An intrauterine pregnancy should be seen w/ transvaginal ultrasonography at B-HCG levels of 1,500-2,000 mIU/mL. If the level is <1,000 mIU/ml, *both B-HCG & transvaginal ultrasonography should be repeated in 2-3 days*
4768	Obstetrics & Gynecology	Female Reproductive System & Breast	PCOS: *anovulation*, excessive LH (& insufficient FSH). Excess LH stimulates excess androgen production by ovarian theca cells resulting in male-pattern hair growth & acne, & ovarian cysts Luteal phase defect indicates poor preparation of the endometrium for implantation due to progesterone deficiency. Following ovulation, progesterone is produced in increased amounts by corpus luteum Abnormal cervical mucus(as in cervicitis) can be a cause of infertility
4769	Obstetrics & Gynecology	Female Reproductive System & Breast	Most menstrual cycles in the first 1-2 years following menarche are anovulatory(due to immature hpo axis that fails to produce LH & FSH in the amount needed to induce ovulation). They are irregular & may be complicated by menorrhagia Bleeding disorders cause unusually heavy menses(not irregular). Needs blood transfusions Cervical polyps can cause bleeding following trauma ie during sex
4773	Obstetrics & Gynecology	Female Reproductive System & Breast	*Laparoscopy* w/ visualization & biopsy of implants is the only definitive way to dx endometriosis. It's indicated when NSAIDs & hormonal contraceptive tx have failed Endometriosis:pts can be asymptomatic or develop dysmenorrhea, dyspareunia, & chronic pelvic pain that worsens before onset of menses Hysterosalpingogram explores uterine cavity & patency of fallopian tubes[however in endometriosis, endometrial tissue is outside of the uterus]
4774	Obstetrics & Gynecology	Female Reproductive System & Breast	Pts w/ endometriosis at increased risk of impaired fertility or *infertility*
4787	Obstetrics & Gynecology	Female Reproductive System & Breast	Copious vaginal discharge by itself is not necessarily pathologic. The amount of vaginal discharge can vary between women. Copious vaginal discharge that is white or yellow in appearance, nonmalodorous(doesn't have odor), & occurs in the absence of other sx or findings on vaginal exam is referred to as physiologic leukorrhea. It doesn't require tx, & women w/ this condition should receive reassurance.
4788	Obstetrics & Gynecology	Female Reproductive System & Breast	Bacterial vaginosis: Thin, gray white vaginal discharge, vaginal pH > 4.5, positive "whiff" test upon addition of KOH to the vaginal discharge, "clue cells"(vaginal epithelial cells w/ adherent coccobacilli) on wet mount. Tx- metronidazole

4791	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Genital ulcers of Chancroid* and Herpes* genitalis are both painful*</p> <p>Genital ulcers/chancres of primary syphilis* is painless*</p> <p>Primary syphilis: accompanied by painless inguinal adenopathy. If left untreated, heals on its own in 1-3 mo</p> <p>Granuloma inguinale (Donovanosis): also has painless ulcers like syphilis but no adenopathy. Also it doesn't resolve on its own. Need antibiotic tx!</p> <p>Basal cell carcinoma: sun exposure, pearly colored papules covered w/ telangiectasias, face/trunk</p>
4792	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Screening for syphilis can be done w/ VDRL, RPR and confirmation can be done w/ FTA-ABS. Since there is high rate of false-negatives w/ these tests, we actually use Darkfield microscopy to diagnose syphilis (it's highly effective in dx)</p>
4795	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>in HELLP syndrome, the microangiopathic hemolytic anemia causes hepatocellular necrosis and thrombi in portal system therefore causing elevated liver enzymes, liver swelling, distension of hepatic (Glisson's) capsule</p> <p>Preeclampsia is a risk factor for premature placental separation</p>
4810	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Lichen sclerosus: affects postmenopausal women. Sx- vulvar pruritus, dyspareunia, dysuria, painful defecation, discomfort. Exam shows porcelain-white polygonal macules & patches w/ atrophic "cigarette paper" quality. *Perform biopsy (vulvar punch biopsy) to rule out vulvar SCC!*</p> <p>Estrogen cream used for tx of menopause-related atrophic vaginitis, which also can be a cause of vaginal pruritus & dyspareunia</p>
4811	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>*High potency topical steroids are 1st line tx for lichen sclerosus (lichen sclerosus et atrophicus, LS&A)*</p> <p>Vaginal candidiasis tx: clotrimazole cream</p> <p>Genital warts tx: cryotherapy</p> <p>Radical vulvectomy used for treatment of high risk vulvar malignancies such as invasive SCC or melanoma</p>
8877	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Finding of atypical squamous cells of undetermined significance (ASC-US) on cytology: Women age 21-24 years- Repeat cytology in 1 year. Women age >25 years- HPV DNA test. If positive, do colposcopy. If negative, do repeat pap smear & HPV test in 3 years</p> <p>For "atypical squamous cells can't rule out high-grade squamous intraepithelial lesion" (ASC-H), atypical glandular cells, or high grade squamous intraepithelial lesion, we do colposcopy!</p>
8892	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Obesity is a common cause of amenorrhea. The amenorrhea is the result of anovulation. The FSH and LH levels are usually normal</p> <p>Menopause: 1 year of no menses. FSH and LH levels are elevated</p> <p>Pituitary dysfunction: FSH and LH levels are very low</p> <p>Premature ovarian failure: FSH and LH levels are elevated</p>
8899	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>PMS sx like mood swings, irritability, fatigue, bloating & breast tenderness occur 1-2 weeks prior to menses and resolves w/ onset of menstrual flow. Dx confirmed w/ menstrual diary</p> <p>Premenstrual dysphoric disorder (PMDD) is a severe variant of PMS w/ prominent irritability & anger sx</p> <p>Perimenopausal women w/ PMS develop irregular menstruation, as w/ mood swings, irritability, & somatic sx & worsening of sx until menses cease</p> <p>Menstrual cycle is a common trigger for migraine sx</p>
8903	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>adnexal/pelvic mass in asymptomatic postmenopausal women: evaluate initially with transvaginal ultrasonography and then cancer antigen (CA)-125 level elevation of CA-125 suspicious for ovarian cancer needle aspiration contraindicated due to poor sensitivity and risk of spillage and seeding of cancer cells into peritoneal cavity</p>
8917	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>HPV vaccine recommended for all girls and women (except those who are pregnant) age 9-26 regardless of HPV status or sexual activity. It's also recommended for boys and men age 9-21.</p> <p>Pts w/ HIV, SLE, organ transplant, or immunocompromised pts, are at increased risk for cervical cancer due to HPV infection so screening in these pts is recommended at the onset of sexual activity. Screen annually.</p>
8939	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Ovarian/adnexal torsion: affects women of reproductive age. RF-pregnancy, ovulation induction during infertility tx & ovarian masses (esp >5 cm). [Look for stem to mention hx of ovarian cyst even if its 4 cm]. Sx-sudden onset of moderate to severe pelvic pain (right side more common), nausea/vomiting, possible low grade fever. Vaginal bleeding is uncommon! Dx confirmed w/ ultrasound using color Doppler. Management includes laparoscopic surgery</p>

8941	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Ruptured ovarian cyst: unilateral pelvic pain immediately after strenuous activity/sex. Pelvic ultrasound shows free fluid in the pelvis</p> <p>Adnexal torsion: unilateral lower abdominal pain, nausea, vomiting, enlarged, edematous ovaries w/ decreased blood flow</p> <p>Mittelschmerz: mild, unilateral midcycle pain due to follicular enlargement prior to ovulation</p> <p>Tubo-ovarian abscess: RF-multiple sex partners, PID hx, fever, low ab pain, vaginal discharge. Complex multilocular fluid seen on ultrasound</p>
8948	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Uterine fibroids: feels enlarged, firm, irregular on examination. Large fibroids cause local compressive sx like constipation, urinary frequency/retention, & back/pelvic pain. Many pts have heavy and prolonged menstrual bleeding management- Ultrasound! It's highly sensitive for detecting uterine fibroids & ovarian pathology. Preferred imaging modality for suspected gynecological tumors</p> <p>Diagnostic laparoscopy is used to confirm suspicion of endometriosis or pelvic adhesions</p>
8953	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Uterine leiomyomas (fibroids): most common pelvic tumor seen in women. Present as pelvic masses w/ sx due to compression of adjacent organs(constipation, urinary frequency) & heavy, prolonged menstrual bleeding</p> <p>Pelvic adhesions: seen in women w/ hx of previous surgery or pelvic infection(chlamydia). Pelvic adhesions can present w/ pain or infertility (tubal factor). Physical examination findings range from a normal exam to an immobile uterus</p>
11985	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Premenopausal prophylactic *bilateral salpingo-oophorectomy (BSO)* in BRCA1-positive pts causes a significant decrease in the risk of ovarian cancer. BSO is rec for mutation carriers as soon as childbearing is complete, but not for pts w/o a hereditary ovarian cancer syndrome</p>
11987	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Urinary stress incontinence can be a presenting sx of leiomyomata uteri(fibroids) due to direct pressure on the bladder from an irregularly enlarged uterus. The best imaging modality to dx fibroids is US of the pelvis</p> <p>A pelvic organ prolapse(eg, cystocele), which can cause urinary incontinence, pelvic pressure, & bulging sensation in the vagina is less likely in a pt that is nulliparous</p> <p>Nucleic acid amplification testing can dx chlamydia infection</p>
12004	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Submucous fibroids can prolapse thru the cervical os & cause labor-like pain due to cervical distension by the solid mass</p> <p>Advanced carcinoma of the cervix could present as an exophytic friable, irregularly shaped lesion & postcoital spotting. It takes many years to develop & is unlikely in a pt w/ a recent normal Papanicolaou test</p>
12012	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Pregnancy contraindicated during breast cancer tx due to teratogenic agents like chemotherapy/radiation. All hormone containing contraception is contraindicated in pts w/ breast cancer(cuz of proliferative effect on breast tissue). *Copper intrauterine device* is a safe, effective, hormone free, long term method of contraception</p> <p>Progesterone IUD is an effective contraceptive, but it's contraindicated in setting of current breast cancer due to systemic absorption of progesterone</p>
12020	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Dysmenorrhea & heavy menstrual bleeding(soaking a pad/tampon more than every 2 hours) w/ *progression to chronic pelvic pain* are typical of adenomyosis. A boggy, tender, uniformly enlarged uterus on exam is characteristic of adenomyosis</p> <p>Cervical cancer can present w/ postcoital spotting or bleeding, but not pain. Exam would show an exophytic cervical mass</p>
12021	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>A woman has a 1 in 8 lifetime risk for breast cancer. *Alcohol consumption is a dose-dependent risk factor, & reduced intake will decrease the risk of breast cancer*. Protective lifestyle aspects include exercise & breastfeeding</p> <p>Long term use of systemic hormone replacement therapy increases the risk of breast cancer</p> <p>Oral contraceptive use decreases the risk of ovarian cancer(it has no effect on the incidence of breast cancer!)</p>
12026	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Risk of breast cancer in women increases w/ *chronological age*</p> <p>Screening mammography is initiated at age >50 due to increasing risk of breast cancer w/ age. Other imp risk factors include nulliparity, obesity, & prolonged hormone replacement therapy, all of which contribute to increased lifetime estrogen exposure</p>
12027	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Leiomyoma uteri (fibroids) are a proliferation of smooth muscle cells within the myometrium. They are a common cause of heavy menstrual bleeding->iron deficiency anemia->syncope, palpitations, tachycardia, low Hg, low MCV. Pts may present w/ acute sx of anemia & an irregularly enlarged uterus</p> <p>Hallmark of von Willebrand disease is impaired platelet aggregation due to a von Willebrand factor deficiency. Causes abnormal uterine bleeding & anemia but w/o uterine enlargement</p>

12050	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>A palpable adnexal mass on physical exam is best evaluated by *pelvic ultrasonography* to rule out malignant features[pelvic US is 1st line test for evaluation of palpable adnexal mass]</p> <p>Ultrasonography is superior to CT scan for evaluation of the pelvic organs, & CT scan is reserved for detection of metastases from ovarian cancer</p> <p>CA-125 testing has low sensitivity for initial screening of ovarian cancer in PREMENOPAUSAL pts. CA-125 is useful mainly in POSTMENOPAUSAL women</p>
12051	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Ovarian cancer:adnexal mass w/ pelvic pain/bloating due to *abnormal proliferation of ovarian/tubal epithelium* or peritoneum.US-*solid mass w/ thick septations & presence of ascites*</p> <p>Endometriomas:arise from ectopic implantation of endometrial gland on ovarian surface .US-homogenous cyst w/ internal echoes"ground glass"</p> <p>Mature cystic teratoma:US-hyperechoic nodules+calcifications</p> <p>Hydrosalpinx:fluid accumulation in fallopian tube due to blockage.US-mass separate from ovary</p>
12052	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Advanced ovarian cancer may present w/ a pelvic mass & ascites(SOB,decreased appetite,ab distension,decreased bowel sounds). Management involves *exploratory laparotomy* w/ cancer resection & staging w/ inspection of the entire abdominal cavity</p> <p>Hysteroscopy allows for direct visualization of the uterine cavity for the dx & tx of intrauterine pathology (eg, endometrial polyp, submucous myoma, adhesions)</p>
12053	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Postmenopausal bleeding w/ a thickened endometrium & a large ovarian mass is concerning for endometrial hyperplasia/cancer in the setting of a granulosa cell ovarian tumor(secretates estrogen). *Endometrial biopsy* is the gold standard test to rule out endometrial malignancy</p> <p>There is an association of endometrial hyperplasia w/ granulosa cell tumors(secretates estrogen)</p>
12054	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Menopausal genitourinary syndrome refers to vulvovaginal atrophy & related urinary sx due to *hypoestrogenism*. Vaginal estrogen is indicated for moderate to severe sx w/ urinary involvement</p>
12055	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Low estrogen levels affect the vulvovaginal tissue, leading to 'thin' vulvar skin, narrowed introitus, & 'dry' vaginal canal. Irritation & dyspareunia result from vulvovaginal *atrophy*</p> <p>Chronic candidiasis:ass w/ vulvar erythema,labial swelling/thickening,& moist erythematous rash w/ central clearing.Inguinal area frequently involved</p> <p>Contact dermatitis->thickened,erythematous, hypertrophied skin</p> <p>Lichen planus->'erythematous' lesions on vulva w/ 'erosive' areas</p>
12078	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Key findings of breast abscess include fever, focal erythema/pain, & fluctuance reflecting pus collection. *Needle aspiration & abx are 1st line tx*</p> <p>Incision & drainage w/ packing are rec for abscesses not responsive to needle aspiration & abx, suspected necrotic material, & large pus collections</p> <p>MRI used for breast cancer screening in BRCA gene carriers & in pre- & postoperative management of breast cancer</p>
12093	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Ovarian torsion: presents w/ nausea/vomiting, 'lower ab pain' & ultrasound findings of an 'adnexal mass without Doppler flow to ovary'. Management is w/ prompt *laparoscopy* & surgical restoration of anatomy w/ cystectomy</p>
12094	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Mature cystic teratomas (dermoid cyst) are benign ovarian cysts containing sebaceous material w/ epithelial components (hair, teeth). Intraperitoneal spillage of cyst contents can lead to chemical peritonitis. Evaluate w/ ultrasound. Tx w/ laparoscopic cystectomy</p> <p>Endometrioma:collection of old blood,commonly occurs as an ovarian mass.Cyst contents are a pathognomonic "chocolate-colored" fluid</p> <p>Hydrosalpinx(fluid collection in fallopian tube):long term complication of PID</p>
12109	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>*Rectovaginal fistula* may occur after obstetric trauma & presents w/ incontinence of flatus & feces thru the vagina(malodorous brown/tan discharge). Red, velvety rectal mucosa may be seen on the posterior vaginal wall. Tx is surgical repair of the fistulous tract</p> <p>Vesicovaginal fistula presents w/ clear watery vaginal discharge (urine) w/ a fistulous tract on the anterior vaginal wall</p>

12110	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>Bartholin cysts:soft, mobile, nontender masses located at base of labia majora. Larger cysts cause discomfort during sex, walking, sitting, exercise. Symptomatic cysts require I&D, followed by Word catheter placement</p> <p>Infected Bartholin gland can evolve into an abscess(localized erythema, induration & fluctuancy, +/- fever)</p> <p>Vulvar inclusion cysts:from local trauma(episiotomy, laceration)</p> <p>Epidermal cysts:from ductal blockage of sebaceous glands</p> <p>Epithelial cysts:on hair bearing sites</p>
12143	Obstetrics & Gynecology	Female Reproductive System & Breast	<p>*Vesicovaginal fistulas*:may occur after pelvic surgery,presents as painless loss of urine into vagina.Physical exam shows pooling of 'clear watery fluid' in vagina</p> <p>Urethral diverticulum:local outpouching of urethra into anterior vaginal wall that presents as well circumscribed, isolated cystic mass.[Differs from urethrocele(urethral prolapse into vagina due to loss of ligamentous support)]</p> <p>Vaginal cuff dehiscence:postoperative complication after hysterectomy</p>
2925	Obstetrics & Gynecology	Gastrointestinal & Nutrition	<p>Intrahepatic cholestasis of pregnancy (ICP): Marked pruritus(esp on palms & soles;worsens at night) & elevated total bile acids &/or aminotransferases in pregnancy. Jaundice is uncommon in these pts.Tx-Ursodeoxycholic acid to increase bile flow & relieve itching. Early delivery rec. once fetal maturity is achieved.</p> <p>PUPPP: skin condition that develops in 3rd trimester. Abdominal exam shows red papules within striae w/ sparing around umbilicus, can extend to extremities</p>
8910	Obstetrics & Gynecology	Gastrointestinal & Nutrition	<p>When suspecting acute appendicitis in pregnant pts, do an *ultrasound* since it safe and doesn't expose fetus to ionizing radiation. Nonvisualization of the appendix on ultrasound does not exclude the dx of acute appendicitis.</p> <p>If ultrasound is nondiagnostic, MRI can be performed.</p> <p>If ultrasound is nondiagnostic and MRI not available, then CT is used (theoretical risk of ionizing radiation to the fetus)</p>
4162	Obstetrics & Gynecology	Hematology & Oncology	<p>ABO incompatibility generally occurs in a group O mother w/ a group A or B baby, but *ABO incompatibility causes less severe hemolytic disease of the newborn* than does Rh(D) incompatibility.Affected infants are usually asymptomatic at birth w/ absent or mild anemia & develop neonatal jaundice, which is usually successfully tx w phototherapy.[ABO incompatibility reactions can occur in the 1st pregnancy because both A & B antigens are found in food & bacteria in the environment]</p>
4193	Obstetrics & Gynecology	Hematology & Oncology	<p>Woman w/ O-negative blood type indicates that she is Rh negative & the anti-D antibody titer of 1:32 reflects that she is alloimmunized. Alloimmunization is when the mom is Rh negative & has an Rh-positive fetus.Mom's first pregnancy w/ placental abruption puts her at risk for alloimmunization so we administer anti-D immune globulin at 28 weeks gestation & within 72 hours of delivery.Regular dose usually prevents alloimmunization but 50% of Rh-negative women need higher dose*</p>
2416	Obstetrics & Gynecology	Infectious Diseases	<p>Pelvic inflammatory disease(PID): fever, purulent cervical discharge, adnexal tenderness, lower abdominal tenderness. Can cause tubo-ovarian abscess, abscess rupture, pelvic peritonitis, & sepsis if left untreated. Hospitalization & parenteral antibiotics rec. esp if pt has inability to take oral meds due to nausea/vomiting. Regimens for hospitalized pts include *cefotaxime or cefotetan/doxycycline, & clindamycin/gentamicin (all IV)*</p>
3639	Obstetrics & Gynecology	Infectious Diseases	<p>Clindamycin & gentamicin are indicated for polymicrobial infection w/ an anaerobic component, such as tubo-ovarian abscess or postpartum endometritis</p>
3655	Obstetrics & Gynecology	Infectious Diseases	<p>If a pt has signs of Trichomonas infection, tx both the pt and their sexual partners w/ oral metronidazole and tell them to abstain from sex until tx has been completed to prevent recurrence</p> <p>Oral metronidazole and tinidazole are 1st line tx options for Trichomonas vaginalis</p> <p>Male sexual partners of pts w/ bacterial vaginosis do not require tx as this doesn't reduce recurrence risk</p>
3676	Obstetrics & Gynecology	Infectious Diseases	<p>Congenital toxoplasmosis: chorioretinitis, hydrocephalus, & intracranial calcifications</p>
3678	Obstetrics & Gynecology	Infectious Diseases	<p>*Maternal combination antiretroviral therapy (2 NRTIs + 1NNRTI or protease inhibitor)* during pregnancy & neonatal zidovudine therapy can reduce perinatal HIV transmission to <1%. If the dx is made late in the pregnancy, intrapartum zidovudine & infant tx should still be offered.</p> <p>Generally zidovudine tx alone is administered to infant. However for moms who didn't receive antenatal antiretroviral tx, addition of nevirapine reduces risk of mother-to-child HIV transmission</p>
3679	Obstetrics & Gynecology	Infectious Diseases	<p>Trichomonas vaginitis: wet mount microscopy shows highly motile pear-shaped organisms w/ *3-5 flagella* [*flagellated motile organisms*]</p>

3682	Obstetrics & Gynecology	Infectious Diseases	Trichomonal vaginitis: thin vaginal discharge, erythematous vaginal mucosa, & motile pear-shaped organisms on wet-mount. Tx- Metronidazole(pts on metronidazole should avoid alcohol as it's ass. w/ disulfiram-like reaction) Grapefruit juice: inhibits P450 system. Avoid when taking meds which are processed by the P450 system e.g. cyclosporine
3707	Obstetrics & Gynecology	Infectious Diseases	Bacterial vaginosis: caused by Gardnerella vaginalis. Profuse ivory to gray malodorous discharge. Amine or "fishy" odor. "Clue cells"(epithelial cells coated w/ bacteria). Tx- Oral metronidazole in both pregnant and non pregnant pts. Vaginal metronidazole and clindamycin are alternatives Erythromycin estolate can cause acute cholestatic hepatitis
4158	Obstetrics & Gynecology	Infectious Diseases	Mcc of mucopurulent cervicitis is Chlamydia trachomatis, followed by Neisseria gonorrhoeae Chlamydial cervicitis tx: Azithromycin Gonorrheal cervicitis tx: Ceftriaxone
4272	Obstetrics & Gynecology	Infectious Diseases	The incidence of vertical transmission of HCV is 2%-5%. All pts w/ chronic hepatitis C infection, including pregnant women, should be immunized against hepatitis A & B if they are not already immune Combination of interferon-a and ribavirin is used for tx of nonpregnant pts w/ chronic hepatitis C & compensated liver disease. However Ribavirin is highly teratogenic! And we don't know how safe interferon-a actually is during pregnancy
4472	Obstetrics & Gynecology	Infectious Diseases	Pregnant women w/ asymptomatic bacteriuria should be tx w/ abx to decrease the risk of pyelonephritis, preterm birth, low birth weight, & perinatal mortality. *Amoxicillin*, nitrofurantoin, & cephalexin are 1st line abx options during pregnancy
4766	Obstetrics & Gynecology	Infectious Diseases	asymptomatic pt's that are positive for chlamydia: tx- single dose of azithromycin or 7 day course of doxycycline (no need to treat for gonorrhea if screening for gonorrhea is already negative) also treat partner
10068	Obstetrics & Gynecology	Infectious Diseases	Pts w/ painful genital ulcerations & associated lymphadenopathy should be evaluated for genital herpes caused by herpes simplex virus Chlamydia trachomatis: causes lymphogranuloma venereum, large & painful lymphadenopathy "buboes" HPV cause genital warts which can progress to squamous cell carcinoma if not treated
4194	Obstetrics & Gynecology	Male Reproductive System	Semen analysis is a simple test that helps to identify male factor as the cause of infertility. Semen analysis should be performed early in the evaluation of an infertile couple as the initial screening test Anovulation as a potential cause of infertility can be evaluated using basal body temperature(BBT) measurement, serum progesterone measurement, & endometrial sampling
2372	Obstetrics & Gynecology	Miscellaneous (Multisystem)	Posterior dislocations of the shoulder commonly occur after a tonic-clonic seizure w/ the pt holding the arm adducted & internally rotated(inability of external rotation) Todd paralysis:transient unilateral weakness following a tonic-clonic seizure that usually spontaneously resolves Anterior dislocation:most common form of shoulder dislocation,caused by direct blow or fall on outstretched arm,pt holds arm abducted & externally rotated
2806	Obstetrics & Gynecology	Miscellaneous (Multisystem)	Hyperemesis gravidarum: severe vomiting during 1st-early 2nd trimesters, weightloss, volume depletion, & ketonuria, *metabolic alkalosis* due to loss of gastric acid Asthma:respiratory alkalosis(due to tachypnea). Respiratory or metabolic(lactic)acidosis may also occur & suggests severe exacerbation Diarrhea:metabolic acidosis(due to loss of organic anions & bicarbonate) Late pregnancy:Respiratory alkalosis(hyperventilation) Obesity:respiratory acidosis(hypoventilation)
2572	Obstetrics & Gynecology	Nervous System	Fetal hydantoin syndrome presents w/ small body size,microcephaly,digital hypoplasia,nail hypoplasia,midfacial hypoplasia,hirsutism,cleft palate & rib anomalies.It can be caused by exposure to many anticonvulsant meds during fetal development,esp *Phenytoin* & carbamazepine Fetal alcohol syndrome:midfacial hypoplasia,microcephaly,stunted growth. Also CNS damage manifested as hyperactivity,mental retardation,or learning disability.Cleft palate & excess hair are not typical
2299	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Gestational trophoblastic disease(GTD): Choriocarcinoma is a form of it. Sx-irregular vaginal bleeding(bleeding beyond 8 weeks post-partum is abnormal & raises suspicion for GTD), enlarged uterus, & pelvic pain. GTN is locally invasive. Choriocarcinoma is highly metastatic(spreads to lungs & presents w/ chest pain, dyspnea, & hemoptysis; multiple nodules on CXR). Obtain B-HCG to confirm dx

2389	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>All women of childbearing age w/ absence of menses for >1 month should be evaluated for pregnancy. Side effects of depot medroxyprogesterone acetate(DMPA) have some overlap w/ pregnancy symptoms. A urine pregnancy test should be performed.</p> <p>DMPA is used to prevent pregnancy by suppressing ovulation. MCC of pregnancy while on DMPA is mistiming of a subsequent DMPA shot.</p>
2404	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	*Oral glucose tolerance testing* should be performed in all *pregnant women at 24-28 weeks gestation* to screen for gestational diabetes.[1-hour 50-g OGTT followed by confirmation with a 3-hour 100-g OGTT]
2406	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Bilateral edema of the lower extremities in pregnancy(benign edema of pregnancy) is most commonly a benign problem. Preeclampsia & DVT should also be considered, but are unlikely in the absence of other classic sx of these conditions
2407	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>VEAL CHOP</p> <p>Variable decelerations- Cord compression/prolapse; oligohydramnios</p> <p>Early decelerations- Head compression</p> <p>Accelerations- OK (normal fetal oxygenation)</p> <p>Late decelerations- Placental insufficiency</p> <p>Vaginal bleeding seen in 80% of placental abruptions but a lack of vaginal bleeding doesn't rule out a placental abruption! You can have concealed bleeding w/ placental abruption as well!</p>
2409	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Pregnant bipolar pts that are taking Lithium should be slowly tapered off/weaned off the lithium.</p> <p>If pregnant pt is taking isotretinoin, immediately stop the isotretinoin!</p>
2411	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Transvaginal ultrasonogram is more accurate than transabdominal ultrasonogram in diagnosing ectopic pregnancy, & should be performed when beta-hCG levels are between 1,500 & 6,500 IU/L</p> <p>Gram stain & culture are indicated in cases of PID. PID is very unlikely in an afebrile pt</p> <p>Culdocentesis is an invasive & uncomfortable test that requires insertion of a needle into the posterior vaginal wall to identify peritoneal fluid in the cul de sac</p>
2412	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>"Palpation of the vertex at the fundus" = breech presentation!</p> <p>Breech presentation before 37th week doesn't require any intervention (since they convert to vertex before the 37th week).</p> <p>If breech presentation persists after 37th week, then we do external cephalic version.</p> <p>If external cephalic version fails, only then do we do cesarean delivery</p>
2415	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Luteoma of pregnancy:30% of pts get new-onset hirsutism/acne.Management-*clinical monitoring* & US evaluation since masses & sx regress spontaneously after delivery.Symptomatic maternal luteoma puts female fetus at high risk of virilization</p> <p>Theca luteum cysts:can also cause hyperandrogenism in pregnancy.Unlikely to cause virilization in female offspring.Suction curettage if underlying cause is molar pregnancy</p> <p>PCOS pt would have hx of chronic hirsutism/fertility challenges</p>
2523	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Placenta previa:presents w/ painless third-trimester vaginal bleeding. Prior c-section is a risk factor</p> <p>Placental abruption & uterine rupture cause abdominal pain in addition to vaginal bleeding</p>
2524	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Placenta previa management: If mom is stable & the fetus is at term, scheduled *cesarean section* is the tx of choice
2525	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>In a preterm placenta previa pt w/ active, uncontrolled antepartum hemorrhage & unstable vital signs & unreassuring fetal heart rates,do an *emergent caesarian section delivery*</p> <p>Pts w/ prior c-section have 25% risk of developing placenta accreta & 2/3 of placenta accreta cases require hysterectomy to stop bleeding</p> <p>Forceps are used when the fetus whose head is engaged begins to exhibit an abnormal heart rate pattern or when the second stage of labor is prolonged</p>
2527	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Placental abruption: sudden onset vaginal bleeding, abdominal pain, hypertonic/tender uterus. Risk factors-maternal hypertension, smoking, and cocaine use</p> <p>Passing clots raises suspicion for an abruption</p> <p>Placenta accreta: implantation of the villi to the myometrium. Prior cesarean delivery is a risk factor.</p> <p>Uterine rupture: sudden abdominal pain,abnormal uterine contractions,vaginal bleeding,abnormal fetal heart tracing,cessation of uterine contractions,palpable fetal parts.</p>

2528	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Abruptio placentae: premature separation of the placenta from the uterine decidua. Presents w/ painful vaginal bleeding & a firm, tender uterus. Maternal complications include hypovolemic shock & *disseminated intravascular coagulation*</p> <p>Fetal anemia ass. w/ vasa previa</p> <p>Uterine rupture is ass w/ prior uterine surgery, vaginal & intra-abdominal hemorrhage, & loss of fetal station</p>
2530	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Placental abruption: diagnosed clinically by 'sudden vaginal bleeding' & hypertonic, tender uterus. Hypertension during pregnancy is an important risk factor. Fetal heart tracing will be nonreassuring(bradycardia; heart rate <110-160/min). *Emergency cesarean delivery* is the tx of choice when there is rapid maternal or fetal deterioration</p>
2531	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Uterine rupture:potentially catastrophic complication in women who had prior cesarean delivery/myomectomy.Presents w/ vaginal or intra-abdominal bleeding,pain & fetal distress/demise.Palpable fetal parts abdominally at rupture site & no presenting fetal parts vaginally</p> <p>Umbilical cord prolapse:occurs after rupture of membranes when fetal cord prolapses thru cervix below fetal head.Presents w/ abrupt onset of persistent fetal variable decelerations or severe bradycardia</p>
2532	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Sudden onset of abdominal pain, recession of the presenting fetal part(*loss of fetal station*) during active labor, & fetal heart rate abnormalities(fetal tachycardia, recurrent decelerations) are red flags for *uterine rupture*. Risk factors include a pre-existing uterine scar (eg, cesarean delivery). To prevent maternal &/or fetal exsanguination, suspected uterine rupture necessitates emergency laparotomy to confirm dx & expedite delivery</p>
2533	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Vasa previa: sx- painless antepartum hemorrhage w/ fetal deterioration after rupture of membranes (fetal heart monitoring shows tachycardia followed by bradycardia, & eventually a sinusoidal pattern) maternal vital signs/abdominal exam are unchanged since bleeding is from fetus tx- cesarean delivery</p>
2535	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>most common causes of antepartum hemorrhage are placenta previa and abruptio placenta</p>
2536	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Incomplete abortion:bleeding,cramping,partial passage of fetal tissue.Depending on pt preference,hemodynamically stable pts can undergo expectant management(observation & follow-up in office),misoprostol,or dilation & evacuation</p> <p>Progesterone used for prevention of preterm labor of a singleton pregnancy in a pt w/ a hx of spontaneous preterm delivery</p> <p>Cerclage placement for pt w/ hx of incompetent cervix or hx of preterm delivery & short cervix on US during 2nd trimester</p>
2541	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Spontaneous abortion: If pt/mom has excessive bleeding, low hemoglobin, or unstable vital signs, manage surgically w/ dilation and suction curettage</p> <p>Oxytocin not effective in stimulating uterine contractions/expulsion of tissue in first or second trimester due to few oxytocin uterine receptors in early pregnancy</p>
2542	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Complete abortion: passage of a whole conceptus thru the cervix. Cervix then closes and pain & uterine contractions subside. Occurs before 20 weeks gestation. Passage of embryonic tissue described as "solid white mass covered w/ blood." Ultrasonography shows empty uterus. Urine B-hCG will be positive but gradually will become undetectable after a few weeks</p>
2543	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Anti-D immune globulin (RhoGAM) is indicated in unsensitized, Rh-negative women at 28 weeks gestation or within 72 hours of any procedure or incident in which there is any possibility of feto-maternal blood mixing[Anti-D immune globulin binds the D antigens on the fetal erythrocytes in the pregnant woman's circulation, thereby preventing formation of anti-D antibodies]</p> <p>Great analogy. D antigen on fetal rbc can screw us over. So Anti-D is used to stop it</p>
2544	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Inevitable abortion(spontaneous abort.):vaginal bleeding/fluid discharge,lower ab cramps & dilated cervix thru which products of conception visualized</p> <p>Threatened abortion:hemorrhage before 20th week gestation with live fetus.Cervix closed,no passage of fetal tissue.Mild lower ab pain</p> <p>Missed abortion(form of spontaneous abort.):fetus expires in utero but products of conception aren't discharged from uterus spontaneously.Retained fetus/placenta,no fetal heart motion</p>
2545	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Septic abortion:due to infxn of retained products of conception following missed,incomplete,inevitable or elective abortion.It's a medical emergency that should be tx w/ broad spectrum abx & surgical evacuation of the uterus(*suction curettage*).After initial tx,pt should be monitored closely for signs of systemic sepsis</p> <p>Misoprostol:used to terminate pregnancies <49 days gestation.Causes uterine contractions.May expel retained products.Slow compared to surgical evacuation</p>

2549	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Induce labor in pt w/ intrauterine fetal demise who develop coagulation abnormalities. A fibrinogen and platelet levels in the low-normal range can indicate a developing DIC
2561	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Depression of the deep tendon reflexes(eg,hyporeflexia) is the earliest sign of *magnesium sulfate toxicity*. The second sign of toxicity is respiratory depression. *Tx requires stopping the magnesium sulfate infusion & administration of calcium gluconate*
2563	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Htn in a pregnant female in the setting of massive proteinuria, a malar rash, & a strongly positive ANA titer is most likely due to systemic lupus erythematosus. *Glomerulonephritis* in general will cause proteinuria, *hematuria & RBC casts* Differentiate between SLE & preeclampsia during pregnancy! Treating preeclampsia w/ corticosteroids(normal treatment of SLE) can aggravate the preeclampsia.*RBC casts* in UA along w/ proteinuria favor SLE over preeclampsia
2567	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Elevated maternal serum a-fetoprotein is seen in fetal abnormalities such as open neural tube defects, gastroschisis, & omphalocele. It's also elevated in a multiple-gestation pregnancy
2568	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Pregnant woman w/ low MSAFP,low estriol,increased B-hCG & increased inhibin A are ass. w/ Down syndrome.*Ultrasound* is performed next (esp at 18-20 weeks) to evaluate fetal growth & identify any structural malformations (endocardial cushion defects,duodenal atresia,cystic hygroma) Pregnancy associated plasma protein A (PAPP-A): Glycoprotein produced by trophoblast.Fetuses w/ Down syn. produce less PAPP-A.Less accurate w/ increasing gestational age.Not used in 2nd trimester
2569	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Down syndrome: elevated B-hCG, elevated inhibin A, low maternal serum alpha-fetoprotein(MSAFP), low estriol Trisomy 18: normal inhibin A, low MSAFP, low estriol, low B-hCG Neural tube or abdominal wall defects: elevated MSAFP, the rest of the markers are normal Pts abnormal quadruple screening results can be offered cell-free fetal DNA testing, which measures free maternal & fetal DNA in maternal plasma. Ultrasound should be performed to evaluate for fetal anomalies
3106	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Women who inadvertently receive vaccination for rubella during or shortly before pregnancy can be reassured that there is little risk to the fetus & they can proceed w/ routine prenatal care
3110	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	If fetal movement decreases or becomes imperceptible by mother, do a nonstress test. If fetal demise suspected, do ultrasonography
3111	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Maternal comorbidities such as chronic hypertension require antepartum fetal surveillance to diagnose fetal compromise & prevent death. *Nonstress tests should be performed at least weekly in the third trimester until delivery*. A normal result consists of 2 heart rate accelerations & is reassuring Late-term pregnancies(eg, 41 weeks gestation) are at risk for uteroplacental insufficiency
3112	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Diffuse placental calcifications on ultrasound are common in late-term pregnancies, suggesting a mature placenta Polyhydramnios(single deepest pocket >8 cm or AFI >24 cm)
3116	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Arrest of labor in the first stage is diagnosed when dilation is >6 cm w/ ruptured membranes and 1 of the following: -No cervical change for >4 hours despite ADEQUATE contractions OR -No cervical change for >6 hours w/ INADEQUATE contractions [Pts who do not meet criteria should be observed if there is no fetal distress] [If pt has no cervical change for >4 hours despite adequate contractions(arrest of labor), cesarean delivery should be performed]
3118	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	External cephalic version (ECV):can be attempted in women w/ breech pregnancies at >= 37 weeks gestational age if there are no contraindications to vaginal delivery & fetal well-being has been established.Reduces the rate of c-section.Contraindications include ruptured membranes,hyperextended fetal head,fetal/uterine abnormalities & non-reassuring fetal monitoring Internal podalic version:performed in twin delivery, converts second twin from transverse/oblique to breech
3269	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Preterm labor:regular contractions causing cervical dilation and/or effacement at <37 weeks gestation.Pts in preterm labor at <34 weeks should receive a tocolytic agent(eg, calcium channel blockers),magnesium sulfate for neuroprotection & corticosteroids for acceleration of fetal lung maturity Presence of fetal fibronectin & a shortened cervix ass. w/ preterm birth Progesterone reduces risk of preterm birth in pts w/ short cervical length on vaginal u/s at <24 wks gestation

3271	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>In false labor, progressive cervical changes are absent, contractions are irregular & felt in the lower abdomen, & discomfort is readily relieved by sedation. All such pts need reassurance</p> <p>True labor is characterized by contractions that occur at regular intervals w/ a progressively shortening interval & increasing intensity. The pain in true labor occurs in the back & upper abdomen & is not relieved by sedation. Cervical changes are typically observed</p>
3273	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Labor should be allowed to proceed in pts where the fetus has been dx w/ a severe congenital anomaly incompatible w/ life (eg, bilateral renal agenesis). Pts w/ bilateral renal agenesis will not survive outside the uterus cuz of severe pulmonary hypoplasia ass. w/ renal agenesis
3274	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Preterm premature rupture of membranes (PPROM): rupture occurring before term (earlier than 34 weeks)</p> <p>complication- pulmonary hypoplasia (immaturity)</p> <p>If Lecithin/Sphingomyelin ratio less than 2.0, use steroids like Betamethasone to enhance fetal lung maturity</p>
3275	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Fetal distress (repetitive late decelerations) is indication for emergent cesarean section
3277	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Group B Streptococcus (GBS) screening is most accurate if performed 3-5 weeks prior to the estimated delivery date. [Exceptions to universal screening include a hx of GBS bacteriuria at any point during current pregnancy or invasive early-onset GBS disease in a prior child. These high-risk pts should receive intrapartum antibiotic prophylaxis (IAP) as their urogenital tract colonization is more likely to persist & spread to the newborn]. Penicillin is prophylactic agent of choice
3279	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Etiologies of *fetal growth restriction (weight <10th percentile)* include maternal vascular disease (*HTN*, preeclampsia, diabetes), fetal anomalies, aneuploidy, intrauterine infection, & substance abuse. *Hypertension is a risk factor for asymmetric fetal growth restriction* secondary to uteroplacental insufficiency
3280	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Symmetric growth restriction (fetal factors): Usually caused by fetal anomalies, abnormal fetal karyotype, *intrauterine infection*</p> <p>Asymmetric fetal growth restriction (maternal factors): appears later in pregnancy. Caused by maternal vascular disease, including HTN, diabetes, & smoking</p>
3281	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Oligohydramnios is a common complication of late-term (beyond 41 weeks) and postterm (>42 weeks) pregnancies
3337	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	In the immediate postpartum period, a low-grade fever, leukocytosis & vaginal discharge are normal findings. Intrapartum & postpartum chills are also common. The vaginal discharge (lochia) is initially bloody, then serous & finally white to yellow in color days following delivery. If a foul smelling lochia is noted, endometritis should be suspected.
3510	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Eclampsia is the mcc of new onset seizures in a pregnant pt. Additional manifestations include HTN, proteinuria, headache, & visual changes (blurry vision, photophobia, loss of vision). During the postictal phase of an eclamptic seizure, pts are typically fatigued & sleepy
3869	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Intermittent variable decelerations do not require intervention. Recurrent variable decelerations require evaluation & maternal intrauterine resuscitative measures</p> <p>Amnioinfusion: entails instilling fluid back into the uterine cavity thru catheter to decrease symptomatic cord compression. May be indicated for recurrent variable decelerations, a potential sign of fetal acidemia</p> <p>Terbutaline (beta-2 agonist tocolytic): acts rapidly to stop uterine contractions</p>
3893	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Lupus anticoagulant can cause recurrent pregnancy loss due to thrombus development within the placenta</p> <p>Congenital heart block is a complication seen in children of mothers w/ SLE, but fetuses usually are not spontaneously aborted</p>
3953	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>High yield concepts for USMLE!!!</p> <p>Pregnant women w/ a current or previous dx of anorexia nervosa are at risk for giving birth to premature infants, *small for gestational age infants (due to IUGR)* or both, miscarriage, hyperemesis gravidarum, premature birth, cesarean delivery, & postpartum depression. Children born to anorexic mothers suffer from poor growth & intellectual impairment.</p> <p>Osteoporosis is a common finding in anorexic pts, whether pregnant or not.</p>
4050	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Low back pain is very common in 3rd trimester of pregnancy. Caused by the increase in *lumbar lordosis* & the relaxation of the ligaments supporting the joints of the pelvic girdle
4146	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Epidural anesthesia -> blood redistribution to the lower extremities & venous pooling from sympathetic blockade -> hypotension</p> <p>High spinal/total spinal: Complication of epidural anesthesia. Local anesthesia ascends toward the head resulting in depression of cervical spinal cord & brainstem activity. Sx- hypotension, bradycardia, respiratory difficulty & later diaphragmatic paralysis, cardiopulmonary arrest</p> <p>Wet tap: leakage of spinal fluid after dura is punctured. Sx- postural headaches</p>

4148	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Serum BUN & creatinine are usually decreased in pregnant pts due to an increase in renal plasma flow & GFR
4198	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Clumpke palsy(extended wrist,hyperextended mcp joints,flexed interphalangeal joints,absent grasp reflex):potentially permanent complication of shoulder dystocia.*Injury to 8th cervical & 1st thoracic nerves*->hand paralysis & ipsilateral Horner syndrome(ptosis,miosis)</p> <p>Perinatal asphyxia:from compromised placental/pulmonary gas exchange.Severe hypoxia->poor perfusion/acidosis initially in peripheral tissues followed by brain</p> <p>Perinatal stroke:hyperreflexia & hypertonia</p>
4528	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Blood typing & antibody screening should be performed at the first prenatal visit. An Rh (D)-negative woman w/ a negative antibody screen is unsensitized (not alloimmunized) & should receive *anti-D immune globulin*. Anti-D immune globulin should be given at 28-32 weeks gestation & again after delivery if the baby is Rh positive</p> <p>Routine GBS rectovaginal screening should be performed at 35-37 wks gestation(pt that's negative at 28 wks can become positive at 37 wks)</p>
4529	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>All pregnant women w/o contraindications should be vaccinated against influenza. Vaccine is recommended during flu season & can be given in any trimester. Vaccine is safe for pregnant women!</p> <p>All pregnant women should have oral glucose tolerance test at 24-28 weeks gestation</p> <p>High risk sexually active women(including pregnant women) should be screened for gonorrhea</p> <p>Hemoglobin electrophoresis rec. for pts at high risk for transmitting a hemoglobinopathy based on family history</p>
4530	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>All pregnant women should be screened for syphilis (w/*RPR* or VDRL), HIV, & hepatitis B, regardless of risk factors. Screening for chlamydia, gonorrhea, hepatitis C is based on pt's risk factors.</p> <p>Unlike in children, lead-based paint is not an important exposure source for pregnant women</p>
4666	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Breast engorgement is common 3-5 days after delivery when colostrum is replaced by milk. Sx include breast fullness, tenderness, & warmth, w/o fever. Improvement is expected as breastfeeding is established</p> <p>Lochia refers to vaginal discharge containing blood & mucus & is normal up to 6-8 weeks postpartum. Heavy bleeding that soaks >2 pads per hour is considered excessive</p>
4745	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	The management of a stillbirth in a singleton pregnancy is delivery & all pts should be counseled on the risks & benefits of all delivery methods first. The timing of delivery is not urgent; immediate induction of labor is unnecessary. Although a dead fetus can release thromboplastin & lead to coagulopathy, this is rare & usually occurs after 4 weeks of retention
4757	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Pts w/ PPROM whos health records/group B streptococcus status is unknown should receive antibiotic prophylaxis. *Penicillin* prophylaxis is 1st line. Alternative antibiotics include ampicillin, cefazolin, clindamycin, or vancomycin.</p> <p>If a woman is admitted to the hospital after 34 weeks gestation w/ PPROM, delivery is usually recommended(risks of prematurity are diminished after this age)</p>
4777	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Chronic htn:BP >140/90 prior to conception or 20 weeks gestation</p> <p>Gestational htn:New onset elevated bp at >20 weeks gest. No proteinuria or end organ damage</p> <p>Preeclampsia:New onset elevated bp at >20 weeks gest. AND proteinuria/end-organ damage</p> <p>Eclampsia:Preeclampsia AND seizures</p> <p>Chronic htn w/ superimposed preeclampsia: Chronic htn AND new onset proteinuria or worsening of existing proteinuria at >20 weeks gestation OR sudden worsening of htn OR signs of end organ damage</p>
4778	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>*Hypertension is the most common risk factor for placental abruption.* Other complications of htn include superimposed preeclampsia, intrauterine growth retardation/fetal growth restriction, preterm birth, oligohydramnios & cesarean delivery</p> <p>Post-term birth (>42 weeks gestation) occurs in women w/ a personal or family hx</p> <p>Risk factors for placenta previa include prior cesarean delivery, multiparity, multiple gestation, & advanced maternal age</p>
4779	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Preeclampsia w/ severe features: They'll have new onset htn >140/90 at >20 weeks gestation plus proteinuria (protein/creatinine ratio >.3). Look for facial swelling, creatinine >1.1 mg/dL, pitting edema in legs, pulmonary edema Multiple gestation and nulliparity are risk factors</p> <p>Chronic htn: elevated bp <20 weeks gestation or prior to conception</p> <p>Gestational htn: new onset elevated bp at >20 weeks gestation, no proteinuria or end organ damage</p>

4780	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Pts presenting w/ preeclampsia w/ severe features who experience a hypertensive emergency in pregnancy: Tx- hydralazine, labetalol, nifedipine for hypertensive emergencies in pregnancy. Magnesium sulfate given to preeclamptic pts to prevent seizures</p> <p>Methyldopa- not used for hypertensive emergencies due to slow onset and sedative side effect</p> <p>Sodium nitroprusside- last resort for htn due to cyanide forming as byproduct</p>
4781	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Acute fatty liver of pregnancy (AFLP): nausea, vomiting, abdominal pain, elevations of liver markers in the third trimester, leukocytosis, hypoglycemia, & acute kidney injury.</p>
4782	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>*Pulmonary edema is a life-threatening complication of severe preeclampsia*</p> <p>Preeclamptic pts have generalized arterial vasospasm->increased systemic vascular resistance & high cardiac afterload->heart becomes hyperdynamic to try to overcome the systemic htn->pulmonary edema</p> <p>Magnesium sulfate toxicity: neuromuscular depression, decreased respiratory effort/apnea, muscle paralysis, somnolence, visual disturbances, & decreased/absent deep-tendon reflexes</p>
4783	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Eclampsia: when grand mal seizures occur in the setting of preeclampsia tx- magnesium sulfate</p> <p>Preeclamptic hypertensive emergency: tx- Labetalol & hydralazine</p>
4784	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Preeclampsia-eclampsia syndrome: tx- stabilize pt, initiate tx for seizure(w/ magnesium sulfate), & proceed w/ delivery</p> <p>Amniocentesis helps evaluate fetal lung maturity</p>
4789	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Perform ultrasound in pts w/ hyperemesis gravidarum(severe vomiting & >5% weight loss of pre-pregnancy weight) risk factors- Pregnant pts w/ increased placental mass (eg multifetal gestation, molar pregnancy). These pts have higher B-hCG levels due to increased placental mass. tx- dietary modification, hydration, ginger, pyridoxine +/- doxylamine</p>
4793	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>gestational diabetes mellitus (GDM): tx- initially dietary modifications failure to achieve glycemic control (glucose levels not within range of < 95 fasting or < 140 1hr or <120 2hr) warrants pharmacotherapy with insulin or oral antidiabetic meds.</p> <p>dont use older sulfonylureas during pregnancy. they cross placenta</p>
4794	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Persistent maternal hyperglycemia can cause hyperviscosity due to polycythemia. Polycythemia dangerous cuz viscous blood is at risk for sludging, ischemia, and infarction of vital organs.</p> <p>small left colon syndrom: occurs in infants of pregestational and gestational diabetic mothers sx- transient inability to pass meconium</p>
4797	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Chorioamnionitis/intraamniotic infxn: Maternal fever & >1 of these: uterine tenderness, maternal/fetal tachycardia, malodorous/purulent amniotic fluid (sometimes, not always). Prolonged rupture of membranes is risk factor</p> <p>Pyelonephritis sx: dysuria, flank pain, lack of persistent uterine tenderness</p> <p>PID is rare after 1st trimester due to cervical mucus & decidua sealing off & protecting uterus from pathogens</p> <p>Uterine tenderness suggests upper genital infxn rather than cervicitis</p>
4798	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>The most appropriate tx of chorioamnionitis is prompt admin of broad spectrum abx followed by delivery (we can accelerate labor w/ *oxytocin*) to reduce risk of life threatening neonatal infxn & maternal complications</p>
4799	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Endometritis: fever, uterine tenderness in postpartum period, ass w/ foul-smelling lochia. RF- prolonged ROM, prolonged labor, operative vaginal delivery & caesarian section</p>
4800	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Postpartum endometritis is most commonly a *polymicrobial infection* composed of gram positive & gram negative organisms, aerobic & anaerobic organisms & occasionally other organisms</p>
4801	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>The tx of choice for postpartum endometritis, which is a polymicrobial infection, is intravenous *clindamycin & gentamicin*</p>
4802	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Missed abortion is a form of spontaneous abortion defined as intrauterine fetal death before 20 weeks gestational age w/ complete retained products of conception & a closed cervix. Pts often develop loss of pregnancy sx & scant to light vaginal discharge. Pelvic *ultrasound* is necessary for dx</p>

4803	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Inevitable, missed, & incomplete abortions can be managed surgically, medically, or expectantly. Although all 3 methods are effective, surgery achieves more complete evacuation than medical or expectant management. In the case of medical & expectant management, US is generally performed to confirm that there are no retained products of conception</p> <p>Oxytocin is used to augment labor, tx postpartum hemorrhage, & expel retained fetus following fetal demise in late 2nd or 3rd trimester</p>
4804	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Threatened abortion: sx- hemorrhage occurring before 20th week of gestation, closed cervix
4805	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Reassurance and outpatient follow up is the standard of care for threatened abortion</p> <p>Methotrexate used to terminate pregnancy. Used for ectopic pregnancy.</p>
4808	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Uterine atony: *mcc (80%) of postpartum hemorrhage within 24 hours of delivery*</p> <p>sx- soft, "boggy" poorly contracted uterus</p> <p>Risk factors- multiple gestation, polyhydramnios, macrosomia & uterine fatigue (prolonged labor)</p> <p>Inverted uterus: Firm mass below/near the cervix. Inversion can occur before or after placental separation. Forceful traction on the umbilical cord to remove placenta/abnormally adherent placenta are potential causes</p>
4809	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Mcc of excess postpartum blood loss is uterine atony</p> <p>Treat Uterine atony w/ uterotonic agents such as *oxytocin*, which will control bleeding within 10-40 minutes after administration</p>
4892	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Active/untreated TB, HIV, active illicit drug & alcohol abuse are contraindications to breastfeeding. Hepatitis B & C are not considered contraindications & moms w/ these conditions should be encouraged to breastfeed. Galactosemia is the only condition in the infant which is an absolute contraindication to breastfeeding</p> <p>Women w/ H1N1 or other strains of influenza should be separated from their infants while febrile but should be encouraged to pump</p>
4915	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Risk factors for cervical insufficiency (cervical incompetence): prior gynecological surgery esp a LEEP procedure or cone biopsy of cervix, prior obstetrical trauma, multiple gestation, mullerian anomalies, hx of preterm birth or a second trimester pregnancy loss
4916	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Transvaginal ultrasound: considered the "gold standard" for evaluating the cervix for possible cervical incompetence. It's used to look for the presence of funneling of cervix or shortening of cervical length.
8868	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>African American boys are at increased risk for fetal macrosomia, which is a risk factor for shoulder dystocia. Excessive traction on the neck during a delivery can result in Erb-Duchenne palsy & the characteristic "waiter's tip" posture. *Fortunately, most infants recover arm function spontaneously within a few months*</p> <p>Intracranial hemorrhage: potential complication of vacuum use that can cause upper motor neuron injury leading to decreased arm movement, hyperreflexia, & hypertonia</p>
8945	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Ruptured ectopic pregnancy: lightheadedness, diffuse abdominal pain, adnexal tenderness, & hemodynamic instability</p> <p>Lower abdominal discomfort, constipation, & nausea are common sx of normal pregnancy. [On the other hand, diffuse abdominal pain plus adnexal & cervical motion tenderness are not normal]</p>
8962	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Early decelerations are caused by fetal head compression leading to a vagal response & do not indicate fetal distress. In contrast, variable & late decelerations indicate risk for fetal hypoxemia & acidosis</p> <p>Spontaneous fetal activity is often ass. w/ accelerations on fetal heart monitoring. Accelerations may also be induced w/ stimulation of the fetal scalp. Accelerations generally indicate normal fetal oxygenation</p>
9984	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Fetal heart decelerations during spontaneous or induced contractions are concerning for fetal compromise</p> <p>Umbilical artery flow velocimetry has been shown to be beneficial in monitoring growth restricted fetuses</p>
9985	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Normal contraction test -> fetal compromise is unlikely -> repeat antepartum fetal testing (nonstress test & biophysical profile or CST) 1 week later
10441	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	*Cell-free fetal DNA testing* is a noninvasive & highly sensitive & specific screening test for fetal aneuploidy (eg, Down syndrome). It can be ordered at >10 weeks gestation; abnormal results can be confirmed by chorionic villus sampling at 10-12 weeks or amniocentesis at 15-20 weeks
11947	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Uterine inversion requires expedient *manual replacement of the uterus*. Placental removal & admin of uterotonic drugs should be initiated only after the uterus is replaced
11948	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Uterine inversion: can result from excessive fundal pressure & traction on umbilical cord before placental separation. The fundus collapses into endometrial cavity & prolapses thru the cervix, resulting in a smooth, round mass protruding thru cervix or vagina. The uterine fundus is no longer palpable transabdominally. Severe pain & postpartum hemorrhage also present</p> <p>Uterine atony: failure of uterus to contract & compress placental bed blood vessels after placental delivery</p>

11963	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Placenta accreta: occurs when uterine villi attach directly to the myometrium. Placental adherence & hemorrhage at the time of attempted placental delivery. RF- prior cesarean delivery, hx of dilation & curettage, advanced maternal age
11966	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Labor & vaginal delivery are contraindicated after a classic cesarean delivery or extensive myomectomy due to significant risk of uterine rupture. Laboring pts at high risk of uterine rupture require *laparotomy & delivery* Amnioinfusion involves the placement of an intrauterine pressure catheter for an intrauterine infusion to decrease umbilical cord compression & resolve variable decelerations. Amnioinfusion is contraindicated in a pt w/ hx of uterine surgery
11969	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Placenta previa management: *Pelvic rest recommended*. Intercourse, digital cervical examination, & vaginal delivery are contraindicated Cerclage: procedure involving a suture or synthetic tape to reinforce the cervix in pts w/ hx of 2nd trimester deliveries or a short cervical length at 16-23 weeks gestation Doppler ultrasound: can evaluate for vasa previa (often ass. w/ resolved placenta previa). Also used in surveillance of fetal growth restriction
11998	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Subserosal/pedunculated *uterine leiomyomata* cause bulk-related sx (pelvic pressure, *sensation of incomplete voiding*, constipation). Leiomyomata cause *irregularly enlarged uterus* & *size date discrepancy* during pregnancy. Pt will have hx of heavier, longer menses w/ pelvic pressure suggesting a condition predating current pregnancy Complete molar pregnancy: vaginal bleeding, hyperemesis gravidarum, diffusely enlarged uterus w/ regular contour Endometriosis: immobile uterus
12015	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Chorioamnionitis: look for fetal tachycardia (baseline heart rate >160/min), & maternal fever. It's ass. w/ prolonged rupture of membranes (>24 hours). Foul-smelling amniotic fluid also present. Tx-broad spectrum iv abx to tx mom & fetus Fetal anemia presents w/ sinusoidal fetal heart tracing, a smooth, undulating waveform w/ no variability Inactive fetal sleep & hypoglycemia ass w/ nonreactive nonstress tests
12016	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Complications of oxytocin use include *tachysystole* (abnormally frequent contractions [>5 contractions in 10 min averaged over a 30 min period], hyponatremia, & hypotension) Tachysystole is ass w/ an increased risk for cesarean delivery, low umbilical cord pH, & neonatal intensive care unit admission Precipitous labor: fetal delivery that occurs within 3 hours of the initiation of contractions. Most sig risk factor is multiparity. Usually occurs spontaneously
12017	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Fetal sleep is a common cause of a nonreactive nonstress test (eg, no accelerations). Because a fetal sleep cycle can last as long as 40 minutes, a nonreactive nonstress test should be extended to 40-120 minutes to ensure that fetal activity outside of sleep is captured
12034	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Acute postpartum urinary retention (eg, inability to void, urinary dribbling) results from prolonged labor, perineal trauma, & regional analgesia. The condition is typically related to *bladder atony*, which is temporary and reversible
12037	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Fetal anemia is ass w/ a sinusoidal FHR tracing Placental calcifications are ass w/ uteroplacental insufficiency & late decelerations Amniotomy (AROM) can result in umbilical cord prolapse, which can cause variable decelerations
12038	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Intermittent variable decelerations (occurs w/ <50% of contractions) are common in labor & tolerated well by fetus. Persistent variable decelerations (occurs w/ >50% of contractions) require tx. O2 admin, maternal repositioning, fluid bolus is initial tx. Should they fail, *amnioinfusion* can be implemented. [Amnioinfusion-institution of saline thru intrauterine pressure catheter into amniotic sac to decrease cord compression during contractions to eliminate variable decelerations]
12056	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	A hemodynamically UNSTABLE pt (hypotension, tachycardia) w/ hemoperitoneum (sx like acute abdomen w/ decreased bowel sounds, diffuse ab pain, cervical motion tenderness, or shoulder pain [referred from diaphragm], or urge to defecate [blood in posterior cul-de-sac]) due to ruptured ectopic pregnancy requires emergency *surgical exploration*. Dx of a cornual ectopic pregnancy is made by ultrasound showing a gestational sac at the upper outer corner of the uterine fundus
12064	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	Fetal complications due to maternal preeclampsia include oligohydramnios & *fetal growth restriction/small for gestational age infants* due to chronic uteroplacental insufficiency Maternal complications from preeclampsia include abruptio placentae, disseminated intravascular coagulation, & eclampsia

12087	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>Endometriosis: can be found incidentally during unrelated surgery. Findings- adhesions, powder-burn lesions, nodules, "chocolate cysts." Asymptomatic pts don't require tx; simply *observe* for development of future sx & initiate tx as needed</p> <p>Conservative tx of symptomatic endometriosis includes NSAIDs, oral contraceptives, or progesterone IUD (copper IUD has no effect on endometriosis)</p> <p>Leuprolide tx endometriosis by suppressing estrogen stimulation of ectopic endometrial glands</p>
12098	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>The most significant risk factor for spontaneous preterm delivery is a *hx of spontaneous preterm delivery in a prior pregnancy*. Pts w this hx can be managed w/ progesterone supplementation & serial cervical length measurements</p> <p>Gastric bypass & other bariatric surgeries increase the risk of anemia in pregnancy & for cesarean delivery</p>
12117	Obstetrics & Gynecology	Pregnancy, Childbirth & Puerperium	<p>*Most fetuses in transverse lie spontaneously convert to vertex presentation prior to term*</p> <p>Internal podalic version is performed to facilitate the breech extraction of a malpresenting second twin but isn't used in the management of a singleton fetus in transverse lie</p> <p>Although placenta previa is a contraindication to vaginal delivery, a placenta >2 cm from the cervical os is not</p> <p>A trial of labor (TOL) is safe in a pt w/ one prior low-transverse cesarean delivery</p>
2552	Obstetrics & Gynecology	Psychiatric/Behavioral & Substance Abuse	<p>Pseudocyesis is a rare psychiatric condition in which a woman presents w/ nearly all signs & sx of pregnancy; however, ultrasound reveals a normal endometrial stripe & negative pregnancy test</p>
4192	Obstetrics & Gynecology	Psychiatric/Behavioral & Substance Abuse	<p>Lithium exposure in the 1st trimester of pregnancy increases the risk of *cardiac malformations* including septal defects & possibly Ebstein's anomaly (atrialization of right ventricle). In the second & third trimesters, goiter & transient neonatal neuromuscular dysfunction are of concern</p> <p>Anticonvulsant meds like carbamazepine & valproate are mood stabilizers known to cause craniofacial defects, neural tube defects, & genital anomalies in the unborn child</p>
2405	Obstetrics & Gynecology	Pulmonary & Critical Care	<p>Amniotic fluid embolism syndrome: rapid respiratory failure (hypoxia leads to seizures & loss of consciousness), hypotension, & DIC during labor or immediate postpartum period. Survivors have high incidence of neurological damage.</p> <p>RF- advanced maternal age & high gravida (>5 live births or stillbirths)</p> <p>Tx- correct hypoxemia (eg *mechanical ventilation, intubation*, oxygen) & hypotension (eg, vasopressors)</p> <p>IM/IV magnesium prevents tx eclamptic seizures. Magnesium can potentially lower bp</p>
2399	Obstetrics & Gynecology	Renal, Urinary Systems & Electrolytes	<p>Asymptomatic bacteriuria during pregnancy: positive urine culture (>100,000 colonies/mL) w/o sx of cystitis (eg, dysuria, increased urinary frequency or urgency). E. coli accounts for >70% of cases. Tx- accepted regimens include nitrofurantoin for 5-7 days, amoxicillin or amoxicillin-clavulanate for 3-7 days, or fosfomycin as a single dose. Fluoroquinolones should be avoided during pregnancy. TMP/SMX should be avoided in the 1st & 3rd trimesters.</p>
4225	Obstetrics & Gynecology	Renal, Urinary Systems & Electrolytes	<p>Epidural anesthesia in labor impairs bladder function -> urinary retention & overflow incontinence tx- retention is treated w/ short-term indwelling catheterization</p> <p>Pessaries are used to manage urinary stress incontinence and pelvic organ prolapse</p> <p>Oxybutynin used in urge incontinence. Causes retention</p>
4256	Obstetrics & Gynecology	Renal, Urinary Systems & Electrolytes	<p>Asymptomatic bacteriuria: occurs when urine culture grows >100,000 CFU per ml of a single organism in an asymptomatic pt. It's important to tx infection to prevent progression to pyelonephritis in the pregnant pt</p> <p>Chorioamnionitis: due to PROM, intrauterine instrumentation, STDs & prolonged labor</p> <p>Endometritis: due to PID due to STDs, TB, instrumentation of genital tract, & after cesarean delivery</p> <p>Difficult labor due to fetal macrosomia & postpartum hemorrhage seen in diabetic pts</p>
4294	Obstetrics & Gynecology	Renal, Urinary Systems & Electrolytes	<p>Renal colic: flank pain that radiates to the groin w/ microscopic hematuria. Ultrasound of the kidneys & pelvis is rec to evaluate renal colic in pregnant pts. Low dose CT urography may be considered only in the second & third trimesters</p> <p>If a pregnant pt w/ kidney stones fails to improve w/ conservative measures, ureteroscopy or nephrostomy may be considered</p>
4122	Obstetrics & Gynecology	Rheumatology/Orthopedics & Sports	<p>Risk factors that increase the likelihood of osteoporosis include advanced age, thin body habitus, cigarette smoking, *excessive alcohol consumption*, corticosteroid use, menopause, malnutrition, family hx of osteoporosis, & Asian or Caucasian ethnicity</p>
3748	Obstetrics & Gynecology	Social Sciences (Ethics/Legal/Professional)	<p>A pregnant woman who has capacity has the right to refuse treatment, even if it places her unborn child at risk</p>

2134	Pediatrics	Allergy & Immunology	Genetic B-cell deficiency/Defect in B lymphocyte maturation: sx- hx of Giardia, recurrent sinopulmonary infections after 6 months of age (w/ H.influenzae and S. pneumoniae)
2769	Pediatrics	Allergy & Immunology	Hereditary angioedema presents in late childhood. Episodes usually follow an infection, dental procedure, or trauma. C1q levels are normal in hereditary angioedema & depressed in acquired forms, which usually present much later in life(age >30). C4 levels are depressed in all forms of angioedema
3195	Pediatrics	Allergy & Immunology	Bruton (x-linked/XLA) agammaglobulinemia:serum immunoglobulins(IgG,IgA,IgM,IgE) & B cell concentration will be low!Recurrent sinopulmonary(acute otitis media,pneumonia) & gi(salmonella,campylobacter) infections Common variable immunodeficiency:low serum Ig's. NORMAL B cell concentrations! Physical exam in older children w/ XLA shows underdeveloped lymphoid tissue(eg,tonsils,lymph nodes).However these tissues aren't prominent even in healthy kids until after age 2 years
3196	Pediatrics	Allergy & Immunology	Primary humoral immune deficiency syndromes present w/ recurrent or severe sinopulmonary infections. Hyper-IgM syndrome is caused by a defect in the CD40 ligand & is characterized by high IgM levels, low or absent IgG & IgA, & normal lymphocyte populations Common variable immunodeficiency: low IgG,IgM,& IgA in the setting of a normal B-lymphocyte count Low serum IgG levels after age 6 mo is termed transient hypogammaglobulinemia of infancy as it resolves by age 12 months
3197	Pediatrics	Allergy & Immunology	SCID: recurrent bacterial, viral, & fungal infections. Absent lymph nodes & tonsils, lymphopenia, absent thymic shadow on chest x-rays, & abnormal T,B, & natural killer cell enumeration by flow cytometric analysis Bruton's agammaglobulinemia:Recurrent pyogenic infections,begin after 6-9 months of life.Decreased serum IgG,IgA,IgM & IgE w/ absent/decreased B cells on smear CVID:similar to Bruton's but less severe sx,age 15-35 years, No absence or decrease in number of B cells
3198	Pediatrics	Allergy & Immunology	Chronic granulomatous diseases: recurrent/unusual lymphadenitis, hepatic abscesses, osteomyelitis at multiple sites, infections w/ catalase-positive organisms. Tx- Prevention of infection w/ daily TMP/SMX & gamma-interferon three times a week. Bone marrow transplantation is experimental but curative.
3236	Pediatrics	Allergy & Immunology	"Herd immunity": the disease resistance of the majority confers protection upon the disease susceptible minority
3854	Pediatrics	Allergy & Immunology	HBV vaccine can significantly decrease one's risk of developing hepatocellular carcinoma, esp in regions like Asia and Africa
4143	Pediatrics	Allergy & Immunology	Leukocyte adhesion deficiency type 1: caused by deficient expression of CD18, as essential component of certain integrins present on the surface of leukocytes SCID: Adenosine deaminase deficiency Chronic granulomatous disease: nitroblue tetrazolium test is negative (abnormal). The dihydrorhodamine 123 test is more sensitive & can quantify the severity of illness
4143	Pediatrics	Allergy & Immunology	Leukocyte adhesion deficiency: 'severe periodontal disease seen'. Marked leukocytosis w/ neutrophil predominance is common. Recurrent skin & mucosal bacterial infections (w/o purulence). Delayed umbilical cord separation.
4258	Pediatrics	Allergy & Immunology	Diphtheria-tetanus-acellular pertussis(DTaP) vaccine contains acellular pertussis antigens w/ diphtheria & tetanus toxoid.[Acellular pertussis antigens have replaced previous killed whole-cell Bordetella pertussis formulation.Whole-cell pertussis component confers longer immunity but is ass. w/ severe neurologic disorders(encephalopathy,seizures)]. Febrile seizures after DTaP vaccinations are rare.Personal/family hx of febrile seizures isn't a contraindication to immunization
4479	Pediatrics	Allergy & Immunology	All vaccines should be administered according to chronologic rather than gestational age in preterm infants. The only exception to scheduling vaccines by age is the hepatitis B vaccine, which should be administered when the pt weights >2kg (4 lb 6 oz) Live attenuated vaccines can be safely administered to immunocompetent infants regardless of gestational age. First dose of MMR is given around 1 year of age.
4495	Pediatrics	Allergy & Immunology	Chronic granulomatous disease: "neutrophils filled with bacteria" is a classic finding on gram stain
4762	Pediatrics	Allergy & Immunology	SCID presents in infancy w/ severe infections, failure to thrive, & chronic diarrhea. Absence of T cells(absent CD3+) & dysfunctional B cells(low CD19+) are diagnostic. Tx-urgent *stem cell transplantation*
8951	Pediatrics	Allergy & Immunology	*Rota virus vaccine is contraindicated in pts w/ hx of intussusception due to the risk of this side effect* Live virus vaccines shouldn't be administered to pregnant women due to risk of fetal infection. However, live virus vaccinations can be safely administered to household contacts of pregnant women because the virus is weak and not contagious. Vaccination of household contacts reduces the potential spread of infection to pts who can't receive vaccinations
2429	Pediatrics	Cardiovascular System	Tetralogy of Fallot (TOF): presents w/ varying degrees of cyanosis depending on severity of right ventricular outflow tract obstruction."Tet" spells(sudden hypoxemia & cyanosis) result from sudden spasm of right ventricular outflow tract during exertion. Murmur is typically a harsh crescendo-decrescendo systolic murmur over the left upper sternal border, reflecting turbulence at the stenotic pulmonary artery. Tx Tet spells w/ knee-chest positioning & inhaled oxygen

2468	Pediatrics	Cardiovascular System	<p>*Trisomy 18/Edward's syndrome: Ventricular septal defect*</p> <p>Trisomy 21: Atrial septal defect & endocardial cushion defects</p> <p>Williams' syndrome: Supravalvular aortic stenosis</p> <p>Conotruncal abnormalities(Truncus arteriosus, Tetralogy of Fallot, interrupted aortic arch) are ass. w/ CATCH-22 syndromes, including DiGeorge & velocardiofacial syndromes</p> <p>Neonatal lupus: Congenital heart block</p> <p>Congenital rubella: PDA</p> <p>Kawasaki disease: Coronary artery aneurysm</p>
2688	Pediatrics	Cardiovascular System	<p>Athletes w/o preexisting cardiac disease can develop fatal ventricular fibrillation after sudden blunt chest wall trauma, also known as commotio cordis(commonly occurs during baseball)</p> <p>Long QT syndrome(LQTS) is an inherited cause of sudden cardiac death but HCM is a more common cause of sudden cardiac death</p>
2691	Pediatrics	Cardiovascular System	<p>In pts w/ hypertrophic cardiomyopathy(HCM), maneuvers that increase preload or afterload (eg, squatting, leg raise, hand grip) increase left ventricular (LV) cavity size & decrease outflow obstruction, thereby decreasing the intensity of the murmur. Maneuvers that decrease LV cavity size by decreasing preload (eg, Valsalva, abrupt standing, amyl nitrate administration) cause worsening of LV outflow tract obstruction & increase the intensity of the murmur</p>
2712	Pediatrics	Cardiovascular System	<p>Pts w/ hx of rheumatic fever have an increased risk of recurrent episodes & progression of rheumatic heart disease w/ repeated infection w/ group A Streptococcus pharyngitis. All such pts should receive continuous abx prophylaxis to prevent recurrent group A Streptococcus pharyngitis & limit the progression of rheumatic heart disease. The preferred regimen is admin of intramuscular benzathine *penicillin* G every 4 weeks</p>
3079	Pediatrics	Cardiovascular System	<p>Kawasaki disease: aspirin & IV immunoglobulin can reduce incidence of complications such as coronary artery aneurysms</p> <p>Scarlet fever: potential complication of untreated streptococcal pharyngitis, tonsillar exudates present, rash has sandpaper texture & spares the palms & soles</p> <p>Rocky Mountain spotted fever: rash on palms & soles, best tx w/ doxycycline for 5-7 days. Headache & GI sx are prominent features</p>
3539	Pediatrics	Cardiovascular System	<p>*Complete AV septal defect*:most common heart defect w/ Down syndrome.Features-heart failure in early infancy,systolic ejection murmur due to increased pulmonary flow from atrial septal defect & holosystolic murmur due to VSD</p> <p>Symptomatic Ebstein anomaly:cyanosis & heart failure due to severe tricuspid regurg.Auscultation-widely split S1 & S2 sounds + loud S3 &/or S4 & holosystolic or early systolic murmur at left lower sternal border</p> <p>Truncus arteriosus/TGA ass w/ DiGeorge's</p>
3541	Pediatrics	Cardiovascular System	<p>Tetralogy of Fallot: Squatting improves cyanosis & increases intensity of systolic murmur</p> <p>Ventricular septal defect: squatting increases intensity of systolic murmur</p>
3543	Pediatrics	Cardiovascular System	<p>Turner syndrome: Most common anomalies include *bicuspid aortic valve*, coarctation of the aorta, & aortic root dilation</p> <p>PDA ass. w/ congenital rubella syndrome & Char syndrome</p>
3545	Pediatrics	Cardiovascular System	<p>*Newborns w/ DiGeorge syndrome (DGS) must be assessed immediately for potentially life-threatening hypocalcemia*</p> <p>Truncus arteriosus is strongly ass. w/ DGS. Lymphopenia(not neutropenia) is also a feature of DGS</p> <p>Down syndrome pts at risk for duodenal atresia</p> <p>Congenital rubella syndrome pts have congenital heart disease & thrombocytopenia</p> <p>Folic acid antagonists (eg,phenytoin, methotrexate) increase the risk of neural tube defects & possibly cardiac anomalies & oral clefts</p>
3866	Pediatrics	Cardiovascular System	<p>Fibromuscular dysplasia:</p> <p>Mcc of secondary htn in children(can present as new onset htn in children). Bruit or venous hum may be heard at the costovertebral angle. Angiogram reveals the "string of beads" sign</p>
3910	Pediatrics	Cardiovascular System	<p>Prolonged QT intervals caused by meds,electrolyte derangements(hypocalcemia,hypokalemia,hypomagnesemia),& inherited(Jervell & Lange-Nielsen syndrome;family hx of sudden death,congenital sensorineural deafness,due to molecular defects in K⁺ channels).Pt's w/ congenital long QT intervals at risk for syncope,ventricular arrhythmias & sudden cardiac death.Avoid electrolyte derangements & meds that block K⁺ channels. *B-blockers w/ pacemaker placement prevents cardiac arrest*</p>

3990	Pediatrics	Cardiovascular System	Ventricular septal defect murmur: harsh, holosystolic murmur best heard at the left lower sternal border. *Echocardiography* should be performed to determine location & size of defect & to rule out other defects. Most small ventricular septal defects close spontaneously & require no treatment
3991	Pediatrics	Cardiovascular System	Tricuspid valve atresia:left axis deviation on ecg,decreased pulmonary markings on chest radiograph due to hypoplasia of right ventricle & pulmonary outflow tract,family hx of congenital heart disease. Ass. ASD & VSD necessary for survival->tall peaked P waves on ECG & holosystolic murmur loudest at left lower sternal border Total anomalous pulmonary venous return:Right atrium receives blood from pulmonary & systemic venous systems->right atrial & ventricular enlargement
4260	Pediatrics	Cardiovascular System	Transposition of the great vessels: Most common congenital cyanotic heart defect in neonatal period. Presents in the first few hours of life w/ cyanosis, a single loud second heart sound, & a narrow mediastinum "egg on a string" on x-ray tx- prostaglandins to optimize intra-circulatory mixing Tetralogy of Fallot is the mcc of cyanotic heart disease after the neonatal period
4497	Pediatrics	Cardiovascular System	Vascular rings:Presents before age 1 year. Encircles trachea & esophagus.Respiratory(stridor,wheezing,cough) & esophageal(dysphagia) sx.Stridor improves w/ neck extension.Sx do not improve w/ corticosteroids,racemic epinephrine,or bronchodilators. Ass. w/ cardiac abnormalities.Tx-surgical correction Croup(laryngotracheobronchitis) is the mcc of inspiratory stridor in children age 6 months to 6 years. Responds to tx w/ racemic epinephrine & corticosteroids
4661	Pediatrics	Cardiovascular System	Prostaglandin E1 infusion maintains patency of the ductus arteriosus. It's potentially life-saving in pts w/ ductus-dependent congenital heart disease until definitive surgery can be performed Excessive inspired oxygen & indomethacin should be avoided as these interventions constrict the ductus arteriosus
4705	Pediatrics	Cardiovascular System	Large ventricular septal defects can cause failure to thrive, easy fatigability, and heart failure. They classically cause a pansystolic murmur that is loudest at the left lower sternal border and a diastolic rumble at the apex due to increased flow across the mitral valve
4826	Pediatrics	Cardiovascular System	Postpericardiotomy syndrome: occurs days or months after cardiac surgery or injury. Can occur in infants and children. Inflammation from surgical intervention can lead to reactive pericarditis, pericardial effusion, or even cardiac tamponade. tx- pericardiocentesis/pericardiectomy
4842	Pediatrics	Cardiovascular System	Tetralogy of Fallot:Right ventricular outflow tract obstruction->increase in pulmonary vascular resistance->right to left shunt (deoxygenated blood from right ventricle crosses VSD and goes into aorta)->sudden cyanosis ("tet spell","hypercyanotic", "hypoxic"). Tet spells are dangerous! Manage pt w/ placement in a knee-chest position.This increases systemic vascular resistance, which reduces degree of right to left shunting IV fluids increase systemic venous return/preload
4854	Pediatrics	Cardiovascular System	Pediatric myocarditis-Viruses(coxsackie B v/adeno v) are mcc. Fever,lethargy,sx of heart failure(tachypnea,dyspnea,wheezing,crackles) after viral prodrome(eg,upper respiratory infection). Cardiomegaly on CXR(cardiothoracic ratio >50%). Monitor pts in ICU due to risk of acute decompensation & fatal arrhythmias.Gold standard for dx is myocardial biopsy Strep.pharyngitis uncommon in kids <3 yrs(fewer epithelial cell attachment sites in throat->Acute rheum. fever less likely)
4912	Pediatrics	Cardiovascular System	Patent ductus arteriosus: ass. w/ continuous flow murmur(listen to sound). Small PDAs are often asymptomatic & detected incidentally on routine cardiac auscultation Endocardial cushion defect is often ass. w/ Down syndrome Williams syndrome: ass. w/ several cardiac abnormalities including supravalvular aortic stenosis, pulmonary stenosis, or septal defects
11968	Pediatrics	Cardiovascular System	Coarctation of aorta:imp cause of peds HTN.Results from *thickening of tunica media of aortic arch* near ductus arteriosus & can lead to upper extremity HTN & lower extremity hypoperfusion.[Severe aortic narrowing makes systemic blood flow dependent on ductus arteriosus.As ductus begins to close,infants develop heart failure w/ tachypnea,poor feeding,fussiness,lethargy.Also @ risk for shock->prolonged capillary refill,met acid,decreased renal perfusion & renal output]
2756	Pediatrics	Dermatology	Allergic contact dermatitis: erythema, edema, pruritus, tiny vesicles & weepy/crusted lesions 24-48 hours after contact w/ allergen. It's due to *cell-mediated* (delayed, type IV) hypersensitivity.
2758	Pediatrics	Dermatology	Eczema herpeticum: potential complication of severe atopic dermatitis. Superinfection w/ herpes simplex virus can cause a vesicular eruption on preexisting inflamed skin. Fever & pain often seen Erythroderma (exfoliative dermatitis): these pts have erythema & scaling in >90% of the body. Bright red patches coalesce & gradually peel Seborrheic dermatitis/"cradle cap" in infants: Adherent greasy scales w/ a mildly erythematous base seen on the scalp

2778	Pediatrics	Dermatology	Staphylococcal scalded skin syndrome(SSSS): caused by exfoliative toxin-producing strains of S.aureus. Starts w/ a prodrome of fever, irritability, & skin tenderness, which is followed by generalized erythema & superficial flaccid blisters w/ a positive Nikolsky sign. Scaling & desquamation follow, before resolution of the disease process. SSSS usually affects children below age 10, but adults w/ kidney disease or immune compromise may also be affected
3122	Pediatrics	Dermatology	Erythema toxicum neonatorum: ("toxicum" is a misnomer since rash is benign) benign neonatal rash, asymptomatic blanching erythematous papules/pustules. Common in full term neonates. Can occur anywhere on the body except the palms and soles. Tx- Reassurance. It resolves spontaneously 2 weeks after birth Neonatal HSV & Varicella are both treated w/ Acyclovir
3755	Pediatrics	Dermatology	Congenital dermal melanocytosis aka "Mongolian spots"(google pic): benign, flat, blue-grey patches usually present over lower back & butt. Seen in african, asian, hispanic, & native american infants. Usually fade spontaneously during childhood
4104	Pediatrics	Dermatology	Eczema herpeticum: form of primary herpes simplex virus infection ass. w/ atopic dermatitis. Numerous vesicles over area of atopic dermatitis are typical. Infection can be life-threatening in infants so tx w/ acyclovir should be initiated Varicella: characterized by a vesicular eruption that isn't localized, but tends to spread over the head & to the trunk
4313	Pediatrics	Dermatology	Although dark fabrics attract more heat than light fabrics, they actually offer greater UV protection because the rays can't penetrate the fabric as well
4404	Pediatrics	Dermatology	Cherry hemangiomas are seen in adults. They are small, bright red, and widespread on the trunk and increases in number as pt ages *Superficial infantile hemangiomas* are the same as strawberry hemangiomas Beta blockers are recommended for pts at risk for complications from the infantile hemangioma lesions Nevus simplex: blanchable, pink-red patches occurring on eyelid & midline of nape of neck. Present at birth and fade by age 1-2
4704	Pediatrics	Dermatology	Tinea corporis "ringworm": Lesions are pruritic, erythematous, scaly, & have a red ring w/ central clearing. Seen in hot, humid climates. Exposure to infected animals, people, & public places(swimming pool) are risk factors.Common in preadolescents.Tx w/ topical antifungals like *Terbinafine*
4711	Pediatrics	Dermatology	Seborrheic dermatitis: common pediatric skin condition. Papular scaly rash that affects eyebrows, nasolabial folds & scalp. In infants, if often begins on the scalp & is called cradle cap. Tx-moisturizers, antifungals, & topical steroids
7764	Pediatrics	Dermatology	Henoch-Schonlein purpura (HSP): IgA-mediated *vasculitis* of childhood, palpable purpura on the lower extremities, abdominal pain, arthralgias, & renal involvement. Typically follows a minor infection. Normal platelet count Purpura fulminans: life threatening condition seen w/ bacterial infections (eg, Neisseria meningitidis, Streptococcus pneumoniae) that presents w/ blue or black hemorrhagic, purpuric lesions. Pts are very ill w/ fever, hypotension, & evidence of DIC
10553	Pediatrics	Dermatology	Tinea capitis: occurs in children sx- scaly, erythematous patch that can progress to alopecia, sometimes w/ inflammation, lymphadenopathy, and scarring, postauricular lymphadenopathy. Black dot tinea capitis is common in african americans dx- confirmed w/ potassium hydroxide tx- oral griseofulvin Alopecia areata: smooth & discrete circular areas of hair loss w/o scaling Discoid lupus erythematosus: inflammation/scarring of hair follicles, cutaneous lesions, photosensitivity
10742	Pediatrics	Dermatology	Deliberate scald injuries/Child abuse: sharp lines of demarcation, uniform burn depth, *spared flexor surfaces(when ankles,knees,hips are flexed)* Accidents: splash marks, poorly defined wound margins, non-uniform burn depth, immediate presentation after injury
2432	Pediatrics	Ear, Nose & Throat (ENT)	Laryngomalacia: Due to increased laxity of supraglottic structures. Inspiratory stridor-worse when supine,crying,or feeding. Peaks at age 4-8 mos. Dx-flexible laryngoscopy. Self-resolves by age 18 months Stertor: snoring-type sound, originates from turbulence in the naso- or oropharynx Stridor: squeaky, whistle-like sound resulting from turbulence between supraglottis & trachea Wheezing, rhonci, rales: due to narrowing/congestion of bronchioles
2640	Pediatrics	Ear, Nose & Throat (ENT)	Any male adolescent who presents w/ epistaxis, a localized mass, & a bony erosion on the back of the nose has an *angiofibroma* until proven otherwise

2830	Pediatrics	Ear, Nose & Throat (ENT)	<p>Acute otitis media(AOM):otalgia(earache),middle ear effusion & signs of eardrum inflammation(BULGING EARDRUM,fever).Fluid in middle ear space limits eardrum mobility on pneumatic insufflation</p> <p>Bullous myringitis:complication of AOM.Serous liquid-filled blisters on tympanic membrane</p> <p>Cholesteatoma:abnormal growth of squamous epithelium in middle ear.Large growths damage ossicles->conductive hearing loss</p> <p>Hemotympanum:purple/red eardrum +/-bulging.Due to barotrauma/blunt trauma</p>
2831	Pediatrics	Ear, Nose & Throat (ENT)	<p>*Cholesteatomas* in children can be congenital or acquired secondary to chronic middle ear disease. *New-onset hearing loss* or chronic ear drainage despite abx tx are typical presenting sx of cholesteatomas, & *granulation tissue* & *skin debris* may be seen within retraction pockets of tympanic membrane</p> <p>Osteoma is benign,solitary area of bony overgrowth that can form in outer ear & lead to hearing loss</p> <p>Meniere's dis:innear ear fluid->hearing loss,vertigo,tinnitus</p>
3285	Pediatrics	Ear, Nose & Throat (ENT)	<p>Acute bacterial rhinosinusitis: Persistent sx > 10 days w/o improvement or Severe sx, fever >102 F, purulent nasal discharge, or face pain > 3 days or Worsening sx > 5 days after initially improving viral upper respiratory infection Tx- *antibiotics* so Oral amoxicillin-clavulanic acid</p>
3972	Pediatrics	Ear, Nose & Throat (ENT)	<p>Acute otitis media (AOM):affects children,esp w/ cigarette smoke exposure,recnet/concurrent upper respiratory infection,day care attendance & formula intake.Caused by S. pneumoniae,non-typeable H. influenzae & Moraxella catarrhalis.Tx-Oral amoxicillin.If AOM returns within a month of initial tx,give amoxicillin-clavulanic acid</p> <p>Tympanocentesis & culture during myringotomy w/ tympanostomy tube placement should be considered in children w/ multiple episodes of AOM despite abx tx</p>
3600	Pediatrics	Endocrine, Diabetes & Metabolism	<p>*Deficiency of 21-hydroxylase: you get increased 17-hydroxyprogesterone levels*</p> <p>17a-hydroxylase deficiency: Male pts usually appear phenotypically female & are raised as girls</p>
3662	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Congenital hypothyroidism: infants initially appear normal at birth but eventually develop apathy, weakness, hypotonia, large tongue, sluggish movement, abdominal bloating, & umbilical hernia.</p> <p>Wednig Hoffman syndrome: degeneration of anterior horn cells. Causes floppy baby syndrome (other cause is infant botulism).</p> <p>Myotonic congenital myopathy: muscle weakness & atrophy, myotonia, testicular atrophy, baldness</p>
3721	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Decreased activity, hoarse cry, & jaundice in an infant are commonly ass w/ congenital hypothyroidism but majority of infants w/ congenital hypothyroidism are asymptomatic. *Thyroid dysgenesis*(aplasia, hypoplasia, ectopic gland) is the mcc of congenital hypothyroidism worldwide</p> <p>Maternal iodine deficiency->neonatal hypothyroidism</p> <p>Maternal Grave's disease->transplacental passage of TSH-receptor antibodies->affected infants have signs of hyperthyroidism(thyrotoxicosis)</p>
3783	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Gynecomastia by itself carries a low cancer risk. The exception is Klinefelter syndrome, which does carry an increased risk of male breast cancer</p>
3867	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Isolated premature adrenarche(early sexual maturation) is caused by increased adrenal androgen secretion. sx- body odor, oily hair & skin, acne, pubic hair, & axillary hair</p> <p>Malignant testosterone secreting hepatoblastomas are a rare cause of premature adrenarche & occur almost exclusively in boys</p> <p>The absence of thelarche (breast development) makes the ovaries an unlikely source of a child's premature adrenarche</p> <p>Adrenarche means early sexual maturation!</p>
3868	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Central precocious puberty: presents with increased FSH and LH is the result of early activation of the hypothalamic pituitary ovarian (HPO) axis. do brain imaging with CT or MRI in these pts</p> <p>Peripheral precocious puberty: presents with low FSH and LH</p> <p>Treatment for precocious puberty is with GnRH analog therapy</p>

3875	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Gonadotropin dependent (central) precocious puberty:premature adrenarche(axillary & pubic hair),premature thelarche(breast development),& advanced bone age.LH is elevated at baseline or after stimulation w/ GnRH agonist.Tx-GnRH agonist therapy to prevent premature epiphyseal plate fusion & maximize adult height potential</p> <p>Pts w/ gonadotropin independent precocious puberty have low basal LH levels w/ no response to GnRh.Do U/S to find peripheral source of sex hormone secretion</p>
4239	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Late-onset (nonclassic) congenital adrenal hyperplasia: Gonadotropin-independent (peripheral) precocious puberty, LH levels low at baseline & don't increase after stimulation w/ a GnRH agonist, advanced bone age, accelerated linear growth, coarse axillary & pubic hair, severe cystic acne, normal electrolytes</p> <p>Idiopathic precocious puberty: premature activation of hypothalamic pituitary gonadal axis,occurs in girls,LH elevated & increases w/ GnRH stimulation</p>
4514	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Diabetic ketoacidosis (DKA) is characterized by an osmotic diuresis that *reduces total body K+ stores* even though the serum K+ level may be elevated</p> <p>DKA characterized by an increase in circulating free fatty acids due to an underlying relative excess of glucagon to insulin & consequent increase in lipolysis</p> <p>In a DKA pt, hepatic gluconeogenesis is increased due to increased ratio of circulating glucagon to insulin & increased circulating levels of catecholamines & cortisol</p>
4830	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Constitutional growth delay: mcc of short stature & pubertal delay in adolescents. Puberty & adolescent growth spurt are delayed, but eventually occur. Child will have a normal growth spurt & reach a normal adult height. If a 13 y/o boy comes in complaining of constitutional growth delay, schedule a *follow up visit in 6 months*</p>
8871	Pediatrics	Endocrine, Diabetes & Metabolism	<p>Refeeding syndrome:potentially fatal complication of nutritional rehabilitation in anorexia nervosa.Carbohydrate intake stimulates *insulin activity*,which in turn promotes cellular uptake of phosphorus,potassium & magnesium.Clinical manifestations-arrhythmias & cardiopulmonary failure(jvd,bibasilar lung crackles,increased pulse & respiratory rate)</p> <p>Pts w/ anorexia nervosa have euthyroid hypothyroxinemia(charac. by normal TSH & normal to decreased serum T3 & T4)</p>
2388	Pediatrics	Female Reproductive System & Breast	<p>1 amenorrhea:due to hypothalamic/pituitary(central) abnormalities or gonadal (peripheral) abnormalities.*Measure FSH level*.Increased FSH(hypogonadotropic amenorrhea) indicates peripheral cause,decreased FSH(hypogonadotropic amenorrhea) indicates central cause.If amenorrhea is of central origin,pituitary MRI is indicated to look for lesion in sella turcica. If amenorrhea is of peripheral origin,karyotyping is next step</p> <p>GnRH stim test used to evaluate for precocious puberty</p>
2390	Pediatrics	Female Reproductive System & Breast	<p>Acute abnormal uterine bleeding (AUB) in adolescents: Due to anovulatory cycles from immature hypothalamic pituitary ovarian axis.Evaluation for pregnancy & bleeding disorders is generally advised tx-high dose estrogen is 1st line treatment for pts w/ moderate to severe bleeding! Progesterone may be used if estrogen is contraindicated in pt.Tranexamic acid,an antifibrinolytic may be used if both estrogen & progestin are contraindicated</p>
2395	Pediatrics	Female Reproductive System & Breast	<p>Primary dysmenorrhea:pelvic cramping during the first few days of menses in the context of a normal physical exam.It's caused by increased prostaglandin release from endometrial sloughing during menses.Tx-NSAIDs since they are prostaglandin synthetase inhibitors & decrease prostaglandin production</p> <p>Adenomyosis:dysmenorrhea in women age >35,bulky,globular & tender uterus</p> <p>Endometriosis:can occur in adolescents,pain precedes menses by few days,dyspareunia w/ deep penetration</p>
2421	Pediatrics	Female Reproductive System & Breast	<p>Testing the urine for human chorionic gonadotropin (hCG) is the first step in evaluation for any reproductive-age female who is unsure of her LMP. Pts w/ positive hCG should undergo transvaginal ultrasound (TVUS) to confirm the location of the gestational sac(eg when we're suspecting a possible ectopic pregnancy)</p>
3241	Pediatrics	Female Reproductive System & Breast	<p>Levonorgestrel(plan B, efficacy decreases w/ time over course of 72 hours) AND Ulipristal(more effective but difficult to obtain, can be taken up to 5 days after sex) are widely available oral emergency contraceptive options. In most states, adolescents seeking pregnancy prevention options may receive confidential medical care w/o parental consent</p> <p>Mifepristone & misoprostol comprise the medication abortion regimen</p>
3773	Pediatrics	Female Reproductive System & Breast	<p>Vaginal discharge in the newborn is due to the effects of maternal estrogens. In such cases, reassurance of the mother is all that is required</p>

3911	Pediatrics	Female Reproductive System & Breast	<p>Mullerian agenesis(Mayer-Rokitansky-Kuster-Hauser syndrome):failure of mullerian ductal system to differentiate into uterus,cervix,upper vagina.Pts don't menstruate due to congenitally absent or underdeveloped uterus,cervix & upper vagina.Gonads(ovaries) & external genitalia(labia, clitoris) develop normally.Breast development & body hair growth is normal.Phenotypically & genotypically female</p> <p>Imperforate hymen:cyclic ab pain,amenorrhea from vaginal obstruction,uterus present</p>
4142	Pediatrics	Female Reproductive System & Breast	<p>Pts w/ Turner syndrome have ovarian dysgenesis, which results in low estrogen levels & inability to menstruate. The poor ovarian function causes *FSH levels to be high* due to lack of negative feedback</p> <p>Inhibin is a marker of ovarian function, & therefore will be low in pts w/ Turner syndrome</p>
4217	Pediatrics	Female Reproductive System & Breast	<p>Androgen insensitivity syndrome:Phenotypic female(defective androgen receptors)w/ 46,XY karyotype,absent uterus/upper vagina,cryptorchid testes,axillary/pubic hair minimal/absent,breast develops(due to estrogen.Testosterone aromatizes to estrogen).Bilateral gonadectomy rec. after *completion of puberty(attainment of adult height)* to decrease risk of gonadal malignancy(1%-5% risk of developing dysgerminoma or gonadoblastoma after puberty). Give Estrogen postoperatively!</p>
4230	Pediatrics	Female Reproductive System & Breast	<p>*Granulosa cell tumors* produce excessive amounts of estrogen & can present w/ precocious puberty in younger children(secondary sexual charac,hypertrophy of breasts/external genitalia,pubic hair growth,hyperplasia of uterus) & postmenopausal bleeding in elderly pts</p> <p>Sertoli-Leydig cell tumors produce androgens & cause defeminization & then masculinization.Women complain of altered body contour,breast flattening,irregular menstruation/amenorrhea.Hirsutism,clitoris enlargement</p>
4242	Pediatrics	Female Reproductive System & Breast	<p>An adolescent w/ a single, rubbery, mobile breast mass most likely has a fibroadenoma. Breast tenderness preceding menses typically *improves after the menstrual period has ended*</p>
4244	Pediatrics	Female Reproductive System & Breast	<p>Mammary gland enlargement, leukorrhea, & mild uterine bleeding are common, benign, & transient in newborns. These are physiologic responses to transplacental maternal estrogen exposure. *No work-up is indicated*</p>
4767	Pediatrics	Female Reproductive System & Breast	<p>Hypothalamic pituitary gonadal axis immaturity (doesn't produce adequate LH & FSH to induce ovulation) is a cause of irregular menstrual cycles in women shortly following menarche</p> <p>Intrauterine adhesions: causes include uterine instrumentation (during operative delivery) and endometriosis</p>
4870	Pediatrics	Female Reproductive System & Breast	<p>Vaginal foreign bodies in children: foul-smelling vaginal discharge & vaginal spotting or bleeding. Toilet paper is the most common vaginal foreign body. Removal w/ calcium alginate swab or *irrigation w/ warmed fluid* should be attempted after a topical anesthetic has been applied. Sedation & general anesthesia may be required in some cases</p>
9563	Pediatrics	Female Reproductive System & Breast	<p>Turner syndrome(TS) dx confirmed by *karyotype analysis* showing complete or partial deletion of an X chromosome. If karyotype normal but clinical suspicion for TS remains high, fluorescence in situ hybridization should be performed to detect mosaicism (eg, 45,XO/46,XX) that is beyond the resolution of standard karyotyping</p>
9566	Pediatrics	Female Reproductive System & Breast	<p>If we suspect that pt has Turner syndrome, *pelvic ultrasound* should be performed to evaluate internal female anatomy</p> <p>Serum 17-hydroxyprogesterone is elevated in 21-and 11-hydroxylase deficiencies & is decreased in 17-hydroxylase deficiency</p>
2452	Pediatrics	Gastrointestinal & Nutrition	<p>Bilious vomiting in the first 2 days of life & a "double bubble" sign on abdominal x-ray are strongly suggestive of duodenal obstruction. *Duodenal atresia* is strongly ass. w/ Down syndrome(prenatal ultrasound will show polyhydramnios due to inability to swallow & remove amniotic fluid)</p> <p>Sigmoid volvulus:ab pain,distension,constipation due to torsion of sigmoid colon.Xray shows inverted U-shaped appearance of distended sigmoid loop("coffee bean sign").Occurs in elderly</p>
2453	Pediatrics	Gastrointestinal & Nutrition	<p>In children, recurrent self limiting episodes of vomiting & nausea w/o an apparent cause suggest the dx of cyclical vomiting. A family hx of migraine is often present</p> <p>Intestinal malrotation can present w/ recurrent vomiting that is generally bilious. Upper gi series is the gold standard test for malrotation</p> <p>Mesenteric adenitis:abdominal pain(often RLQ), abdominal guarding & tenderness.Can be mistaken for appendicitis, identifiable on abdominal CT. No recurrent vomiting</p>
2456	Pediatrics	Gastrointestinal & Nutrition	<p>Necrotizing enterocolitis(NEC):Increased gastric residual volume,vomiting,& ab distension in a preterm neonate. Xray-*pneumatosis intestinalis (intramural air) & portal venous air*. Path involves combo of gut immaturity & exposure to bacteria from enteral feeds,leading to a cascade of inflammation & damage to bowel wall.The premature intestinal mucosa has increased permeability & bacterial penetration. Leukocytosis & met acidosis reflects inflammation & intestinal ischemia</p>
2463	Pediatrics	Gastrointestinal & Nutrition	<p>Older children w/ recurrent intussusception: sx- sudden excruciating abdominal pain, child draws up their legs suspect Meckel's diverticulum as cause</p>
2464	Pediatrics	Gastrointestinal & Nutrition	<p>Milk-or soy-protein proctocolitis:exclusive to infants,suspect it when a well-appearing neonate has painless bloody stools & severe reflux or vomiting. Eczema may also be present. Rectal bleeding stops within 2 weeks of eliminating dietary dairy & soy products</p> <p>Bacterial colitis: when bloody diarrhea is accompanied by fever, decreased appetite, & irritability. Rare in breastfed infants due to lack of exposure to contaminated foods or animals</p>

2465	Pediatrics	Gastrointestinal & Nutrition	Malrotation w/ midgut volvulus presents in neonates w/ bilious vomiting & ab distension. Untreated volvulus can progress to frank bowel ischemia, bloody stools, & perforation. Dx-An *Upper GI contrast study* is the gold standard for dx malrotation. Tx-Ladd procedure fixes bowel in non-rotated position to minimize recurrent volvulus risk
2466	Pediatrics	Gastrointestinal & Nutrition	Bowel obstruction/distal intestinal obstruction in neonate: sx- bilious emesis, meconium ileus management- immediate xray to determine the need for emergency surgery or further diagnostic studies(in case there is a perforation or pneumoperitoneum) If pt stable, and there is no perforation/pneumoperitoneum, perform contrast studies/imaging to determine level of obstruction
2467	Pediatrics	Gastrointestinal & Nutrition	Hirschsprung disease: sx- newborn w/ failure to pass meconium Strongly ass. w/ Down syndrome!! Rectal exam produces explosive expulsion of gas and stool "squirt sign" from temporary relief from obstruction Transition zone seen between narrowed aganglionic segment and the normally innervated dilated colon (megacolon) Failure of neural crest cell migration during fetal intestinal development Cystic fibrosis: meconium ileus, meconium thick & difficult to propel, microcolon
2474	Pediatrics	Gastrointestinal & Nutrition	Necrotizing enterocolitis:newborn w/ feeding intolerance,ab distension,bloody stools.RF-prematurity,HYPOTENSION,CONGENITAL HEART DISEASE eg truncus arteriosus(congenital heart disease & hypotension both causes reduced mesenteric perfusion).Xray-pneumatosis intestinalis(google image!) Symptomatic disease due to C diff is rare in 1st year of life Intussusception is uncommon in neonate Malrotation w/ midgut volvulus xray: gasless abdomen due to obstruction involving duodenum
2475	Pediatrics	Gastrointestinal & Nutrition	Jaundice is the 1st sign of biliary atresia. The obstructed biliary tract can't transport bile to the intestine, resulting in hepatic bile retention (cholestasis), direct hyperbilirubinemia, & jaundice Galactosemia can cause hyperbilirubinemia but also feeding intolerance (eg, vomiting, diarrhea) Newborns of mothers w/ blood group O- or Rh-negative are at risk for hemolytic anemia & severe hyperbilirubinemia Sepsis can cause hemolysis & exacerbate hyperbilirubinemia
2478	Pediatrics	Gastrointestinal & Nutrition	Breastfed infants have *decreased risk of developing otitis media*;respiratory, gastrointestinal,& utis; and necrotizing enterocolitis. They also have lower rates of type 1 diabetes mellitus & childhood cancer. Only absolute contraindication to breastfeeding is galactosemia Breast feeding benefit for mom is reduced risk of breast & ovarian cancer. Only contraindication for this is if mom has untreated tb, hiv infection, abuses street drugs or alcohol
2479	Pediatrics	Gastrointestinal & Nutrition	Preterm infants(eg,baby born at 34 weeks gestation) are at increased risk for iron deficiency anemia. *Iron supplementation* should be started at birth in exclusively breastfed preterm infants & continued until age 1 year. *All exclusively breastfed infants should also be started on vitamin D supplementation* American Academy of Peds recommends exclusive breastfeeding until age 6 months given that earlier intro of solid foods is ass. w an increase in GI infections
2480	Pediatrics	Gastrointestinal & Nutrition	[Thiamine deficiency ass. w/ infantile & adult beriberi] Infantile beriberi-appear @ age 2-3 mo, fulminant cardiac syndrome w/ cardiomegaly, tachycardia, cyanosis, dyspnea, & vomiting [Adult beriberi charac. as dry or wet] Dry beriberi-symmetrical peripheral neuropathy accompanied by sensory & motor impairments, esp at distal extremities Wet beriberi-includes this neuropathy in addition to cardiac involvement(cardiomegaly,cardiomyopathy,CHF,peripheral edema,tachycardia)
2656	Pediatrics	Gastrointestinal & Nutrition	Batteries lodged in the esophagus on x-ray should be removed immediately under *endoscopic* guidance to prevent mucosal damage & esophageal ulceration. Batteries located distal to the esophagus pass uneventfully & need only to be observed w/ stool examination and/or follow up x-rays to confirm excretion
2773	Pediatrics	Gastrointestinal & Nutrition	Iron deficiency anemia in a young pt is most likely due to celiac disease. Common associations w/ celiac disease include type 1 diabetes & dermatitis herpetiformis. IgA anti-tissue transglutaminase antibody is highly sensitive for celiac disease
2896	Pediatrics	Gastrointestinal & Nutrition	Reye syndrome: Microvesicular fatty infiltration Macrovesicular fatty changes seen in alcoholic hepatitis & in obese pts w/ nonalcoholic fatty liver disease

2945	Pediatrics	Gastrointestinal & Nutrition	<p>Biliary cysts(or choledochal cyst) are congenital or acquired dilatations of the biliary tree. They may be single or multiple, & extrahepatic or intrahepatic. Abdominal pain, jaundice, & a palpable mass are characteristic findings. Biliary cysts(can transform into cholangiocarcinoma) require surgical excision(relieves the obstruction & reduces risk of malignancy)</p> <p>Biliary atresia presents in early infancy w/ obstructive jaundice & acholic stools & is fatal w/o intervention</p>
3078	Pediatrics	Gastrointestinal & Nutrition	<p>Infantile hypertrophic pyloric stenosis: causes gastric outlet obstruction Risk factors- first born boy, erythromycin, formula feeding sx- projectile nonbilious emesis, olive shaped abdominal mass, poor weight gain, dehydration lab- hypochloremic metabolic alkalosis diag. studies- abdominal ultrasound tx- iv rehydration, pyloromyotomy</p>
3194	Pediatrics	Gastrointestinal & Nutrition	<p>Systemic carnitine deficiency (SCD) is an inherited defect in fatty acid oxidation. Sx-hypoglycemia, hyperammonemia, hypoprothrombinemia, & acute episodes of encephalopathy. Acyl-carnitine levels are elevated</p>
3465	Pediatrics	Gastrointestinal & Nutrition	<p>Management of Infantile hypertrophic pyloric stenosis: First you do *IV rehydration and normalization of electrolytes!* Then you perform a pyloromyotomy This decreases the risk of postoperative apnea.</p> <p>Infantile hypertrophic pyloric stenosis: common in first born boys, begins around age 3-5 weeks, projectile/nonbilious vomiting, palpable olive shaped mass, hypochloremic, hypokalemic metabolic alkalosis</p>
3835	Pediatrics	Gastrointestinal & Nutrition	<p>Beckwith-Wiedemann syndrome(BWS): macrosomia, macroglossia, umbilical hernia/omphalocele, hemihyperplasia(eg,right upper & lower extremities larger than left extremities), & hypoglycemia. Child must be closely monitored for development of Wilms tumor or hepatoblastoma w/ *serum a-fetoprotein, abdominal ultrasound, & renal ultrasound*. [Don't confuse BWS w/ congenital hypothyroidism, which doesn't have macrosomia, hypoglycemia, & hemihyperplasia]</p>
3849	Pediatrics	Gastrointestinal & Nutrition	<p>Esophageal atresia w/ tracheoesophageal fistula: Newborn drools,chokes,coughs,regurgitates w/ initial feeding attempts right after birth.Prenatal u/s shows polyhydramnios.Presence of enteric tube in proximal esophagus on x-ray & inability to pass feeding tube into stomach suggests esophageal atresia(google xray image).Gastric fluid can reflux into distal esophagus thru fistula & into trachea/lungs,causing aspiration pneumonia. Workup for VACTERL ass. should be considered</p>
3872	Pediatrics	Gastrointestinal & Nutrition	<p>Choanal atresia: suspect in a well appearing infant w/ intermittent cyanosis & distress during feeding(or anything that will keep infant's mouth closed) that is relieved by crying. Failure to pass a catheter thru the nose into the oropharynx is suggestive of the dx. Condition may be isolated or part of CHARGE syndrome: Coloboma, Heart defects, Atresia of the choanae, Renal anomalies, Growth impairment, and Ear abnormalities/deafness</p> <p>TOF pts become cyanotic when stressed</p>
3926	Pediatrics	Gastrointestinal & Nutrition	<p>Growth failure & recurrent respiratory infections should raise concern for cystic fibrosis. Pancreatic enzyme deficiency causes steatorrhea & fat-soluble vitamin malabsorption, resulting in poor weight gain</p>
3970	Pediatrics	Gastrointestinal & Nutrition	<p>*Biliary atresia* in newborns:sx-'conjug hyperbilirubinemia','hepatomegaly','jaundice','light colored stools'.Caused by progressive obliteration of extrahepatic biliary ducts connecting liver to small bowel.Newborns initially well but develop conjug hyperbilirubinemia in 1st 2 mo of life.1st step in evaluat is ab US,which may show an absent or abnormal gallbladder.W/o tx, liver will fibrose.Early tx w/ Kasai procedure improves outcomes.Eventually will need liver transplant!</p>
4183	Pediatrics	Gastrointestinal & Nutrition	<p>Meconium ileus is diagnostic for cystic fibrosis. Inspissated meconium is responsible for life threatening obstruction at the level of the ileum. Narrow, underused colon (microcolon).</p> <p>Hirschsprung disease: level of obstruction is Rectosigmoid. Meconium consistency is normal(not inspissated like in meconium ileus). Ass. w/ Down syndrome.</p>
4290	Pediatrics	Gastrointestinal & Nutrition	<p>Gastroschisis: isolated defect lateral to the umbilical cord w/ uncovered bowel herniating thru the abdominal wall(bowel gets exposed to amniotic fluid->inflammation/edema of bowel wall->increased risk of complications like necrotizing enterocolitis,short bowel syndrome). Maternal serum a-fetoprotein is elevated during pregnancy. *After delivery*, the exposed bowel should be covered w/ sterile saline dressings & plastic wrap. *Immediate surgery* is required</p>
4302	Pediatrics	Gastrointestinal & Nutrition	<p>Vitamin B2 (riboflavin) deficiency: angular cheilosis, stomatitis(hyperemic/edematous oropharyngeal mucous membranes, sore throat), glossitis, normocytic anemia, seborrheic dermatitis. Common in underdeveloped countries w/ severe food shortages.</p>
4817	Pediatrics	Gastrointestinal & Nutrition	<p>Breastfeeding failure jaundice: unconjugated hyperbilirubinemia & dehydration in the 1st week of life. Inadequate stooling results in decreased bilirubin elimination & increased enterohepatic circulation of bilirubin. Look for infrequent breastfeeding(4 hour feeding intervals) and signs of dehydration(infant loses a small % of birth weight, slightly decreased urine output, "brick-red" urate crystals in diapers)</p> <p>Breast milk jaundice: infant has no signs of dehydration</p>

			Breastfeeding failure jaundice tx: Optimize lactation & increase breastfeeding frequency
			Neonates should breastfeed 8-12 times a day (every 2-3 hours) for >10-20 minutes per breast during the first month of life
4818	Pediatrics	Gastrointestinal & Nutrition	Rh-negative moms should receive Rho(D) immune globulin to prevent Rh-antibody hemolytic disease of newborn Phototherapy for infant w/ bilirubin >20 mg/dL. Exchange transfusion for infant w/ bilirubin >25 mg/dL. Galactosemia: STOP breast/cow milk! Give soy formula
4838	Pediatrics	Gastrointestinal & Nutrition	*Painless hematochezia* in a young toddler is most likely due to *Meckel's diverticulum*. The outpouching usually contains gastric mucosa that is best diagnosed by technetium-99m pertechnetate scanning. Tx-surgical resection Meckel's diverticulum is a potential lead point for intussusception Milk protein allergy: painless rectal bleeding that resolves w/ elimination of dietary cow's milk. Exclusive to infants & resolves by age 1
4839	Pediatrics	Gastrointestinal & Nutrition	Pellagra: deficiency of niacin (vit B3), seen in pts w/ bowel disease that interferes w/ vitamin absorption (ulcerative colitis), GI complaints (nausea, abdominal pain, epigastric discomfort), glossitis (beefy red tongue), watery diarrhea, dermatitis in sun-exposed areas & resembles a sunburn, rash progresses, skin becomes hyperpigmented & thickened, poor concentration, irritability, aggressiveness, & dementia Pyridoxine deficiency: irritability, depression, dermatitis, stomatitis, elevated homocysteine
4851	Pediatrics	Gastrointestinal & Nutrition	Intussusception: Diagnosis made w/ ultrasound (1st line modality) A positive "target sign" should prompt reduction w/ *air or water-soluble contrast enema* Air enemas preferred! Do laparotomy if enema reduction is ineffective or if lead point (that caused intussusception) is identified, or if pt gets signs of perforation
4856	Pediatrics	Gastrointestinal & Nutrition	Colic: crying that occurs in a healthy infant for >3 hours daily, >3 times a week & for a duration of >3 weeks
4868	Pediatrics	Gastrointestinal & Nutrition	Human milk is ideal for infants. The major protein source is whey, which is *more easily digested* than casein & *helps to improve gastric emptying*
4890	Pediatrics	Gastrointestinal & Nutrition	*Jejunal atresia* presents w/ bilious vomiting & abdominal distension. Abdominal x-ray shows a "triple bubble" sign & gasless colon (google xray image). Risk factors include prenatal exposure to cocaine & other vasoconstrictive drugs One third of infants w/ duodenal atresia have chromosomal abnormalities, most commonly Down syndrome Necrotizing enterocolitis: abdominal distension, bloody stools, vital sign instability in premature infants. Pneumatosis intestinalis on xray.
4925	Pediatrics	Gastrointestinal & Nutrition	Moderate to severe dehydration in children should be tx w/ an *IV bolus of isotonic fluid*
4926	Pediatrics	Gastrointestinal & Nutrition	Physiologic Gastroesophageal reflux is extremely common in infants due to their shorter esophagus, incomplete closure of the lower esophageal sphincter, and greater time spent in the supine position. Parents should be reassured and advised to hold the infant upright after feeds. Pyloric stenosis is diagnosed by abdominal ultrasound
8791	Pediatrics	Gastrointestinal & Nutrition	Foreign body ingestion: Difficulty swallowing, feeding refusal, vomiting. Most commonly coins in children. Coin should be removed by flexible endoscopy. Rigid endoscopy has higher risk of esophageal abrasion & perforation & is usually reserved for impacted sharp objects in the proximal esophagus. Coins that reach the stomach allowed to pass spontaneously. Tracheobronchial foreign body aspiration: toddlers w/ sudden onset stridor, wheeze, cough, dyspnea. Use Rigid bronchoscopy
8955	Pediatrics	Gastrointestinal & Nutrition	Constipation in children: Initiation of solid food & *cow's milk* is a risk factor. Oral laxatives (polyethylene glycol, mineral oil) used for tx. Encopresis (fecal incontinence) is a potential complication Hirschsprung disease: presents in neonatal period w/ delayed meconium passage & abdominal distension. Mild disease may manifest later in childhood & is an uncommon cause of chronic constipation. Dx by rectal biopsy. If constipation persists despite tx, screen w/ anorectal manometry
2433	Pediatrics	General Principles	Bedwetting is normal before age 5. Mastery of nighttime continence can take months to years, & boys generally achieve this milestone later than girls
2488	Pediatrics	General Principles	Edward's syndrome (trisomy 18): microcephaly, prominent occiput, micrognathia, closed fists w/ index finger overlapping the 3rd digit & the 5th digit overlapping the 4th, & rocker bottom feet Patau's syndrome (trisomy 13): cleft lip, flexed fingers w/ polydactyly, ocular hypotelorism, bulbous nose, low-set malformed ears, small abnormal skull, cerebral malformation, microphthalmia, cardiac malformations, scalp defects, hypoplastic or absent ribs, visceral & genital anomalies
2489	Pediatrics	General Principles	Cri-du-chat syndrome: due to *5p deletion*. Presents as microcephaly, hypotonia, short stature, & a cat-like cry

3418	Pediatrics	General Principles	Intraosseous(IO) lines can be placed rapidly when emergency access is necessary & peripheral access can't be obtained. Intraosseous access can be performed w/ less required skill and practice than central venous access. Common site for IO access is the proximal tibia. Contraindications to IO placement include infection over access site, fractures or previous IO attempts in chosen extremity or bone fragility Arterial lines used for continuous BP monitoring & to draw lab studies
4199	Pediatrics	General Principles	6 month old infant should be able to sit momentarily on propped hands, transfer objects from hand to hand, and respond to name. Stranger anxiety also develops at this age
4823	Pediatrics	General Principles	9 month old child: should babble, use mama/dada, respond to her own name. If pt babbled before but stopped doing so and has hx of otitis media, we worry about potential hearing problem. An audiology evaluation should be done next!
7726	Pediatrics	General Principles	Healthy infants normally lose up to 7% of birth weight in the first 5 days of life. No tx is required, & exclusive breastfeeding should be continued. Birth weight should be regained by age 10-14 days Dry, flaky peeling skin of the hands & feet is expected in newborn as the skin adjusts to the dry extrauterine environment Pink stains or "brick dust" in neonatal diapers represent uric acid crystals. Commonly seen during 1st week as mother's milk is coming in
2253	Pediatrics	Hematology & Oncology	Stroke is a common complication of sickle cell disease secondary to sludging & occlusion in the cerebral vasculature. Exchange transfusion is the recommended treatment acutely since it helps to decrease the percentage of sickle cells & prevent a second infarct from occurring. Don't rule out stroke even if CT is negative because it's difficult to detect stroke in the first few hours on a CT Fibrinolytic therapy, heparin, & warfarin are helpful for a true thrombus (not sludge)
2867	Pediatrics	Hematology & Oncology	Acute lymphoblastic leukemia: predominantly a disease of children. Pts present w/ infections, lymphadenopathy, & splenomegaly. Anemia, neutropenia, & thrombocytopenia. TdT positive. TdT is expressed only by pre B and pre T lymphoblasts Auer rods seen in AML Myelodysplastic syndromes are seen in elderly, characterized by pancytopenia
2870	Pediatrics	Hematology & Oncology	Hereditary spherocytosis: Coombs-negative hemolytic anemia, jaundice, & splenomegaly. *A key lab finding is elevation of MCHC*. Suspect in pts w/ reticulocytosis, hyperbilirubinemia, spherocytosis, & family hx of anemia. Dx confirmed w/ an abnormal eosin-5-maleimide binding test and increased osmotic fragility on *acidified glycerol lysis tests* Warm-agglutinin autoimmune hemolytic anemia: low hemoglobin, reticulocytosis & positive Coombs testing. Glucocorticoid therapy helpful
2875	Pediatrics	Hematology & Oncology	Iron deficiency anemia: Most common nutritional deficiency in infants. Decreased MCV, increased RDW, decreased serum iron, decreased transferrin saturation, & increased TIBC. Peripheral smear will show small, hypochromic rbc's
3089	Pediatrics	Hematology & Oncology	DIC results in consumption of all clotting factors. PT & aPTT prolonged; platelets are low Pts w/ impaired platelet function have mucocutaneous bleeding & petechiae in the setting of normal PT, aPTT, & platelet count
3200	Pediatrics	Hematology & Oncology	Aplastic anemia can occur after viral infections or exposure to toxins Fanconi's anemia: pancytopenia, hyperpigmentation on trunk, neck, cafe-au-lait spots, short stature, upper limb abnormalities, hypogonadism, skeletal anomalies, eye/eyelid changes, & renal malformations Diamond Blackfan anemia: or congenital pure red cell aplasia, presents in first 3 mo of life w/ pallor and poor feeding. Transient erythroblastopenia of childhood: pallor, decreased activity, tachycardia
3282	Pediatrics	Hematology & Oncology	Antibody-mediated hemolysis would cause a positive Coombs test
3284	Pediatrics	Hematology & Oncology	Acute lymphoblastic leukemia is the most common leukemia in children. The presence of >25% lymphoblasts on bone marrow biopsy confirms the diagnosis. Bone marrow infiltration results in anemia and thrombocytopenia. Clinical features- nonspecific systemic sx, bone pain, lymphadenopathy, hepatosplenomegaly, pallor (from anemia), petechiae (from thrombocytopenia) *Bone marrow biopsy* required to confirm the type of leukemia Down syndrome pts also at risk for ALL
3440	Pediatrics	Hematology & Oncology	Immune thrombocytopenia should be suspected in children who develop isolated thrombocytopenia & petechiae after a viral infection. Children usually recover spontaneously within 6 months & require only *observation*, regardless of platelet count. Children w/ bleeding should receive intravenous immunoglobulin or glucocorticoids. Splenectomy is a last resort for catastrophic bleeding or chronic ITP that is refractory to IVIG & glucocorticoids

3647	Pediatrics	Hematology & Oncology	<p>Presence of Howell-Jolly bodies suggests splenectomy or functional asplenia</p> <p>Heinz bodies seen in pts w/ hemolysis due to G6PD deficiency & thalassemia</p>
3658	Pediatrics	Hematology & Oncology	<p>Benign astrocytomas are the most common CNS tumor in children!</p> <p>Medulloblastoma is the second most common tumor in children</p> <p>Pinealoma sx- endocrine syndrome, intracranial htn, Parinaud's sign (paralysis of vertical gaze), & Collier's sign (retraction of eyelid)</p>
3665	Pediatrics	Hematology & Oncology	<p>Parinaud syndrome occurs in most pts w *pineal gland masses* & presents as limitation of upward gaze, bilateral ptosis, & bilateral lid retraction. Other sx of pineal gland tumors include headaches & vomiting due to obstructive hydrocephalus</p>
3713	Pediatrics	Hematology & Oncology	<p>Pts w/ sickle cell anemia suffer from chronic *extravascular* & intravascular hemolysis</p>
3774	Pediatrics	Hematology & Oncology	<p>Anemia of prematurity: mcc of anemia in preterm infants. It's due to diminished erythropoietin levels, shortened rbc life span, & blood loss. Usually asymptomatic. Labs show decreased hemoglobin & hematocrit and a relatively low reticulocyte count tx- minimize blood draws, iron supplementation, transfusions</p>
3785	Pediatrics	Hematology & Oncology	<p>Dactylitis/Hand-foot syndrome: earliest manifestation of *vaso-occlusion* in sickle cell anemia. Pts present at age 6 mo-2 yrs w/ acute onset of pain & symmetric swelling of hands/feet. Soft tissue swelling initially seen, fever sometimes present. Pathophys- vascular necrosis of metacarpals & metatarsals, seen on plain radiographs as osteolytic lesions</p> <p>Sickle cell disease path:point mutation resulting in substitution of valine for glutamic acid</p>
3787	Pediatrics	Hematology & Oncology	<p>Sickle cell trait: pts lead normal, healthy lives. sx- painless hematuria</p>
3818	Pediatrics	Hematology & Oncology	<p>Diamond blackfan syndrome (DBS): macrocytic pure red aplasia ass. w/ short stature, webbed neck, cleft lip, shielded chest & triphalangeal thumbs. tx- corticosteroids. Transfusion for unresponsive pts</p> <p>Fanconi's anemia: progressive pancytopenia, macrocytosis, cafe-au-lait spots, microcephaly, microphthalmia, short stature, horseshoe kidneys & absent thumbs</p> <p>Transient erythroblastopenia of childhood: pure red cell aplasia w/o macrocytosis. No ass. congenital anomalies</p>
3838	Pediatrics	Hematology & Oncology	<p>In pts w/ sickle cell disease, acute severe anemia(severe drop in hemoglobin) w/ low or absent reticulocytes(reticulocytes <1%) is consistent w/ an aplastic crisis.[Aplastic crisis in sickle cell disease differs from aplastic anemia]</p> <p>Splenic sequestration:rapidly enlarging spleen</p> <p>Acute chest syndrome:fever,chest pain,infiltrate on CXR</p> <p>Vasoocclusive crisis:acute onset of pain,vasoocclusion secondary to sickling of rbcs,due to changes in weather,dehydration,infection</p>
3896	Pediatrics	Hematology & Oncology	<p>Suspect HUS in a child who has recently recovered from a diarrheal illness & presents w/ acute renal failure, *microangiopathic hemolytic anemia*, fever, thrombocytopenia, & characteristic peripheral smear finding of schistocytes(Extremely H.Y. for USMLE!!!)</p> <p>DIC: PT & aPTT are prolonged</p> <p>Thalassemia:hepatosplenomegaly,target cells,microcytosis,hypochromia,anisopoikilocytosis</p> <p>ITP:isolated thrombocytopenia</p> <p>Bleeding in renal failure pt due to dysfunctional platelets</p>
4249	Pediatrics	Hematology & Oncology	<p>Hemophilic arthropathy: delayed consequence of recurrent hemarthrosis. It's ass. w/ hemosiderin deposition leading to synovitis & fibrosis within the joint. Tx- prophylactically w/ factor concentrates</p> <p>Avascular necrosis of the femoral head is seen in children w/ sickle cell disease and in Legg-Calve-Perthes disease</p> <p>LCP or idiopathic avascular necrosis of the femoral head, presents w/ limp or hip pain & is most common in children age 4-12</p>
4340	Pediatrics	Hematology & Oncology	<p>In pts w/ sickle cell anemia (SCA), the *Howell-Jolly bodies* seen on peripheral smear reflect splenic dysfunction(normally the spleen removes the Howell-Jolly bodies which are basically nuclear remnants). Sickled red cells & polychromasia also seen. The pain crises due to SCA can be precipitated by hot summer weather & dehydration</p> <p>Burr cells: spiculated rbcs, seen in uremia</p> <p>Pappenheimer bodies:iron containing inclusion bodies found in rbcs, seen in sideroblastic anemia</p>

4341	Pediatrics	Hematology & Oncology	<p>Osteonecrosis (aka avascular necrosis): complication of sickle cell anemia due to vaso-occlusion of the bone. Causes significant joint pain & functional limitation. Humerus & femur most frequently affected</p> <p>Most bone & joint infections in pts w/ sickle cell disease caused by S. aureus & gram-negative organisms, like Salmonella</p> <p>Charcot arthritis aka Charcot's joint or neurogenic arthropathy: joint destruction due to deterioration of proprioception & pain/temperature sensation.</p>
4342	Pediatrics	Hematology & Oncology	<p>Sickle cell pts become hyposplenic at an early age due to splenic autoinfarction. They are susceptible to S. pneumoniae, H. influenzae & N. meningitidis. Pneumococcal vaccination (*conjugated capsular polysaccharide*) + penicillin prophylaxis can prevent all cases of pneumococcal sepsis in these pts. [Blood transfusions don't decrease incidence of infection in pts w/ sickle cell anemia]</p> <p>Live vaccines: measles, mumps, rubella, chicken pox</p> <p>Bacterial toxoid vaccines: tetanus & diphtheria</p>
4359	Pediatrics	Hematology & Oncology	<p>Howell-Jolly bodies (single, round, blue inclusions on Wright stain) are nuclear remnants within red blood cells typically removed by the spleen. Their presence strongly suggests *physical absence of the spleen* or functional hyposplenism</p>
4438	Pediatrics	Hematology & Oncology	<p>Fanconi anemia (FA) is the most common congenital cause of aplastic anemia in children. Sx: aplastic anemia/bone marrow failure, short stature, microcephaly, abnormal thumbs, hypogonadism, hypopigmented/hyperpigmented areas, cafe au lait spots, large freckles, strabismus, low set ears, middle ear abnormalities (eg, hemorrhage [ear pounding]), incomplete development, chronic infections, deafness) Dx of FA is made by *chromosomal breaks on genetic analysis* combined w/ clinical findings</p>
4439	Pediatrics	Hematology & Oncology	<p>Sickle cell anemia can cause childhood stroke [signs & sx of stroke include sudden difficulty walking, "clumsy" hand]</p> <p>Electromyography (EMG) tests peripheral nerve function. It's helpful in distinguishing nerve disease from muscle disease</p>
4819	Pediatrics	Hematology & Oncology	<p>Polycythemia is defined as a hematocrit >65% in term neonates. Risk factors include delayed clamping of umbilical cord (resulting in excess transfer of placental blood), in-utero hypoxia (maternal hypertension, smoking) & poor placental gas exchange (maternal diabetes). Symptomatic neonates have a combo of respiratory distress, hypoglycemia & neurologic manifestations. Cyanosis in these pts occurs due to high RBC mass & hyperviscosity</p>
4825	Pediatrics	Hematology & Oncology	<p>Hydroxyurea benefits pts w/ sickle cell disease by increasing fetal hemoglobin</p>
4847	Pediatrics	Hematology & Oncology	<p>Wiskott-Aldrich syndrome: "WATER"-infections, thrombocytopenia, eczema, recurrent bacterial infections. Thrombocytopenia due to *decreased/impaired platelet production*. The few platelets that exist are small</p>
4858	Pediatrics	Hematology & Oncology	<p>Iron deficiency anemia is common in infants & toddlers who drink excessive amounts of cow's milk (eg, 1 year old girl drinking 6 glasses of whole milk a day). Tx w/ empiric *oral iron therapy*</p>
4875	Pediatrics	Hematology & Oncology	<p>Thalassemia trait (aka thalassemia minor): normal RDW</p> <p>Iron deficiency anemia: increased RDW</p>
4876	Pediatrics	Hematology & Oncology	<p>Iron deficiency: most common nutritional deficiency in children, caused by excessive intake of cow's milk (>24 ounces [700 mL] per day) & results in a microcytic anemia. Decreased MCHC. *Elevated red cell distribution width*. RDW is a measure of how variable the RBCs are in size.</p> <p>Nucleated RBCs normally found in bone marrow. If present in peripheral bloodstream, that means there is significant bone marrow stress eg, severe hemolysis or myelofibrosis</p>
8772	Pediatrics	Hematology & Oncology	<p>Osteosarcoma: Boys between ages 13-16 years are at high risk. Occurs at metaphyses of long bones (femur, tibia, humerus). Fever, weight loss, malaise are USUALLY ABSENT. Tender soft tissue mass. (google xray) Xray-spiculated "sunburst" pattern & periosteal elevation known as Codman triangle. Alkaline phosphatase, lactate dehydrogenase, ESR are elevated. Tx-tumor excision & chemotherapy</p> <p>Ewing sarcoma: osteolytic lesion w/ periosteal reaction that produces layers of reactive bone "onion skin"</p>
2193	Pediatrics	Infectious Diseases	<p>Group A streptococcal pharyngitis in children should always be confirmed by rapid streptococcal antigen testing or throat culture prior to initiation of antibiotics.</p> <p>GAS pharyngitis tx- Penicillin & amoxicillin</p>
2196	Pediatrics	Infectious Diseases	<p>Epiglottitis: abrupt onset of fever, sore throat, dysphagia, and drooling. In unimmunized children, H. influenzae type b is a likely cause. Airway obstruction is the most concerning potential complication (restlessness, anxiety, impaired inspiration, & a muffled "hot potato" voice). Keeping the neck hyperextended provides some relief</p> <p>Peritonsillar abscess: unilateral tonsillar swelling w/ uvular deviation</p> <p>Vascular rings: aortic arch remnants encircle and compress trachea or esophagus</p>
2296	Pediatrics	Infectious Diseases	<p>Atypical pneumonia presents w/ a more indolent course, non-productive cough, & higher incidence of extrapulmonary manifestations (headache, sore throat, skin rash) than pyogenic pneumonia. Erythema multiforme ("target shaped skin lesions") is a characteristic extrapulmonary manifestation of *Mycoplasma pneumoniae*, the mcc of atypical pneumonia. Polymorphonuclear cells on sputum Gram stain analysis</p>

2424	Pediatrics	Infectious Diseases	Always give epinephrine in cases of croup before intubation. Epinephrine decreases the need for intubation in these pts. epinephrine's alpha adrenergic effect helps the asthma by reducing bronchial secretions and mucosal edema. It's beta adrenergic effect helps croup pts by promoting smooth muscle relaxation
2428	Pediatrics	Infectious Diseases	Neonatal sepsis: temperature instability(fever or hypothermia), poor feeding, & lethargy. *Blood, urine, & CSF cultures should be obtained* before providing abx in most cases. Infants who are critically ill may require abx before lumbar puncture
2431	Pediatrics	Infectious Diseases	Measles(rubeola): cough, coryza, conjunctivitis, & Koplik spots(bluish-white lesions on buccal mucosa). Reddish-brown rash appears on days 3-5 on the face & spreads downward to the rest of the body Rocky Mountain spotted fever: the non-pruritic macular rash begins on the distal extremities (including palms/soles) & spreads centripetally Roseola(exanthema subitum,sixth disease):due to human herpes virus 6.Maculopapular rash appears as the fever resolves
2447	Pediatrics	Infectious Diseases	Septic arthritis: etiology- often preceded by skin or upper respiratory tract infections sx- fever, knee pain & swelling, refusal to bear weight labs- leukocytosis, elevated C-reactive protein, & ESR tx- Arthrocentesis (obtain blood and synovial fluid cultures before administering empiric antibiotics that way you can isolate the offending organism. If pt still fails to improve, perform an MRI to evaluate for osteomyelitis)
2781	Pediatrics	Infectious Diseases	Impetigo: painful non-itchy pustules & honey-crusted lesions caused by S.aureus & S.pyogenes Eczema herpeticum: superinfection of HSV in areas of severe eczema. Accompanied by fever Erysipelas: small erythematous patch that progresses to a red, indurated, tense, & shiny plaque. Raised, sharply demarcated margin. Overlying skin streaking & regional lymphadenopathy= lymphatic involvement Hand foot mouth disease: vesicles on posterior oropharynx, hands, and/or feet measles virus is spread only by humans and no other species
2782	Pediatrics	Infectious Diseases	bathing pts with chlorhexidine gluconate can reduce risk of bloodstream infections and colonization with drug resistant organisms among critically ill pts
2783	Pediatrics	Infectious Diseases	rubella pts have patchy erythema (Forschheimer spots) on the soft palate Erythema multiforme usually follows herpes simplex infection conjunctivitis is not a feature of scarlet fever conjunctivitis is a feature of rubella infection
2906	Pediatrics	Infectious Diseases	Newborns of mothers w/ active hepatitis B infection should be passively immunized at birth w/ hepatitis B immune globulin followed by active immunization w/ recombinant HBV vaccine
3005	Pediatrics	Infectious Diseases	*Staphylococcus aureus* is the mcc of osteomyelitis in both infants & children
3009	Pediatrics	Infectious Diseases	Parotitis(painful bilateral parotid enlargement) can occ
3077	Pediatrics	Infectious Diseases	Measles: Vitamin A reduces the morbidity and mortality rates of pts w/ measles. Leukopenia and thrombocytopenia can be seen w/ measles infection.
3286	Pediatrics	Infectious Diseases	Acute bacterial rhinosinusitis: sx > 10 days w/o improvement, can have fever, purulent nasal discharge, or face pain > 3 days, or worsening sx > 5 days after initially improving viral uri caused by Streptococcus pneumoniae, nontypeable Haemophilus influenzae, & Moraxella catarrhalis tx- amoxicillin-clavulanic acid Chronic sinusitis: inflammation of sinuses >12 weeks mcc-S.aureus P. aeruginosa: nosocomial situations, esp. in immunocompromised pts w/ nasal tubes & catheters
3326	Pediatrics	Infectious Diseases	Orbital(postseptal)cellulitis:serious bacterial infection posterior to the orbital septum.Alarming sx like pain w/ extraocular movements,visual impairment,ophthalmoplegia. Complications-orbital abscess,intracranial infection,cavernous sinus venous thrombosis Preseptal(periorbital)cellulitis:mild infection of the eyelid anterior to the orbital septum Cavernous sinus thrombosis: sx-unbearable headache,periorbital edema, exophthalmos,papilledema,dilated tortuous retinal veins

3423	Pediatrics	Infectious Diseases	<p>*Sickle cell trait ass. w/ decreased morbidity from Malaria*. Misshapen rbc's create suboptimal environment for parasitic proliferation</p> <p>Pts w/ past hx of malarial infection are at low risk for severe disease on reinfection due to partial immunity</p> <p>Neisseria meningitidis vaccination prevents infection from serogroups A,C,Y & W-135</p> <p>Infants/children affected w/ malaria at increased risk for cerebral malaria(seizures,delirium,coma)</p> <p>Ciprofloxacin can treat traveler's diarrhea</p>
3437	Pediatrics	Infectious Diseases	<p>Suspect hemolytic uremic syndrome in a child w/ sudden-onset abdominal pain, bloody diarrhea, & triad of anemia, thrombocytopenia, & renal failure [hemolytic-uremic syndrome is caused by a toxin released by *E.coli*]</p> <p>Even though Campylobacter jejuni can cause bloody diarrhea, it doesn't cause thrombocytopenia</p>
3441	Pediatrics	Infectious Diseases	<p>Meningococcal meningitis: mcc of bacterial meningitis in children & young adults. Fever, headache, neck stiffness, altered mental status, & petechial or purpuric rash</p> <p>GBS mcc of meningitis in INFANTS. No rash</p>
3442	Pediatrics	Infectious Diseases	<p>In an infant w/ meningococcemia (look for nuchal rigidity), watch out for Waterhouse-Friderichsen syndrome which is characterized by a sudden vasomotor collapse & skin rash (petechial & purpuric lesions) due to adrenal hemorrhage</p>
3443	Pediatrics	Infectious Diseases	<p>acute rheumatic fever(ARF): systemic complication of pharyngitis(due to streptococcus pyogenes/group A streptococcus) suspect in child with pericarditis (friction rub, diffuse ST elevations), chorea, subcutaneous nodules, & elevated esr following hx of untreated sore throat and fever tx- 10 day course of oral penicillin recommended to prevent ARF</p> <p>Coxsackievirus: can cause vesicular pharyngitis (herpangia) in young children</p>
3444	Pediatrics	Infectious Diseases	<p>Infectious mononucleosis: caused by EBV sx-exudative pharyngitis/tonsillitis, posterior or diffuse cervical lymphadenopathy, & fever polymorphous, maculopapular rash develops after administration of amoxicillin or ampicillin</p> <p>Herpangina: vesicles & ulcers on posterior oropharynx</p> <p>Herpes gingivostomatitis: vesicles & ulcers on anterior oral mucosa & around mouth</p>
3458	Pediatrics	Infectious Diseases	<p>Bordetella pertussis causes "whooping cough," which has 3 phases:catarrhal(resembles common cold),paroxysmal,& convalescent.The paroxysmal phase is characterized by severe paroxysms of coughing & posttussive emesis.Macrolide antibiotics are the 1st line tx</p> <p>Parainfluenza is a common cause of laryngotracheobronchitis (croup) in children. "barky" cough & inspiratory stridor</p> <p>RSV mcc of bronchiolitis in children age <2 years. Fever, rhinorrhea, cough,& mild respiratory distress</p>
3571	Pediatrics	Infectious Diseases	<p>Salmonella & Staph aureus are the mcc of osteomyelitis in pts w/ sickle cell disease. Although controversial, more recent studies have shown that S. aureus is more common than Salmonella in children w/ sickle cell disease</p> <p>E.coli & group B strep: cause septic arthritis & osteomyelitis in neonates. Group B strep. is responsible for osteomyelitis in children <1 year of age</p> <p>Pseudomonas osteomyelitis:seen in diabetic pts & after puncture wounds of the foot</p>
3577	Pediatrics	Infectious Diseases	<p>Septic arthritis: sx- fever, acute joint pain, turbid synovial fluid, inability to bear weight ass. w/ marked leukocytosis and elevated ESR can result in permanent joint destruction tx- emergency surgical drainage and intravenous antibiotics</p>
3611	Pediatrics	Infectious Diseases	<p>Heterophile antibody test (monospot) is a rapid and specific diagnostic test for EBV induced infectious mononucleosis(IM).</p> <p>IM- Positive heterophile antibody test</p> <p>CMV- Negative heterophile antibody test</p>

3612	Pediatrics	Infectious Diseases	<p>Enterobius vermicularis: Tx-Albendazole OR pyrantel pamoate(for pregnant pts)</p> <p>Chagas disease: sx-cardiomyopathy, RBBB, megacolon, & megaesophagus. Benznidazole is the 1st line tx</p> <p>Strongyloidiasis: sx-urticaria,abdominal pain,dry cough,dyspnea,wheezing.Tx-Ivermectin</p> <p>Onchocerciasis "river blindness" causes ocular lesions & dermatitis: Tx-Ivermectin</p> <p>Quinine:antimalarial, treats chloroquine-resistant malaria</p> <p>Metronidazole: treats amebiasis,anaerobic intrabdominal infections</p>
3633	Pediatrics	Infectious Diseases	<p>Bacterial meningitis in infants: management- do urgent lumbar puncture before giving antibiotics. If infant critically ill e.g. status epilepticus, septic shock, then give antibiotics before lumbar puncture tx- third generation cephalosporins effective for S. pneumoniae and N meningitidis; vancomycin given for resistant strains of S. pneumoniae</p> <p>dexamethasone reduces risk of sensorineural hearing loss when H. influenzae type b is the cause</p>
3636	Pediatrics	Infectious Diseases	<p>Lyme disease tx in children age <8: *Amoxicillin* or Cefuroxime</p> <p>IV ceftriaxone reserved for Lyme meningitis & heart block, manifestations of early disseminated Lyme disease</p> <p>Topical corticosteroids used for nummular dermatitis(google pic)</p>
3640	Pediatrics	Infectious Diseases	<p>Sickle cell anemia ass. w/ functional asplenia due to recurrent splenic infarction, which puts these pts at risk of dangerous infection w/ encapsulated organisms. *Pneumococcus is the mcc of sepsis in this population.* H influenzae type B is the second mcc of sepsis. Vaccination & penicillin prophylaxis are extremely important infection prevention measures</p> <p>Salmonella species & Staphylococcus aureus are the mcc of osteomyelitis in sickle cell pts in the US</p>
3642	Pediatrics	Infectious Diseases	<p>Non-bullous impetigo: painful pustules, honey-crusted lesions; dx is clinical. Tx- *topical mupirocin* [antibody titers can take weeks to rise & are not useful in acute illness. Culture of pustular fluid considered for pts who fail empiric therapy]</p> <p>Use anti-streptolysin O titers for pts who develop post-streptococcal glomerulonephritis & rheumatic fever</p> <p>Bullous impetigo: flaccid bullae containing yellow fluid.Due to S aureus.Tx oral cephalexin, dicloxacillin, or clindamycin</p>
3660	Pediatrics	Infectious Diseases	<p>Universal maternal prenatal testing & tx for chlamydia are rec to prevent neonatal infection. ORAL erythromycin is tx for neonatal chlamydia. [Erythromycin ophthalmic ointment can prevent neonatal gonococcal but not chlamydial conjunctivitis]</p> <p>Dacryostenosis:mcc of neonatal eye discharge due to poor drainage of tears thru nasolacrimal duct. Benign.Gentle massage over nasolacrimal duct rec</p> <p>Chemical conjunctivitis:lubrication drops/ointment alleviates it</p>
3663	Pediatrics	Infectious Diseases	<p>Maternal-fetal transmission of the rubella virus is most teratogenic during the first trimester of pregnancy. The classic triad of congenital rubella syndrome consists of sensorineural deafness, cardiac defects(eg, patent ductus arteriosus), and cataracts</p> <p>Congenital varicella syndrome: characterized by microcephaly, limb hypoplasia, intrauterine growth retardation, & cataracts w/ a maternal history of a pruritic, generalized vesicular rash</p>
3670	Pediatrics	Infectious Diseases	<p>HIV infection should be suspected when an infant has failure to thrive, diarrhea, lymphadenopathy, and thrush in the setting of maternal intravenous drug abuse dx- polymerase chain reaction testing</p> <p>Although pregnant women normally undergo HIV antibody screening in 1st trimester, those w/ high risk behaviors(drugs, multiple sex partners) should be screened again in the 3rd trimester or at delivery as it can take up to 3 months for antibodies to become detectable</p>
3671	Pediatrics	Infectious Diseases	<p>Sepsis in term infants->GBS Sepsis in preterm infants -> E coli</p> <p>Children who aren't immunized for H.influenzae type b at risk for meningitis,pneumonia,epiglottitis</p> <p>Pregnant women w/ listeriosis have flulike sx eg-fever,body aches,fatigue prior to delivery</p> <p>Meningococcal meningitis:petechial rash prominent on axilla,wrists,flanks,ankles</p> <p>Congenital toxoplasmosis:maculopapular rash,hepatosplenomegaly,microcephaly, chorioretinitis,hydrocephalus,intracranial calcifications</p>

			Neonatal chlamydial conjunctivitis: occurs at 5-14 days of life, eyelid swelling, chemosis, watery/mucopurulent discharge. Blood stained eye discharge. Tx- *ORAL erythromycin*
3758	Pediatrics	Infectious Diseases	Gonococcal conjunctivitis (ophthalmia neonatorum): Tx- ceftriaxone or cefotaxime [avoid ceftriaxone in infants w/ hyperbilirubinemia since it displaces bilirubin from albumin binding sites, increasing risk of kernicterus] Topical erythromycin -> prophylaxis against gonococcal conjunctivitis
3791	Pediatrics	Infectious Diseases	All children w/ recurrent pruritis at night should be examined for pinworms using the scotch tape test and tx w/ mebendazole
3830	Pediatrics	Infectious Diseases	The most common pulmonary pathogens in Cystic fibrosis (CF) are Staphylococcus aureus, Pseudomonas aeruginosa, Haemophilus influenzae, & Streptococcus pneumoniae S pneumoniae - mcc of pneumonia in all pts S aureus - mcc of CF related pneumonia in infants & young children P aeruginosa infection - occurs as early as infancy & is the mcc of CF related pneumonia in adolescents & adults. Contributes to life-threatening decline of pulmonary function
3900	Pediatrics	Infectious Diseases	Lyme disease prevention: Pts traveling to tick infested areas should wear permethrin treated pants, long sleeved shirts, and apply insect repellents to the skin, check body for ticks, & bath right after exposure to tick infested environment
3905	Pediatrics	Infectious Diseases	Pertussis: suspect in an pt w/ lapse in vaccinations (eg, its been 5 years since pt last received vaccinations), w/ severe, paroxysmal cough, inspiratory whoop, or posttussive emesis. CBC shows a lymphocyte-predominant leukocytosis. During the first month of illness, the dx is confirmed by *cultures &/or polymerase chain reaction* of nasopharyngeal secretions. Tx- Macrolide antibiotics (eg, azithromycin, clarithromycin). They should be initiated w/o waiting for confirmatory dx
3906	Pediatrics	Infectious Diseases	*Macrolides are the abx of choice for pertussis tx & post-exposure prophylaxis.* All close contacts should be given a macrolide antibiotic regardless of age, immunization status, or sx. [Contacts age >1 month should receive azithromycin, erythromycin, or clarithromycin] [Those age <1 month should receive only azithromycin for 5 days as erythromycin use in neonates is ass. w/ pyloric stenosis & safety data of clarithromycin is not available]
3969	Pediatrics	Infectious Diseases	Scarlet fever: fever, toxicity, pharyngitis, sandpaper-like rash, circumoral pallor & strawberry tongue. Caused by strains of Group A streptococcus that produce erythrogenic exotoxins. Penicillin V is drug of choice. [In a real clinical setting, it's difficult to distinguish scarlet fever from Kawasaki disease; however, a rapid response to penicillin therapy confirms dx of scarlet fever] Toxic epidermal necrolysis: mucous membranes severely affected & shedding of nails may occur
4030	Pediatrics	Infectious Diseases	Staphylococcus aureus is the mcc of bacterial pneumonia in young children w/ cystic fibrosis, esp w/ coexisting influenza infection. tx- IV *Vancomycin* is tx of choice for severe pneumonia in this setting If sx don't improve, do bronchoscopy & bronchoalveolar lavage to identify bacteria flora of lungs Signs of severe pneumonia- hypoxia, respiratory distress (eg, nasal flaring, retractions, grunting)
4186	Pediatrics	Infectious Diseases	Immunocompetent pts who are asymptomatic & nonimmune should receive the varicella vaccine for post-exposure prophylaxis within 3-5 days of exposure. Immunocompromised hosts who are asymptomatic & nonimmune should receive varicella zoster immune globulin Nonimmune neonates & immunocompromised pts should receive passive immunoprophylaxis w/ varicella zoster immunoglobulin (VZIG) within 10 days of exposure Acyclovir: tx of choice for ACTIVE varicella infection
4317	Pediatrics	Infectious Diseases	Cat bites should be treated prophylactically with a five day course of amoxicillin/clavulanate
4351	Pediatrics	Infectious Diseases	Small cervical lymph nodes are a common observation in children & young adults. Pts w/ asymptomatic, soft lymph nodes can be *observed* for node growth or the development of sx Nodes <1cm diam = benign Nodes >2cm diam = greater likelihood of malignancy/granulomatous disease [Nodes ass w/ cancer are firm & immobile] Erythromycin is among 1st line agents for treating streptococcal pharyngitis & mild community acquired pneumonia
4353	Pediatrics	Infectious Diseases	Acute unilateral cervical lymphadenitis: sx- rapidly enlarging fluctuant cervical lymph nodes in children, caused by streptococcal or staphylococcal infections tx- incision & drainage + Clindamycin (covers streptococci, Staphylococcus aureus, & is effective against most strains of MRSA) Although amoxicillin is effective for streptococcal infections, staphylococci produce beta lactamase which makes penicillin/aminopenicillins ineffective. Amoxicillin poor choice for S. aureus!
4814	Pediatrics	Infectious Diseases	Raccoons are the most prevalent rabid animal in the US, esp on the east coast

4833	Pediatrics	Infectious Diseases	<p>Viral meningitis: Infants most commonly affected(incidence decreases w/ increasing age). CSF will show lymphocytic predominance, normal to slightly elevated protein level, & normal glucose. CSF gram stain will not show any organisms. MCC are the non-polio enteroviruses such as *echoviruses* & coxsackieviruses</p> <p>Bacterial meningitis caused by S.pneumoniae or N.meningitidis: CSF will show neutrophils, increased protein, & decreased glucose. Gram stain will show bacteria</p>
4843	Pediatrics	Infectious Diseases	<p>Acute, unilateral cervical lymphadenitis(enlarged,tender,erythematous lymph nodes) in children is usually caused by bacterial infection. Most common pathogen is *S. aureus*,followed by group A strep.</p> <p>EBV presents w/ bilateral subacute-chronic lymphadenopathy along w/ systemic sx like fever, pharyngitis, hepatosplenomegaly</p> <p>Peptostreptococcus:anaerobic bacteria,seen in older children w/ hx of periodontal disease</p>
4845	Pediatrics	Infectious Diseases	<p>Orbital cellulitis causes pain w/ extraocular movements, *diplopia*(VERY SPECIFIC FOR ORBITAL CELLULITIS), & ophthalmoplegia. Dangerous complications include blindness & intracranial infection</p> <p>Preseptal cellulitis can be tx w/ outpt oral abx. In contrast, orbital cellulitis requires inpt IV abx</p>
4850	Pediatrics	Infectious Diseases	<p>The most common predisposing factor for acute bacterial sinusitis(nasal drainage,congestion,cough,fever,purulent nasal drainage) is a *viral upper respiratory infection*. 1st line tx for acute bacterial sinusitis is amoxicillin + clavulanic acid</p>
4852	Pediatrics	Infectious Diseases	<p>Congenital syphilis:hepatosplenomegaly,cutaneous lesions,jaundice,anemia & rhinorrhea.Metaphyseal dystrophy & periostitis may be seen on radiography</p> <p>Congenital rubella:sensorineural hearing loss,cataracts,heart defects,hepatosplenomegaly,microcephaly & thrombocytopenic purpura("blueberry muffin" rash)</p> <p>Congenital CMV:intrauterine growth retardation,hepatosplenomegaly,petechiae or purpura,microcephaly,chorioretinitis,sensorineural hearing loss,periventricular calcifications</p>
4891	Pediatrics	Infectious Diseases	<p>Retropharyngeal abscess: suspect in children who present w/ fever, dysphagia, inability to extend the neck, muffled voice, & lateral x-ray showing a widened prevertebral space. If no signs of respiratory compromise, perform CT scan w/ contrast to confirm presence & size of abscess. Abscess is usually polymicrobial(S.pyogenes,S.aureus,& anaerobes)</p> <p>Epiglottitis:lateral x-ray shows swollen epiglottis "thumb sign"</p>
9849	Pediatrics	Infectious Diseases	<p>Herpangia: caused by a coxsackie viral infection & presents w/ posterior oropharyngeal gray vesicles/ulcerations, fever, & pharyngitis. Tx is supportive & consists of hydration & pain control</p> <p>The vesicles in HSV gingivostomatitis localize to the anterior oropharynx & lips</p>
11984	Pediatrics	Infectious Diseases	<p>Cat-scratch disease(CSD):due to *Bartonella henselae*.Localized papule w/ ipsilateral regional lymphadenopathy in setting of cat exposure.Affected lymph nodes are enlarged,tender & have overlying erythema.Tx-azithromycin rec,although mild cases will self-resolve</p> <p>Salmonella enteritidis:carried by reptiles/turtles.Cause severe mesenteric adenitis in conjunction w/ enteritis</p> <p>S.aureus & Strep.pyogenes can cause acute bacterial lymphadenitis(warm,tender,erythematous lymph node)</p>
2373	Pediatrics	Male Reproductive System	<p>Hydroceles transilluminate. Most hydroceles will spontaneously resolve by the age of 12 months. Communicating hydroceles that persist beyond 12 months of age are unlikely to resolve spontaneously -> risk of indirect inguinal hernia -> tx w/surgical intervention!</p>
8956	Pediatrics	Male Reproductive System	<p>Testicles that haven't descended by age 6 are unlikely to descend spontaneously & require surgery.Perform orchiopexy before 1 year of age. These pts have patent processus vaginalis that is repaired concurrently to prevent inguinal hernia. Testicular torsion risk is also removed this way(since testis is surgically affixed to scrotal wall).Early surgery improves fertility but sperm count/quality remain substandard.Surgery decreases but doesn't eliminate testicular cancer risk</p>
3438	Pediatrics	Miscellaneous (Multisystem)	<p>Hemolytic uremic syndrome: etiology-90% due to E coli O157:H7 & Shigella. 10% due to S.pneumoniae(look pneumonia or meningitis instead of diarrhea) sx-bloody diarrhea, lethargy, irritability, pallor, bruising or petechiae, origuria, edema, labs-hemolytic anemia, thrombocytopenia, increased creatinine, hematuria, proteinuria, casts, increased bilirubin tx-fluid & electrolyte management, blood transfusions, dialysis</p> <p>HSP:leg/butt purpura in the setting of normal platelet count</p>
3544	Pediatrics	Miscellaneous (Multisystem)	<p>Duchenne muscular dystrophy(DMD):suspect in boys age <5,absent dystrophin gene & undetectable dystrophin protein confirm diagnosis wheelchair dependent by adolescence,death by age 20-30 from respiratory or heart failure</p> <p>Becker:onset age 5-15,milder weakness compared to DMD,death by age 40-50 from heart failure. Decreased dystrophin</p> <p>Myotonic dystrophy: occurs in teenage years, muscle weakness, myotonia, cataracts, & cardiac conduction abnormalities, delayed muscle relaxation</p>

3554	Pediatrics	Miscellaneous (Multisystem)	<p>Henoch-Schonlein purpura: common in children (esp. boys) age <15. Can occur after an URI. Palpable purpura, hematuria, abdominal pain, arthralgias & scrotal swelling. Increased risk for ileo-ileal *intussusception* (most cases of intussusception in children are ileo-colic)</p> <p>Increased incidence of colonic diverticula & abdominal wall/inguinal hernias seen w/ ADPKD</p> <p>Meckel diverticulum: painless rectal bleeding in young children, ass. w/ an increased risk of recurrent intussusception</p>
3669	Pediatrics	Miscellaneous (Multisystem)	<p>Serum creatine phosphokinase & aldolase levels are elevated in screening for muscular dystrophies. Fibrosis & fatty infiltration on calf muscle biopsy support the dx. *Genetic studies* are the gold standard for confirmation (it'll show deletion of the dystrophin gene on Xp21)</p>
3686	Pediatrics	Miscellaneous (Multisystem)	<p>Marfan syndrome: upward lens dislocation</p> <p>Homocystinuria: downward lens dislocation</p> <p>Congenital contractural arachnodactyly is an autosomal dominant condition resulting from mutations of the fibrillin-2 gene. These pts have tall stature, arachnodactyly, & multiple contractures involving large joint. Ocular & cardiovascular sx are not present</p>
3821	Pediatrics	Miscellaneous (Multisystem)	<p>Prader-Willi syndrome: Loss of dad's copy of 15q11-q13. Sx-hypotonia, hyperphagia, obesity, weak suck/feeding problems during infancy, intellectual disability, narrow forehead, almond shaped eyes, downturned mouth. Pts at risk for sleep apnea, type 2 diabetes, & gastric rupture</p> <p>Angelman syndrome: Loss of mom's copy of 15q11-q13, frequent smiling/laughter, hand-flapping, ataxia, seizures</p> <p>Beckwith-Wiedemann syndrome: macroglossia, rapid growth, umbilical hernia, omphalocele, hemihyperplasia</p>
3871	Pediatrics	Miscellaneous (Multisystem)	<p>3 P's of McCune-Albright syndrome: Precocious puberty, Pigmentation (cafe au lait spots), & Polyostotic fibrous dysplasia (multiple bone defects)</p> <p>McCune-Albright syndrome has been attributed to a defect in the G-protein cAMP-kinase function in the affected tissue, thereby resulting in autonomous activity of that tissue</p>
3912	Pediatrics	Miscellaneous (Multisystem)	<p>Kallman syndrome: Disorder of migration of fetal GnRH & olfactory neurons. Delayed/absent puberty & anosmia. The karyotype will be consistent w/ their male or female phenotype (eg, Female w/ Kallmann syndrome will have *46 XX* karyotype). FSH & LH levels are low, consistent w/ gonadotropin-releasing hormone deficiency (absence of GnRH secretion results in short stature & delayed/absent puberty)</p>
3985	Pediatrics	Miscellaneous (Multisystem)	<p>Friedreich ataxia is the most common type of spinocerebellar ataxias. Rmr the combo of neurologic (ataxia, dysarthria), skeletal (scoliosis, feet deformities) & cardiac (concentric hypertrophic cardiomyopathy) manifestations of the disease. The mcc of death are cardiomyopathy & resp complications. *Very high-yield topic for USMLE*</p>
4764	Pediatrics	Miscellaneous (Multisystem)	<p>congenital lymphedema: occurs in newborn girls that have Turner syndrome</p> <p>occurs due to abnormal development/dysgenesis of lymphatic system</p>
4765	Pediatrics	Miscellaneous (Multisystem)	<p>Pts w/ Turner syndrome have higher risk of osteoporosis due to lower estrogen levels. There is also thought to be increased risk from having only one copy of X chromosome genes that may be involved in bone metabolism.</p> <p>Most pts w/ Turner syndrome have normal cognitive abilities</p> <p>Pts w/ Turner syndrome don't have any additional risk of breast cancer (Turner pts have low estrogen and breast cancer is ass. w/ high estrogen levels)</p>
2279	Pediatrics	Nervous System	<p>Absence seizures Tx: ethosuximide or *valproate/valproic acid*</p> <p>Prednisone can be used for tx of infantile spasms</p> <p>Phenytoin is the initial drug of choice for partial seizures. Gabapentin is also effective</p>
2280	Pediatrics	Nervous System	<p>Complex partial seizure: lasts for a few minutes, failure to respond to various stimuli during episode, staring spells, automatisms (e.g. lip smacking, swallowing, picking movements of the hand), & post-ictal confusion. EEG pattern is usually normal or may show brief discharges</p> <p>Typical absence seizure: lasts for a few seconds, No post-ictal state, 3Hz spike & wave pattern</p> <p>Lennox Gastaut syndrome- seizures, in childhood, impaired cognitive function, slow spike&wave activity on EEG</p>
2439	Pediatrics	Nervous System	<p>Friedreich Ataxia (FA): ass. w/ necrosis & degeneration of cardiac muscle fibers leading to myocarditis (T-wave inversion seen), myocardial fibrosis & cardiomyopathy. Cardiac arrhythmia & CHF contribute to a significant number of deaths. *Genetic counseling is rec for prenatal dx for parents w/ one affected child*</p>
2441	Pediatrics	Nervous System	<p>Fragile X syndrome: large head, long face, prominent forehead & chin, protruding ears, joint laxity, large testes. Behavioral abnormalities like hyperactivity, short attention span, autism. Due to full mutation in FMR1 gene caused by increased number of CGG trinucleotide repeats accompanied by aberrant methylation of the FMR1 gene</p>

			Long-term neurologic sequelae ass. w/ bacterial meningitis: hearing loss, loss of cognitive functions(due to neuronal loss in the dentate gyrus of hippocampus), seizures, mental retardation, spasticity or paresis
2442	Pediatrics	Nervous System	Ceftriaxone use has been ass. w/ eosinophilia, thrombocytosis, leukopenia, bleeding, skin rash, & increased creatinine, AST, ALT, & bilirubin levels Alexia: acquired disorder of reading due to brain injury in a person who was previously literate
2443	Pediatrics	Nervous System	Cerebral palsy: nonprogressive motor dysfunction etiology- multifactorial, prematurity is leading risk factor sx- hypertonia & hyperreflexia involving lower extremities w/ feet pointing down and inward (equinovarus deformity). Resistance to passive muscle movement.
2444	Pediatrics	Nervous System	Fetal hydantoin syndrome: sx- hypoplastic fingers/nails and cleft lip/palate phenytoin increases rate of fetal vitamin K degradation so pregnant women (who are on phenytoin during their last trimester) are given prophylactic vitamin K to prevent neonatal bleeding
2445	Pediatrics	Nervous System	Niemann-Pick disease type A:sphingomyelinase deficiency,presents at age 2-6 months w/ AREFLEXIA,HEPATOSPLENOMEGALY,"cherry-red" macula & developmental milestone regression Tay-Sachs:B-hexosaminidase A deficiency.Loss of motor milestones,hypotonia,"cherry-red" macula.HYPERREFLEXIA & NO HEPATOSPLENOMEGALY Gaucher dis:anemia,thrombocytopenia,hepatosplenomegaly Hurler syndrome:at 6mo-2 yrs w/ coarse facial features,inguinal/umbilical hernias,corneal clouding,hepatosplenomegaly
2469	Pediatrics	Nervous System	Infant botulism:ingestion of *Clostridium botulinum spores*->colonization of gut->production/release of neurotoxin that causes descending flaccid paralysis.Dx-previously healthy infant who presents w/ bulbar palsies,constipation & hypotonia,even if infant hasn't been fed honey.Tx-Human-derived botulism immune globulin Foodborne botulism:from ingestion of canned food containing preformed botulinum toxin.Nausea,vomiting,ab pain,diarrhea PRECEDE the descending flaccid paralysis
2472	Pediatrics	Nervous System	Cephalohematoma: Limited to the surface of one cranial bone. No discoloration of the overlying scalp. Swelling not visible until several hours after birth. tx- no tx since they resorb spontaneously over time Caput succedaneum: diffuse/ecchymotic swelling of scalp involving portion of head presenting during vertex delivery. Extend across midline & suture lines Cranial meningocele: pulsations, increased pressure upon crying, bony defects
2648	Pediatrics	Nervous System	Craniopharyngiomas:calcified(look at an MRI/CT image),intracranial tumors that occur in the suprasellar region. Sx-bitemporal hemianopsia(causing pts to run into corners of walls/furniture) & pituitary hormonal deficiencies(eg, diabetes insipidus[polyuria/polydipsia,high-normal serum sodium,dilute urine] and growth hormone deficiency)
2669	Pediatrics	Nervous System	1 year old female w/ neurofibromatosis 1: sx- cafe-au-lait spots, macrocephaly, feeding problems, short stature, & learning disabilities
2680	Pediatrics	Nervous System	Partial seizure w/ secondary generalization: Tonic clonic manifestations(diffuse muscle aches/soreness, elevated CPK/creatine kinase). Presence of blood tinged sputum would suggest pt bit his tongue, making this type of seizure more likely. Loss of bladder or bowel control(eg,urinary incontinence) more likely w/ these types of seizures Lennox-Gastaut syndrome:variety of diff seizure types.Pts usually age <7 years & have coexisting mental retardation (intellectual disability)
2763	Pediatrics	Nervous System	Sturge Weber syndrome: presentation-mental retardation, port wine stain or nevus flammeus along trigeminal nerve territory(represents a unilateral cavernous hemangioma) sx- seizures, hemianopia, hemiparesis, hemisensory disturbance, ipsilateral glaucoma, gyriform intracranial calcifications tx- control seizures, reduce intraocular pressure, argon laser therapy to remove skin lesions Cutaneous abnormality in tuberous sclerosis is called adenoma sebaceum
3123	Pediatrics	Nervous System	Phenylketonuria: severe intellectual disability, seizures, musty/mousy body odor, hypopigmentation of skin, hair, eyes & brain nuclei. Dx- Newborn screening, *Quantitative amino acid analysis for later in life(it'll show elevated phenylalanine levels)*. Tx-low phenylalanine diet Hereditary fructose intolerance: Aldolase B deficiency, infants can get vomiting, poor feeding, lethargy. Seizures/encephalopathy follow if fructose not removed from diet

3192	Pediatrics	Nervous System	<p>Glucose 6 phosphatase def: 3-4 mo old, hypoglycemia, lactic acidosis, hyperuricemia, hyperlipidemia, doll face (fat cheeks), thin extremities, short stature, protuberant abdomen (enlarged liver/kidneys), seizures</p> <p>Acid maltase def: floppy baby, feeding difficulties, macroglossia, heart failure (hypertrophic cardiomyopathy)</p> <p>Debranching enzyme deficiency: mild form of type 1 w/ normal lactate</p> <p>Branching enzyme def: pt in first 18 mo of life, hepatosplenomegaly, failure to thrive, cirrhosis</p>
3193	Pediatrics	Nervous System	<p>Galactosemia: *galactose-1-phosphate uridyl transferase deficiency* -> elevated blood levels of galactose. Failure to thrive, bilateral cataracts, jaundice & hypoglycemia. Tx-elimination of galactose from the diet (early tx reverses growth failure & organ dysfunctions, improve eyesight [cataracts may regress])</p> <p>Galactokinase deficiency: cataracts only</p> <p>Uridyl diphosphate galactose-4-epimerase deficiency: Rare. Hypotonia & nerve deafness, in addition to sx of transferase deficiency</p>
3396	Pediatrics	Nervous System	<p>Abusive head trauma (shaken baby syndrome): mcc of death from child abuse. Repetitive acceleration-deceleration forces cause *shearing of the dural veins* & vitreoretinal traction. Seizures, altered mental status, increasing head circumference, bilateral retinal hemorrhages</p> <p>Cortical dysplasia is a congenital abnormality of neurons that is a common seizure focus in children w/ epilepsy</p>
3514	Pediatrics	Nervous System	<p>Absence (petit mal) seizures are characterized by a sudden cessation of mental activity. An episode is very short, but may occur repeatedly throughout the day. There are no ass complex automatisms or tonic clonic activity. The dx is best confirmed by *EEG studies*</p> <p>EMG studies are used to diagnose peripheral nerve disorders. EMG is used to analyze the neuromuscular system, differentiate diseases of the neuromuscular system from primary neuropathies</p>
3550	Pediatrics	Nervous System	<p>For symptomatic Neurofibromatosis type 1 pts, do MRI of brain and orbits. It's more sensitive and specific than CT.</p> <p>NF1 tumor suppressor gene; codes the protein neurofibromin</p> <p>NF2 tumor suppressor gene; codes the protein merlin</p>
3657	Pediatrics	Nervous System	<p>Intraventricular hemorrhage:</p> <p>sx- infant w/ seizures, bulging fontanel, focal neurologic signs</p> <p>results from bleeding in the germinal matrix</p> <p>seen in premature and low birth weight infants</p> <p>it's asymptomatic so necessary to do transfontanel ultrasound for newborns w/ risk factors</p>
3661	Pediatrics	Nervous System	<p>Myotonic muscular dystrophy type 1 (Steinert disease): *autosomal dominant disorder*, facial weakness, hand grip myotonia (delayed muscle relaxation; notable when pt unable to release hand after handshake), dysphagia (risk of aspiration pneumonia), foot drop, & cardiac conduction anomalies. Other problems include cataracts, testicular atrophy/infertility, & baldness</p>
3664	Pediatrics	Nervous System	<p>Guillain-Barre syndrome: suspect in pt w/ ascending polyneuropathy after recent GI or respiratory infection. Underlying pathology involves mainly the *peripheral motor nerves* (sensory & autonomic nerves may also be affected)</p>
3666	Pediatrics	Nervous System	<p>*Intraventricular hemorrhage* is a common complication in premature & underweight neonates. Accumulation of blood in the subarachnoid space can impair the ability of the arachnoid villi to absorb CSF, resulting in communicating hydrocephalus. Affected neonates are at risk for permanent neurodevelopmental problems & death. Prevention of preterm labor & antenatal admin of maternal corticosteroids can reduce incidence of IVH & improve mortality</p>
3667	Pediatrics	Nervous System	<p>Over 90% of medulloblastomas develop in the vermis</p> <p>Cerebellar hemispheres are the site of astrocytoma & cerebellar abscess</p>
3672	Pediatrics	Nervous System	<p>Migraine headaches: common in pediatric population. Unilateral or bifrontal pain, photophobia, phonophobia, nausea, vomiting, visual/auditory/or linguistic aura. Tx-acetaminophen, NSAIDs, supportive management. Triptans used if these measures aren't effective</p> <p>Indications for neuroimaging in a child w/ headache include hx of coordination difficulties, presence of numbness, tingling, focal neurologic signs, hx of headache that causes awakening from sleep, hx of increasing headache frequency</p>

			Homocystinuria: sx- marfanoid features, along with intellectual disability, thrombosis, downward lens dislocation, fair complexion eg "child with fair hair and eyes, developmental delay, cerebrovascular accident"
3687	Pediatrics	Nervous System	Fabry disease: sx- angiokeratomas, peripheral neuropathy, corneal dystrophy. Pts can develop renal and heart failure & risk for thromboembolic events Krabbe disease: sx- intellectual disability, blindness, deadness, paralysis, neuropathy, seizures
3824	Pediatrics	Nervous System	Neuroblastoma: Common in peds population. Arises from *neural crest cells*. Most common site is abdomen (adrenals or retroperitoneal ganglia). Calcifications & hemorrhages on plain x-ray/CT scan. Levels of serum & urine catecholamines & their metabolites (HVA & VMA) are elevated Wilms' tumor arises from metanephros (precursor of renal parenchyma) Mesonephros -> seminal vesicles, epididymis, ejaculatory ducts, ductus deferens Paramesonephron -> fallopian tubes, uterus, part of the vagina
4117	Pediatrics	Nervous System	*Internal carotid artery dissection* is a potential cause of stroke in children that is usually associated with a history of trauma to the soft palate with a foreign body (eg pencil accidentally lodging to the roof of the mouth in a child)
4155	Pediatrics	Nervous System	Todd paralysis is a transient, focal neurologic deficit (usually hemiparesis) that occurs after a seizure. Symptoms are self-limited as the hemiparesis usually resolves within hours
4248	Pediatrics	Nervous System	Nocturnal headaches & morning vomiting are red flags for intracranial pathology. Contiguous spread of bacteria from otitis or mastoiditis can result in life-threatening brain abscess formation. Diagnosis is confirmed by the presence of a ring-enhancing lesion on *computed tomography scan* (CT better at depicting bone) or magnetic resonance imaging (MRI superior for soft tissue details)* [Headaches are the most common symptom of brain abscess]
4271	Pediatrics	Nervous System	Guillain-Barre syndrome presents with ascending flaccid paralysis (ascending muscle weakness & areflexia). Involvement of respiratory & bulbar muscles puts patients at high risk for respiratory failure. Serial measurements of FVC with *spirometry* are best means of monitoring respiratory function If spirometry not readily available or is difficult in an unstable patient, peak flow meter testing should be performed (peak expiratory flow rate is less accurate than FVC in determining ventilation adequacy)
4378	Pediatrics	Nervous System	Syncope: preceded by nausea, warmth, lightheadedness, diaphoresis. Pallor & weak pulses suggest syncope over seizures. Immediate spontaneous return to baseline neurologic function Seizures: can be due to alcohol withdrawal, sleep deprivation, exposure to flashing lights. Patient can get tongue laceration. Delayed return to baseline neurologic function
4841	Pediatrics	Nervous System	Simple febrile seizures do not require any workup. Patients can be discharged home from the ER with reassurance about a good prognosis Rectal, IM, or IV abortive therapy should be provided for seizures >5 minutes as prolonged seizures increase the risk of airway compromise
4865	Pediatrics	Nervous System	Patients with history of cyanotic congenital heart disease (TOF) & recurrent sinusitis are at risk for brain abscesses. TOF -> right to left shunt of blood through VSD bypasses pulmonary circulation (where bacteria are typically filtered & removed by phagocytosis) -> poor perfusion to brain -> bacterial seeding at gray white matter junction. [Brain abscess can present with fever, headache, focal neurologic deficits, & seizure] Unrepaired TOF -> venous clot crosses VSD & into left ventricle -> stroke
4871	Pediatrics	Nervous System	Increasing head circumference & signs of increased intracranial pressure in children should be evaluated with an imaging study such as a *CT scan* of the brain. Infants with hydrocephalus present with poor feeding, irritability, decreased activity, vomiting, tense/bulging fontanelle, prominent scalp veins, widely spaced cranial sutures, rapidly increasing head circumference
4872	Pediatrics	Nervous System	Breath holding spells: occur in children age 6 months-2 years Cyanotic breath holding spell is benign, brief period of apnea & skin color change associated with emotional trigger "Infant turns blue after a scream & becomes unresponsive for a few seconds, then goes back to normal" Pallid spells are triggered by minor trauma, symptoms - pallor & diaphoresis management - obtain a complete blood count and serum ferritin levels (iron deficiency anemia associated with breath holding spells)
7741	Pediatrics	Nervous System	A two-year old should be able to combine words into two-word phrases
2857	Pediatrics	Ophthalmology	Trachoma: caused by Chlamydia trachomatis serotype A-C. Major cause of blindness worldwide. Presents with follicular conjunctivitis & pannus (neovascularization) formation in the cornea. Concurrent infection occurs in nasopharynx, leading to nasal discharge. Treatment - topical tetracycline or oral azithromycin Herpes simplex keratitis: pain, photophobia, decreased vision. Dendritic ulcer is the most common presentation. Minute clear vesicles in corneal epithelium

3329	Pediatrics	Ophthalmology	<p>Gonococcal conjunctivitis: Copious purulent ocular drainage & eyelid swelling in a 2-5 day old newborn. Prevent w/ topical erythromycin ointment within 1 hour of birth.</p> <p>Conjunctivitis caused by Chlamydia trachomatis is milder & presents 5-14 days after birth</p> <p>Silver nitrate eye drops cause chemical conjunctivitis</p> <p>Dacryostenosis: nasolacrimal duct obstruction, chronic unilateral tearing. Sx resolve w/ gentral massage of nasolacrimal sac</p>
3681	Pediatrics	Ophthalmology	<p>Every case of leukocoria(white reflex in the eye) is considered a retinoblastoma, until proven otherwise; therefore, such cases should be promptly referred to an ophthalmologist. [Extremely high yield question!!!]</p> <p>Initial tx for strabismus in children involves covering the normal eye</p>
3711	Pediatrics	Ophthalmology	<p>Strabismus after age 4 months is abnormal and requires tx to prevent amblyopia. Asymmetric corneal light reflections & deviation on cover test are concerning findings. Tx- Occlusion (patching) or penalization (blurring) of the normal eye</p> <p>White reflex on abnormal eye can result from opacities of the lens (eg, cataract), or tumor (eg, retinoblastoma)</p> <p>Congenital glaucoma: Children have sensitivity to light & have excessive lacrimation</p> <p>Reassurance indicated for pseudostrabismus</p>
4531	Pediatrics	Ophthalmology	<p>Visual acuity testing should begin at age 3 w/ the tumbling E or Snellen chart</p> <p>Pre-1978 housing is a risk factor for environmental lead exposure</p> <p>Quadrivalent meningococcal vaccination: administered at age 11-12 followed by booster dose at age 16 due to risk of college outbreaks. Children w/ asplenia, HIV & complement deficiency may be vaccinated as early as 2</p> <p>Rotavirus vaccine recommended at age 2-8 months as infants are at risk for dehydration from severe gastroenteritis</p>
8784	Pediatrics	Ophthalmology	<p>*Bacterial sinusitis* is the most common predisposing factor for orbital cellulitis.</p> <p>Orbital cellulitis sx- proptosis, ophthalmoplegia, & diplopia</p>
2378	Pediatrics	Poisoning & Environmental Exposure	<p>Caustic ingestions: Upper gi endoscopy is the dx study of choice to evaluate extent of injury</p> <p>All pts w/ persistent dysphagia or significant esophageal burns on endoscopy should undergo barium contrast studies 2-3 weeks after ingestion to assess for esophageal strictures or pyloric stenosis</p>
2655	Pediatrics	Poisoning & Environmental Exposure	<p>Children can confuse mom's pre-natal vitamins(bright colored iron pills) for candy and accidentally ingest them -> Iron poisoning(abdominal pain, hematemesis, shock, metabolic acidosis)</p> <p>Tx- *deferoxamine*</p> <p>[Pre-natal vitamins rich in iron appear as radiopaque tablets on abdominal x-ray]</p>
3827	Pediatrics	Poisoning & Environmental Exposure	<p>Acute iron poisoning: ab pain, hematemesis, metabolic acidosis. Severely affected pts get hypotensive shock & anion-gap metabolic acidosis. Survivors at risk of gastric scarring. Iron is RADIOPAQUE & ingested tablets can be seen on x-ray</p> <p>Lead poisoning: chronic process, identified on lab screening. NOT corrosive to gastric mucosa</p> <p>Acute aspirin poisoning: tinnitus, fever, hyperpnea(resp alk), met acid</p> <p>Vit K toxicity: rare, can cause hemolytic anemia & hyperbilirubinemia in infants</p>
4837	Pediatrics	Poisoning & Environmental Exposure	<p>Children w/ lead toxicity:</p> <p>Can be asymptomatic. Require screening if they live in home build before 1978 or play w/ toys from older generations.</p> <p>Measure the venous lead level!</p> <p>Dimercaptosuccinic acid (DMSA, Succimer) is used when lead levels are 45-69 ug/dL</p> <p>Dimercaprol plus calcium disodium edetate (EDTA) is used on an emergency basis for levels >70 ug/dL or acute encephalopathy</p>
2485	Pediatrics	Pregnancy, Childbirth & Puerperium	<p>Neonatal displaced clavicular fracture:</p> <p>sx- crepitus over the clavicle, asymmetric moro reflex, crying/pain w/ passive motion of affected extremity</p> <p>RF- fetal macrosomia(maternal diabetes, post term pregnancy), instrumental delivery(vacuum or forceps), shoulder dystocia.</p> <p>Management- most neonatal clavicular fractures heal spontaneously, so *provide parental reassurance & guide them on gentle handling*</p> <p>Scalp edema(caput succedaneum): result of vacuum used to assist delivery</p>
4174	Pediatrics	Pregnancy, Childbirth & Puerperium	<p>Thermoregulatory center is underdeveloped in newborns and they can lose heat easily. That's why quick drying & keeping warm is important in early neonatal care</p>

4223	Pediatrics	Pregnancy, Childbirth & Puerperium	Maternal hyperglycemia is a significant risk factor for fetal macrosomia. Euglycemia during pregnancy is extremely important to prevent perinatal & neonatal morbidity. Prophylactic cesarean section & induction of labor have not been consistently shown to prevent complications related to shoulder dystocia
4889	Pediatrics	Pregnancy, Childbirth & Puerperium	Small for gestational age infants may have complications such as hypoxia, polycythemia, hypoglycemia, hypothermia & hypocalcemia (polycythemia is due to fetal hypoxia).
2353	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Large for gestational age infants are at risk for developing hip subluxation and talipes calcaneovalgus Give anorexia nervosa pts Olanzapine if no response to cognitive behavioral therapy or nutritional rehabilitation Give bulimia nervosa pts SSRI meds in combination w/ cognitive behavioral therapy & nutritional rehabilitation Bupropion is contraindicated in pts w/ eating disorders as it can provoke seizures
2471	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Autism spectrum disorder: suspect in children w/ impaired social interaction & communication, restricted interests, insistence on routine, delayed language development (Autism spectrum disorder can occur w/ or w/o language impairment), varying degrees of intellectual impairment. Asperger syndrome is high functioning autism
2504	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Methylphenidate is used to treat ADHD. Side effects include nervousness, *decreased appetite*, weight loss, insomnia, & abdominal pain
2516	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Social(pragmatic) communication disorder is characterized by impaired communication w/o evidence of restricted interests or repetitive behavioral patterns
3375	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Tourette disorder is best treated w/ second-generation antipsychotics such as *risperidone* along w/ habit reversal training Benzotropine is an anticholinergic medication used to treat & prevent extrapyramidal side effects ass. w/ antipsychotics
3380	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Stranger anxiety is normal in children until age 3 years. After that age, its attributed to other causes Separation anxiety: excessive distress when separated from home, excessive worry about losing attachment figures, refusal to go to school due to fear of separation, nightmares about separation from attachment figure, physical complaints like headaches, nausea, abdominal pain Selective mutism: child talks at home but refuses to speak at school/other settings
3384	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Trichotillomania: patches will have broken hair of varying lengths. Tx- habit reversal training (a form of cognitive behavioral therapy) Alopecia areata: patches will be devoid of hair
3386	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Pyromania: deliberate fire setting on more than 1 occasion, tension/arousal prior to act, fascination w/ fire & its consequences, pleasure or relief when setting/witnessing fires, no external gain, revenge, political motivation, not done to attract attention Dx of conduct disorder requires at least 3 of 15 behaviors that fall into 4 categories: aggression toward people & animals, deceitfulness or theft, destruction of property (includes fire setting), & serious violation of rules
4041	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Cocaine abuse: pt w/ weight loss, behavioral changes, & erythema of turbinates & nasal septum
4855	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Dx of ADHD is based on clinical evaluation of sx & associated impairment in 2 different settings. Teacher evaluations are important for assessing behavior in the school environment.
4893	Pediatrics	Psychiatric/Behavioral & Substance Abuse	Neonatal abstinence syndrome: caused by infant withdrawal to opiates (*heroin*, methadone) & presents in the first few days of life. Sx- irritability, high pitched cry, poor sleeping, tremors, seizures, sweating, sneezing, tachypnea, poor feeding, vomiting, & diarrhea
8923	Pediatrics	Psychiatric/Behavioral & Substance Abuse	OCD tx: SSRI's and psychotherapy
2435	Pediatrics	Pulmonary & Critical Care	The first step in management of a newborn w/ respiratory compromise & suspected congenital diaphragmatic hernia is *endotracheal intubation*. Bag-and-mask ventilation can exacerbate respiratory decline. A gastric tube should be placed immediately to decompress the stomach and bowel Congenital diaphragmatic hernia: pulmonary hypoplasia, pulmonary htn, 85% occur on left, 15% occur on right. Polyhydramnios due to esophageal compression, concave abdomen, barrel-shaped chest
2451	Pediatrics	Pulmonary & Critical Care	Foreign body aspiration (FBA): sudden onset respiratory distress in a toddler. Hx of choking. Focal monophonic wheezing on affected side. Diminished aeration on affected side. Hyperinflation or atelectasis of affected side (radiographic findings not always seen). More than half of aspirated FBs end up in the right mainstem bronchus. Tx- immediate *bronchoscopy* to remove foreign body
2473	Pediatrics	Pulmonary & Critical Care	Respiratory distress syndrome (RDS) should be suspected when a premature infant presents w/ grunting, flaring, retractions, cyanosis immediately after birth. Surfactant deficiency is the primary problem. Chest x-ray includes characteristic fine reticular granularity (ground-glass) of the lungs. Risk of RDS reduced by administration of maternal antenatal glucocorticoids, which stimulates fetal surfactant. Neonatal tx includes early continuous positive air pressure ventilation

3289	Pediatrics	Pulmonary & Critical Care	Epiglottitis: sx- fever, sudden respiratory distress, dysphagia, drooling, children are toxic appearing and may be "tripoding" (sitting up and leaning forward) with inspiratory stridor tx- first secure pt's airway with endotracheal intubation if endotracheal intubation unsuccessful, emergency tracheotomy should be performed
3457	Pediatrics	Pulmonary & Critical Care	Severe coughing paroxysms can cause subcutaneous emphysema wherein air leaks from chest wall into the subcutaneous tissues due to the high intraalveolar pressure provoked by the cough. By a similar process, pneumothorax can occur, therefore in such pts *chest x-rays* must be obtained emergently to rule out pneumothorax
3459	Pediatrics	Pulmonary & Critical Care	Pts w/ asthma(reactive airway disease) unresponsive to meds who have fatigue, altered mental status, CO2 retention, worsening hypoxemia, & poor air movement on examination require *endotracheal intubation & mechanical ventilation* [Tracheostomy is used to relieve upper airway obstruction. It's never done to treat asthma, which is a disease of lower airways]
3531	Pediatrics	Pulmonary & Critical Care	cystic fibrosis: sx- recurrent sinopulmonary infections, chronic cough, nasal polyps, digital clubbing parents often first cousins or stem will mention parental consanguinity tx- glucocorticoids for symptomatic relief can do surgical resection of nasal polyps but polyps will regrow
3538	Pediatrics	Pulmonary & Critical Care	cystic fibrosis: sweat chloride testing by quantitative pilocarpine iontophoresis is gold standard for diagnosis
3553	Pediatrics	Pulmonary & Critical Care	Exhaled nasal nitric oxide is a screening test for primary ciliary dyskinesia Bronchiolitis: winter respiratory tract infection, caused by RSV, wheezing, crackles, respiratory distress. Tx-supportive(hydration,saline nasal drops, nasal bulb suction). Palivizumab used for prophylaxis in children age <2 years who are at high risk. Infants age <2 months at high risk for developing *apnea* & respiratory failure & at risk for recurrent wheezing throughout childhood Bronchiolitis ass. w/ increased risk of acute otitis media
3974	Pediatrics	Pulmonary & Critical Care	Kartagener's syndrome:Autosomal recessive disorder.Sinusitis,bronchiectasis,dextrocardia. Caused by primary ciliary dyskinesia. CF:bilateral lung transplantation is the only life-saving tx Aspiration of foreign body/endobronchial masses leads to endobronchial obstruction Congenital bronchiectasis occurs at site of pre/postnatal development defect of the bronchial system. Formation of cysts,cul de sacs,or bronchomalacia leads to pooling of secretions & bacterial infections
4638	Pediatrics	Pulmonary & Critical Care	Pts w/ hx of anaphylaxis should carry self-injectable epinephrine at all times(even if they are adolescents eg, a 12 year old boy). Triggers from hymenoptera stings should prompt referral to an allergist for venom immunotherapy.
4699	Pediatrics	Pulmonary & Critical Care	Treat anaphylaxis w/ intramuscular epinephrine (1st line treatment) Delays in administering epinephrine in anaphylactic pts can increase the risk of respiratory decline Pts w/ signs of respiratory decline (eg. worsening of severe hypoxia, stridor) and/or altered mental status require emergent intubation.
4829	Pediatrics	Pulmonary & Critical Care	(Google image) Large thymic silhouette is a normal finding on frontal CXR in children age <3 years due to its relatively large size compared to the young child's thorax. Recognized as the "sail sign" due to triangular shape(can shrink/get large). Thymus is an important organ in utero/infancy/childhood for lymphocyte production & maturation. Thymus normally atrophies & is replaced by fat after puberty. Residual thymic tissue can undergo malignant transformation-> thymoma.
4831	Pediatrics	Pulmonary & Critical Care	Respiratory distress syndrome(RDS) is caused by surfactant deficiency. Important risk factors include *prematurity & maternal diabetes mellitus*(maternal hyperglycemia->fetal hyperglycemia->fetal hyperinsulinism->high levels of circulating insulin antagonize cortisol & block maturation of sphingomelin, a vital component of surfactant Intrauterine growth restriction, maternal HTN, & chronic intrauterine stress from prolonged rupture of membranes decrease risk of RDS
8952	Pediatrics	Pulmonary & Critical Care	Cystic fibrosis (CF) pt's have infertility (>95% men, 20% women) CF pts get exocrine pancreatic insufficiency, however rarely do they get pancreatitis (only 10% of pts) CF pts can also get CF related diabetes, osteopenia, kyphoscoliosis, and digital clubbing Risk of gi malignancies is increased in CF, esp if pts have undergone lung transplantation

2226	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Recurrent cystitis: sx-suprapubic pain, dysuria, pyuria, & bacteriuria. Chronic constipation is a risk factor in toddlers. Impacted stool can cause rectal distension, which in turn compresses the bladder, prevents complete voiding, & leads to urinary stasis</p> <p>Risk factors of constipation include dietary changes, such as transition from breast milk to cow's milk & solid foods</p> <p>Voiding cystoureterogram is the imaging study of choice to detect structural abnormalities</p>
2233	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Alport's syndrome: presents in childhood as recurrent gross hematuria & proteinuria. Sensorineural deafness usually occurs. Electron microscopy findings include alternating areas of thinned & thickened capillary loops w/ splitting of the glomerular basement membrane</p> <p>Thin basement membrane disease presents in adulthood as microscopic hematuria w/o proteinuria</p>
2234	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Transient proteinuria: mcc of isolated proteinuria in children can be caused by fever, exercise, seizures, stress, or volume depletion</p> <p>Reevaluate w/ a repeat urine dipstick testing on two separate occasions to rule out persistent proteinuria</p>
2513	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Monosymptomatic (isolated) enuresis: urinary incontinence in children age >5</p> <p>tx- *Desmopressin* 1st line esp for bedwetting</p> <p>Tricyclic antidepressants (imipramine, amitriptyline, desipramine) are 2nd line. For pts w/ no response to Desmopressin.</p> <p>Oxybutynin causes urinary retention. It's used in combination w/ desmopressin for children w/ daytime incontinence</p> <p>Voiding cystourethrogram diagnoses urinary reflux</p>
2794	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Pyloric stenosis presents at age 3-5 weeks w/ projectile, nonbilious vomiting that occurs after each feed. Protracted vomiting produces a *hypochloremic, hypokalemic metabolic alkalosis* that should be corrected prior to pyloromyotomy</p> <p>Metabolic acidosis can occur when vomiting is accompanied by diarrhea as significant amounts of bicarbonate are lost in the stool</p>
3548	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Polyuria & polydipsia are classic features of new-onset type 1 diabetes mellitus (*autoimmune destruction of pancreatic beta cells*). Nocturnal enuresis can be a presenting sx in toddlers</p>
3552	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Wilms tumor: suspect in a toddler w/ a firm, smooth, unilateral abdominal mass & hematuria. It's the most common pediatric renal malignancy</p> <p>Neuroblastoma: common in first year of life, can arise anywhere in the sympathetic nervous system but typically involves the adrenal glands & presents as abdominal mass that crosses the midline w/ systemic sx</p>
3688	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Vesicoureteral reflux (VUR) is a risk factor for recurrent urinary tract infections, which can lead to progressive renal scarring.</p> <p>The gold standard modality for dx VUR is a voiding cystourethrogram (VCUG). VCUGs rec. in pts w/ recurrent UTIs.</p> <p>Risk factors for the development of renal cell carcinoma include cigarette smoking, hypertension, & diabetes mellitus</p>
3692	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Children age <2 years w/ a first febrile UTI should be tx w/ 1-2 weeks of abx. A renal & bladder *ultrasound* should be ordered to evaluate for abnormalities that lead to recurrent UTIs. Voiding cystourethrogram is generally not indicated for a first febrile UTI unless there are abnormalities on renal ultrasound or if the pt is a neonate</p>
3694	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Severe vesicoureteral reflux can cause recurrent or chronic pyelonephritis. Complications include parenchymal scarring, hypertension, & renal insufficiency. Definitive diagnosis is made by voiding cystourethrogram.</p> <p>Posterior urethral valves are the mcc of chronic renal insufficiency/failure in children. The distal urinary tract obstruction can cause secondary urinary reflux but the condition affects only boys</p>
3940	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>*Membranous nephropathy* is a common cause of nephrotic syndrome (edema, proteinuria, & hypoalbuminemia) in adolescents (eg a 14 y/o) & adults. *Active hepatitis B infection is an imp risk factor*, & vaccination reduces this risk</p>
3967	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Pts w/ sickle cell trait have no specific clinical sx of sickle cell disease & no change in overall life expectancy. Renal complications include painless hematuria (due to renal papillary ischemia or *renal papillary necrosis*), UTIs, & renal medullary cancer. UA shows normal-appearing RBCs</p>
4005	Pediatrics	Renal, Urinary Systems & Electrolytes	<p>Perform urinalysis & urine culture as preliminary studies in all children w/ suspected UTI. Pts in diapers should undergo straight catheterization (to avoid contamination)</p> <p>UTI RF in infants-girls any age (short urethra), uncircumcised boys age <1, & underlying renal anomaly. Sx during infancy are vague (fever, fussiness, decreased urine output). Fever in any child <3 years prompts evaluation for UTI</p> <p>Mid stream clean catch urine specimen: use for pts who don't wear diapers</p>

4018	Pediatrics	Renal, Urinary Systems & Electrolytes	Minimal change disease(MCD): Path- T cell mediated injury to podocytes causes increased molecular permeability to albumin. Mcc of nephrotic syndrome in young children. Renal biopsy is not required for initial diagnosis! *Instead, proceed directly with giving steroids(Prednisone). * 85% of children will respond to their first steroid course
4059	Pediatrics	Renal, Urinary Systems & Electrolytes	Renal scintigraphy is used to evaluate renal function & is useful in the setting of kidney dysfunction Minimal change disease:renal biopsy shows normal kidney architecture but isn't usually obtained in pts age <10.Diffuse effacement of foot processes of podocytes on EM Focal glomerulosclerosis:crescent formation,mcc of nephrotic syn in adults,may be rapidly progressive Membranous glomerulonephritis:thickened basement membrane,subepithelial spikes,2nd mcc of nephrotic syn in adults membranoproliferative glomerulonephritis:mesangial hypercellularity,nephritic syndrome
4196	Pediatrics	Renal, Urinary Systems & Electrolytes	UTI most commonly arises by bacteria ascending into the bladder from the vaginal introitus. Sexual intercourse is an important risk factor for UTIs in women.
4279	Pediatrics	Renal, Urinary Systems & Electrolytes	Henoch-Schonlein purpura: IgA mediated vasculitis of the small vessels that is most common in children. Palpable purpura on lower extremities, arthralgias/arthritis affecting knees & ankles, abdominal pain, & renal disease. *Deposition of IgA in the mesangium*
4548	Pediatrics	Renal, Urinary Systems & Electrolytes	Posterior urethral valves(mcc of urinary tract obstruction in newborn boys)->poor urine output in utero->oligohydramnios(low amniotic fluid)->restriction of fetal movement,physical anomalies like flat facies & limb deformities[Potter sequence]->high perinatal mortality(normal amniotic fluid levels required for lung development) Wilms tumor-presents at age 2-5 years w/ large,palpable flank mass but no sx Atretic duodenum obstructs amniotic fluid clearance->polyhydramnios
4828	Pediatrics	Renal, Urinary Systems & Electrolytes	Renal tubular acidosis: caused by a defect in either hydrogen excretion or bicarbonate resorption in the kidney. In infancy, it presents w/ failure to thrive due to a chronic, normal anion gap metabolic acidosis. Tx-oral bicarbonate replacement Type 1 RTA:often a genetic disorder,ass. w/ nephrolithiasis Type 2 RTA:component of Fanconi syndrome(glucosuria,aminoaciduria,& phosphaturia) Type 4 RTA:obstructive uropathy & aldosterone insufficiency are common causes in children
4853	Pediatrics	Renal, Urinary Systems & Electrolytes	Isotonic solutions such as normal saline are the fluid of choice for initial resuscitation in severe hypovolemic hyponatremia
2486	Pediatrics	Rheumatology/Orthopedics & Sports	Vitamin D deficiency ricks: RF-exclusive breastfeeding, increased skin pigmentation & lack of sun exposure Exam findings-craniotabes, rachitic rosary(costochondral joint hypertrophy) & genu varum(femoral & tibial bowing) X-ray-cupping & fraying of the metaphyses of the long bones Costochondral joint enlargement is always pathologic & should prompt evaluation for rickets Child abuse:"bucket-handle" fractures aka classic metaphyseal lesions & rib fractures
2629	Pediatrics	Rheumatology/Orthopedics & Sports	Ewing's sarcoma: found in lower extremity more than upper extremity. Common sites are the metaphysis & diaphysis of the femur, followed by the tibia & humerus. Pts are typically white males in their first or second decade of life. Lamellated appearance/"onion skin" periosteal reaction. The "onion skin" appearance is followed w/ a "moth eaten" or mottled appearance & extension into soft tissue Osteomyelitis:central lytic bone defect w/ surrounding sclerosis (Brodie's abscess)
3402	Pediatrics	Rheumatology/Orthopedics & Sports	In neonates/infants, a soft click, leg-length discrepancy, or asymmetric inguinal skin folds require diagnostic imaging w/ ultrasound (age <6 months) or x-rays (age >4-6 months). tx- Pavlik hip harness for age <6 months
3403	Pediatrics	Rheumatology/Orthopedics & Sports	Slipped capital femoral epiphysis occurs in obese, early-adolescent boys. Knee pain(referred pain) is a common complaint w/ this condition. Loss of abduction/internal rotation of the hip. External rotation of the thigh while the hip is being flexed. Frog-leg, lateral-view x-ray is dx imaging of choice. It should be tx w/ *surgical pinning* of the slipped epiphysis where it lies(i.e.in situ) in order to lessen the risks of avascular necrosis of the femoral head & chondrolysis
3404	Pediatrics	Rheumatology/Orthopedics & Sports	Legg Calve Perthes disease: as the disease progresses, internal rotation & abduction at the hip joint can become markedly limited. Tx aimed at maintaining femoral head within the acetabulum via splinting or surgery
3416	Pediatrics	Rheumatology/Orthopedics & Sports	Subluxation of the radial head (nursemaid's elbow) is common in preschool children. Classic mech is swinging or pulling a child by the arm. Full recovery after closed reduction by *forearm hyperpronation* confirms the dx
3555	Pediatrics	Rheumatology/Orthopedics & Sports	Growing pains: Unrelated to growth, despite name. Bilateral, lower extremity pains that occur at night in children age 2-12 years. Children w/ growing pains have no systemic sx, normal activity levels, & normal physical examinations. Tx- observation, parental reassurance, massage, & over the counter pain meds

3668	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Radial head subluxation(nursemaid's elbow): occurs when infants/children are lifted or pulled by the hand or arm. Child will keep hand in pronated position & will refuse attempted forearm supination. Reduction by forearm hyperpronation or supination plus flexion is diagnostic & therapeutic</p> <p>Panner disease: osteochondrosis of the capitellum. Typical pt is an adolescent engaged in sports involving throwing. Chronic dull pain, crepitation, & loss of pronation & supination</p>
3684	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Type I metatarsus adductus: feet that *overcorrect both passively & actively into abduction*. Spontaneously correct by themselves so no tx necessary. *Give reassurance*. Seen in first-born infants.</p> <p>Type II metatarsus adductus: feet that correct to the neutral position w/ passive & active movements. Managed w/ orthosis or corrective shoes, & sometimes plaster casts.</p> <p>Type III metatarsus adductus: rigid feet & do not correct. Managed w/ serial casts</p>
3685	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Clubfoot (talipes equinovarus): pt will have equinus & varus of the calcaneum & talus, varus of the midfoot, & adduction of the forefoot. Initially managed w/ *stretching & manipulation of the foot, followed by serial plaster casts*, malleable splints, or taping. Surgical tx is indicated if conservative management gives unsatisfactory results, & is preferably performed between 3 & 6 months of age. [Rmr that the tx of clubfoot should be started immediately!]</p>
3770	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Osteogenesis imperfecta: due to mutations in type 1 collagen. Blue sclera & recurrent fractures</p> <p>Congenital syphilis: early manifestations include jaundice, rash, lymphadenopathy, rhinitis & hepatosplenomegaly. Late manifestations occur around two years of age; these include shaber shins, keratitis, Hutchinson's teeth, saddle-nose deformity & deafness</p> <p>Children w/ rickets have slow growth & skeletal deformities</p> <p>Marfan syndrome: mutation of fibrillin 1 gene.</p>
3836	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Lyme arthritis:late manifestation of untreated Lyme disease.Hx of travel to northeastern/upper midwestern USA.Untreated early localized disease can progress to an inflammatory monoarticular or oligoarticular arthritis,most commonly involving the knee.Synovial fluid shows an average leukocyte count of 25,000 cells/uL</p>
4064	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Spondylolisthesis: developmental disorder charac by a forward slip of vertebrae(usually L5 over S1) that manifests in preadolescent children. In the typical clinical scenario, back pain, neurologic dysfunction (e.g. urinary incontinence), & a palpable "step-off" at the lumbosacral area are present if the disease is severe</p>
4533	Pediatrics	Rheumatology/Orthopedics & Sports	<p>legg calve perthes disease: aka idiopathic avascular necrosis of the femoral capital epiphysis boys age 4-10 sx- hip, groin, knee pain with antalgic gait tx- manage conservatively with observation and bracing surgery needed only when femoral head not well contained in acetabulum</p> <p>slipped capital femoral epiphysis (SCFE): obese adolescent male with complaints of pain</p>
4534	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Positive Trendelenburg sign:caused by *weakness/paralysis of gluteus medius & minimus muscles*, which are innervated by superior gluteal nerve</p> <p>Tensor fascia lata:hip abduction,maintenance of knee extension</p> <p>Psoas major:flex/laterally rotate thigh</p> <p>Quadratus lumborum:rib cage fixation/lateral flexion of trunk</p> <p>Quadriceps femoris:leg extension at knee [Rectus femoris(part of quadriceps femoris) also functions as a hip flexor]</p>
4584	Pediatrics	Rheumatology/Orthopedics & Sports	<p>Serum sickness-like reaction: type III hypersensitivity that occurs 1-2 weeks after administration of B-lactams(eg, penicillin, amoxicillin, cefaclor) or TMP/SMX. Sx-fever, urticaria, polyarthralgia/joint pain w/ no mucosal involvement. Tx-remove offending agent. Steroids used for severe cases</p> <p>Mononucleosis pts tx w/ aminopenicillin can develop rash on trunk. It spares extremities. No arthralgia seen</p> <p>Scarlet fever: fever, "sandpaper rash" following strep. pharyngitis.</p>
4642	Pediatrics	Rheumatology/Orthopedics & Sports	<p>The differential diagnosis of a solitary, painful, lytic long bone lesion w/ overlying swelling & hypercalcemia in a child should include Langerhans cell histiocytosis as well as other neoplastic processes.</p> <p>Sarcoidosis has its onset between ages 20-35 years. Sarcoidosis affecting the bone targets the hands & feet.</p> <p>Osteogenesis imperfecta: defect in Type 1 collagen. Pts have blue sclerae, diffuse cortical thinning, attenuation of trabeculae & pathological fractures</p>

4761	Pediatrics	Rheumatology/Orthopedics & Sports	Acquired torticollis(neck twisting due to asymmetric muscle activity) is common in children. The most common causes include upper respiratory infections, minor trauma, cervical lymphadenitis, & retropharyngeal abscess. *Cervical spine radiographs/xray of neck* should be obtained in children w/ acquired torticollis to ensure there is no cervical spine fracture or dislocation
4832	Pediatrics	Rheumatology/Orthopedics & Sports	Osteogenesis imperfecta(OI): ass w/ blue sclerae, hearing loss, recurrent fractures, & *opalescent teeth*. Pts w/ osteogenesis imperfecta have normal intelligence. Inherited from an autosomal dominant mutation of COL1A1.[Many pts w/ OI have dentinogenesis imperfecta, an opalescent blue-gray to yellow-brown discoloration caused by discolored dentin shining thru the translucent & weak enamel. Both primary & permanent teeth affected]
4836	Pediatrics	Rheumatology/Orthopedics & Sports	Acute rheumatic fever(ARF):age 5-15,twice as common in girls,polyarthritis(migratory),erythema marginatum(evanescent pink rash w/ sharp edges)[google pic],fever, elevated CRP & ESR.Prevented w/ penicillin tx of s.pharyngitis Juvenile idiopathic arthritis:arthritis present for >6 weeks.Rash can be seen.Arthritis isn't migratory like in ARF Henoch Schonlein purpura: migratory arthritis & rash. But rash is purpuric & arthritis involves lower extremity joints (hip/knee/ankle)
4840	Pediatrics	Rheumatology/Orthopedics & Sports	Atlantoaxial instability should be suspected in any pt w/ Down syndrome who presents w/ upper motor neuron findings Spinal cord infarction presents w/ the acute onset of severe pain, weakness, & paresthesias. This condition is rare & commonly seen in adults.
4844	Pediatrics	Rheumatology/Orthopedics & Sports	Slipped capital femoral epiphysis: commonly seen in overweight children aged 10-16 years(boys affected slightly more than girls). sx-pt holds affected hip in passive external rotation and exhibits decreased internal rotation, abduction, and flexion dx- made w/ plain radiographs of hip (anteroposterior and frog leg lateral views) tx-Immediate surgical screw fixation in order to avoid avascular necrosis of hip Legg-Calve-Perthes disease: affects boys age 5-7 years
4849	Pediatrics	Rheumatology/Orthopedics & Sports	Osgood-Schlatter disease:*traction apophysitis* of tibial tubercle.Cause of knee pain in adolescent male athletes ages 13-14 (ages 10-11 for affected females). Edema/tenderness over tibial tubercle.Pain reproduced by extending knee against resistance Patellar tendonitis:anterior knee pain after exercise.Point tenderness at inferior pole of patella Patellofemoral stress syn:Anterior knee pain that worsens upon descending steps or hills. Pain localized to patella
4857	Pediatrics	Rheumatology/Orthopedics & Sports	Transient synovitis: most common cause of hip pain in children, typically occurring in boys age 3-10 years. Usually follows a viral infection or mild trauma. Synovial inflammation leads to pain, decreased range of motion, & limping. Affected hip is typically flexed, slightly abducted, & externally rotated(This position maximizes joint space & provides pain relief). Pts rarely have fever or significant laboratory abnormalities. <1 month = transient synovitis >1 month = LCP
4873	Pediatrics	Rheumatology/Orthopedics & Sports	The most common elbow fracture in children is a supracondylar humerus fracture. Typical hx is a fall onto an outstretched arm w/ elbow extended. Supracondylar humerus fractures may be complicated by neurovascular injury or compartment syndrome(increasing pain from swelling)
11441	Pediatrics	Rheumatology/Orthopedics & Sports	Osteoid osteoma(google xray pic):benign bone forming tumor, progressively increasing pain that worsens at night w/o relation to physical activity.Plain x-rays of the leg shows the typical small,round lucency w/ sclerotic margins & sometimes central ossification. Proximal femur commonly affected. Pain improves w/ NSAIDs. Pts should be followed w/ serial examination & x-rays every 4-5 months to monitor the lesion
3235	Pediatrics	Social Sciences (Ethics/Legal/Professional)	Courts in the US have ruled that parents are not allowed to refuse life-saving tx for a child, including refusal for religious reasons
3624	Pediatrics	Social Sciences (Ethics/Legal/Professional)	When caring for an unemancipated minor, informed consent from one parent or guardian is considered legally sufficient to justify proceeding w/ therapy. Physicians should also provide care in urgent situations w/o waiting for parental consent
4320	Pediatrics	Social Sciences (Ethics/Legal/Professional)	Physicians should have a high index of suspicion for physical/sexual abuse in children w/ sudden behavioral problems, families w/ unstable economic backgrounds, or parents w/ a hx of drug/alcohol abuse
4846	Pediatrics	Social Sciences (Ethics/Legal/Professional)	Don't wait to obtain consent from parents for emergency procedures like unstable airway, blood transfusions, & surgery. That will cause unnecessary delay and potential harm!
2350	Psychiatry	Nervous System	Bereavement usually does not last longer than 2 months
3383	Psychiatry	Nervous System	Benzodiazepines(alprazolam) should be used w/ extreme caution in elderly population due to increased risk of cognitive impairment,falls,& paradoxical agitation(increased agitation,confusion,aggression & disinhibition within an hour of benzodiazepine administration). *Discontinuing pt's alprazolam* is the most appropriate next step in management if they are experiencing above sx As an alpha blocker,terazosin may cause orthostatic hypotension or syncope, esp w/ 1st dose

3470	Psychiatry	Nervous System	<p>Narcolepsy: excessive daytime sleepiness & episodes of cataplexy. When meds are needed, give *modafinil(Provigil)* & armodafinil(NuVigil). Amphetamines stimulants & sodium oxybate(Xyrem)[reduces cataplexy] aren't 1st line for tx due to risk of abuse/significant side effects</p> <p>Benzodiazepines, opiates, antipsychotics, & alcohol increase daytime sleepiness</p>
4895	Psychiatry	Nervous System	<p>Second generation antipsychotics are preferred for treating psychosis due to their low risk of extrapyramidal side effects & tardive dyskinesia.</p> <p>Use clozapine only if pt fails 2 antipsychotic trials(since it's ass. w/ agranulocytosis) . Clozapine is gold standard for treatment resistant schizophrenia.</p>
4899	Psychiatry	Nervous System	<p>Antipsychotics cause hyperprolactinemia by blocking dopamine activity in the tuberoinfundibular pathway</p> <p>decreased dopamine activity in the mesolimbic pathway accounts for the therapeutic effects of antipsychotics</p> <p>increased dopamine activity in the mesolimbic pathway accounts for the euphoria accompanying drug use as well as delusions & hallucinations experienced by pts w/ schizophrenia</p>
2349	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Alcoholic hallucinations (due to alcohol withdrawal) develops within 12 to 24 hours of last drink. It resolves within 24 to 48 hours.</p> <p>DO NOT CONFUSE ALCOHOLIC HALLUCINATIONS WITH DELIRIUM TREMENS! THEY ARE NOT THE SAME! THESE TERMS CAN'T BE USED SYNONYMOUSLY!</p> <p>Brief psychotic episode: presence of hallucinations, delusions, disorganized speech/behavior for >1 day but <1 month. Don't make this dx if drug or alcohol is responsible for crazy behavior</p>
2351	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Loss of a loved one can trigger the onset of a major depressive episode. Bereaved pts who experience depressive sx for at least 2 weeks after a major loss should be considered for tx w/ both psychotherapy & a trial of antidepressants(SSRIs such as sertraline)</p> <p>Electroconvulsive tx: used for pts who don't respond to an adequate course of antidepressants. 1st line tx for depressed pts who aren't eating or drinking, or who may be acutely suicidal, catatonic, or psychotic</p>
2354	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Bulimia nervosa: normal body weight, regular menstrual cycles(pts aren't amenorrheic)</p> <p>Borderline personality disorder is frequently diagnosed in pts suffering from bulimia nervosa</p>
2355	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>In a pt w/ bipolar I disorder w/ psychosis(grandiose delusions) & escalating agitation(angrily shouting, threatening, banging on door), antipsychotics[1st gen-haloperidol or 2nd gen-risperidone, olanzapine]preferable due to rapid onset of action.[lithium, valproate, carbamazepine require gradual titration over several days to achieve therapeutic blood levels so are less effective in controlling pt's acute agitation]</p> <p>Lamotrigine tx bipolar depressive episodes(not manic episodes)</p>
2356	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Long term side effects of lithium include nephrogenic diabetes insipidus, hyperparathyroidism w/ hypercalcemia, and thyroid dysfunction.</p> <p>Calcium, renal function, and thyroid function should be monitored prior to starting lithium and periodically during therapy.</p> <p>Atypical antipsychotics predispose pts to lipid or glucose abnormalities.</p>
2357	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>1st line tx for bipolar disorder: Atypical antipsychotics (eg, risperidone, aripiprazole, olanzapine), Lithium, Valproic acid. Don't use lithium in pts w/ renal dysfunction(its excreted thru the kidneys)!</p> <p>SSRI's like fluoxetine or bupropion can aggravate manic sx in a bipolar pt!</p>
2360	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>All depressed pts should be screened for suicidal ideation, intent, & plan</p> <p>Hospitalization is indicated for pts w/ active suicidal ideation that includes a plan & intent to act</p> <p>Pts w/ suicidal ideation but NO specific plan or intent need intensive outpatient treatment, but not necessarily hospitalization(tx underlying disorder w/ meds &/or psychotherapy, increase frequency of clinical contact, mobilize supports)</p>
2387	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Bupropion is FDA-approved for smoking cessation</p> <p>Varenicline is a partial agonist of the nicotinic acetylcholine receptor that has recently been released. It is somewhat more effective than bupropion at increasing short & long term smoking cessation rates</p> <p>Tricyclic antidepressants (like amitriptyline) are moderately effective in increasing smoking cessation rates, though no tricyclic is FDA approved for this purpose</p>

2494	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>1st line tx for depression: SSRI's (fluoxetine).</p> <p>*Most antidepressants (such as SSRI's) must be taken for 4-6 weeks before they provide symptomatic relief*</p> <p>If sx don't improve within 4-6 weeks, the dosage should be increased</p> <p>If one SSRI (at max dose) fails to fix the problem, then prescribe another SSRI in its place</p> <p>TCAs (amitriptyline) are less appealing for tx depression due to side effects. Used TCAs only when SSRIs are deemed inappropriate or ineffective</p>
2495	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Following acute stabilization, pts w/ bipolar disorder should receive the following maintenance therapy:</p> <p>1) Atypical antipsychotics are preferred for mild to moderately ill pts (monotherapy w/ lithium or valproic acid can be used as alternate therapy)</p> <p>2) For more severe episodes, combination therapy w/ lithium or valproate plus atypical antipsychotics is usually preferred over monotherapy</p>
2496	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Panic attacks: Benzodiazepines used for acute/immediate tx</p> <p>Panic disorder: SSRI/SNRI and/or cognitive behavioral therapy used for long-term sx relief</p> <p>Midazolam is a benzodiazepine used most often to induce conscious sedation during medical procedures</p>
2497	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Antipsychotics cause hyperprolactinemia by blocking dopamine
2498	Psychiatry	Psychiatric/Behavioral & Substance Abuse	One of the most common side effects of electroconvulsive therapy (ECT) is amnesia, both retrograde & anterograde
2499	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Psychosis is ass. w/ increased dopaminergic activity and is therefore best tx w/ drugs that primarily block the dopamine-D2 receptors. [Risperidone is an example of an atypical antipsychotic that works in this fashion]</p> <p>Risperidone binds w/ a very high affinity to serotonin receptors, which results in an improvement in the negative sx of schizophrenia, a reduction in the incidence of extrapyramidal side effects, & concomitant tx of depression</p>
2501	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Neuroleptic malignant syndrome (hyperthermia, autonomic instability, muscular rigidity, & altered sensorium) is an unusual but potentially lethal side effect from the use of antipsychotics (neuroleptics) eg, haloperidol. It's tx primarily w/ *dantrolene sodium* & supportive care</p> <p>The anticholinergic medication benztropine can be used to tx antipsychotic-induced extrapyramidal sx</p> <p>Propranolol is sometimes used to tx the antipsychotic side effect akathisia</p>
2502	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Clomipramine is a tricyclic antidepressant used as a 2nd line tx of obsessive compulsive disorder</p> <p>Phenelzine is a monoamine oxidase inhibitor that is effective in generalized social anxiety disorder. However it's not considered a 1st line tx due to dietary restrictions & the risk of hypertensive crisis</p> <p>Sertraline is an SSRI used in the tx of depression & a variety of anxiety disorders, including generalized social anxiety disorder</p>
2503	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>SSRI meds (Citalopram, Fluoxetine, Paroxetine, Sertraline) are 1st line tx for pts w/ moderate to severe depression. If there is no improvement and/or side effects, switch to a different medication in the *SAME* class.</p> <p>If there is still no improvement and/or side effects after 2 trials, switching to a DIFFERENT class of antidepressants is indicated.</p> <p>Trazodone used for tx of insomnia related to depression. Has antidepressant properties & sedation/priapism as side effects</p>
2505	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Acute dystonia: type of extrapyramidal symptom seen w/ high potency typical antipsychotic treatment (haloperidol). Tx-anticholinergics (benztropine) or antihistamines (diphenhydramine)</p> <p>Amantadine: dopamine agonist, treats drug-induced parkinsonism</p> <p>Beta-blockers used to tx akathisia</p>
2506	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Obsessive compulsive disorder: Tx-SSRIs or clomipramine. If pt fails to respond to initial tx w/ SSRI, a trial of a different SSRI (or clomipramine) is recommended.
2507	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Clozapine indicated for tx of psychotic pts who don't respond to other antipsychotics (tx resistant schizophrenia/schizoaffective disorder; pts failed >2 antipsychotic trials). Pts must undergo regular monitoring of white blood cell & absolute neutrophil counts due to the risk of *leukopenia* (neutropenia) & agranulocytosis</p> <p>Creatinine & thyroid function tests are periodically monitored (eg, every 3-6 months) in lithium-treated pts due to risks of hypothyroidism & renal toxicity</p>

2508	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Brief psychotic disorder: sx >1 day & <1 month</p> <p>Schizophreniform disorder: sx last >1 month but <6 months</p> <p>Schizophrenia: sx present for at least 6 months</p>
2510	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Disruptive mood dysregulation disorder: chronic irritability, manifested as temperamental outbursts & persistent angry/irritable mood</p> <p>Somatic symptom disorder: Excessive anxiety & preoccupation w/ >1 unexplained sx</p>
2521	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Factitious disorder: intentional falsification w/ goal to assume sick role</p> <p>Malingering: Falsification/exaggeration of sx to obtain external incentives (secondary gain) e.g. avoiding jail, obtain disability benefits</p> <p>Illness anxiety disorder(hypochondriasis): fear of having serious illness despite few or no sx & consistently negative evaluations</p>
3140	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>[Wikipedia] Russell's sign: a sign defined as calluses on the knuckles or back of the hand due to repeated self-induced vomiting over long periods of time</p> <p>Binge-eating disorder: Recurrent episodes of binge eating. Lack of control during eating. NO COMPENSATORY BEHAVIORS! (unlike Bulimia nervosa in which there is compensatory behavior after binge eating)</p>
3185	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Risk of developing bipolar disorder is 1% in the general population. However, the risk increases to 5-10% in individuals w/ a first-degree relative who suffers from bipolar disorder.</p> <p>Child whose parents both suffer from bipolar disorder has a 60% risk of developing the condition</p> <p>Monozygotic twin of an individual who suffers from bipolar disorder has a 70% risk of developing the condition</p>
3187	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Tx alcohol withdrawal w/ benzodiazepine (eg, lorazepam, diazepam, chlordiazepoxide)</p> <p>Alcohol withdrawal peaks during second day following cessation. Seizures occur at 12-48 hours. Delirium tremens occurs 2-4 days after last drink.</p> <p>Cefazolin: 1st generation cephalosporin, frequently provided as prophylaxis in biliary surgery</p> <p>Phenobarbital: an anticonvulsant used as an adjunct to benzodiazepines in treatment-refractory alcohol withdrawal syndrome. Never use as monotherapy!</p>
3189	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Heroin withdrawal sx: pupillary dilatation, rhinorrhea, muscle & joint aches, abdominal cramping, nausea, & diarrhea</p> <p>Since amphetamines and cocaine are both stimulants, their withdrawal effects would be irritability, fatigue, increased appetite, psychomotor disturbance</p>
3190	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Amphetamine intoxication: sx of sympathetic system overload, agitation, irritability, diaphoresis, mydriasis
3191	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>LSD side effect: colors are richer, tastes are heightened, and sensation is enhanced</p> <p>Cocaine intoxication: pt is convinced there are bugs crawling all over him "cocaine bugs"</p>
3372	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Dissociative amnesia: isolated impairment in autobiographical memory. Inability to recall imp personal info. Usually of a traumatic or stressful nature. Not explained by another disorder (substance use, post-traumatic stress disorder)</p> <p>[Dissociative fugue subtype characterized by either seemingly purposeful travel or wandering in a dissociated state]</p> <p>Depersonalization/derealization disorder: pt experiences repeated or chronic feelings of unreality or detachment from one's self</p>
3378	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Schizophrenia: Enlargement of the lateral cerebral ventricles</p> <p>Autism: Increased total brain volume</p> <p>OCD: abnormalities in orbitofrontal cortex & striatum</p> <p>Panic disorder: decreased volume of amygdala</p> <p>PTSD: decreased hippocampal volume</p>
3382	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>adjustment disorder: emotional/behavioral sx that develop within 3 months of stressor. Rarely lasts more than 6 months after stressor ends.</p> <p>tx- brief cognitive psychotherapy or psychodynamic psychotherapy</p>

3385	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Kleptomania: inability to resist the impulse to steal objects that are of low monetary value or not needed for personal use. Tx is *psychotherapy*, involving a cognitive behavioral therapy orientation, focusing on techniques to resist & manage urges & anxiety. [Kleptomania doesn't respond well to medication]
3533	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Displacement: unacceptable feelings about an object or person are displaced onto another "safer" object or person Projection: involves attributing unacceptable internal thoughts or emotions to others eg. husband w/ thoughts of cheating on his wife ends up accusing his wife of cheating on him Dissociation: man rescued from fire has no memory of it, describes a missing block of time Distortion: Drug user gets HIV and blames it on inadequate control of disease in community
3535	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Introjection: an immature defense mechanism. Assimilating another person's attitude into one's own perspective (e.g. a battered woman who believes her husband is right when he says she is worthless) Dissociation: a neurotic defense mechanism. Completely blocking off disturbing thoughts or feelings from consciousness in an attempt to avoid emotional upset(dude rescued from a burning building, now denies any memory of it)
3638	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Pts w/ psychiatric diagnoses can give informed consent as long as their judgment and decision-making abilities are determined to be intact
3702	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Contraindications to the use of Bupropion: hx of seizure disorder/Epilepsy and hx of anorexia nervosa/bulimia Bupropion benefits: antidepressant, inhibits re-uptake of norepinephrine, dopamine, & serotonin, improves the impaired concentration & diminished energy that depressed pts get, doesn't cause sexual dysfunction.
3762	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Alprazolam (Xanax), a short acting benzodiazepine, is the most likely to result in seizures **following abrupt discontinuation** A potential dose dependent side effect of bupropion use (not withdrawal) is seizures Lamotrigine is an anticonvulsant used in the tx of bipolar disorder
3799	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Rationalization involves offering a rational, logical reason for an upsetting event or behavior rather than admitting the true reason in order to avoid anxiety or protect self-esteem Dissociation:immature def mech. Disruptions in memory,identity,consciousness,perception in the face of uncomfortable events/emotions Repression:immature def mech. Upsetting feelings blocked from entering conscious awareness.Involves blocking inner states.Occurs subconsciously
3839	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Generalized social anxiety: tx- Preferred pharmacological tx is an SSRI or SNRI (e.g. Paroxetine). Cognitive behavioral therapy can also be used as 1st line treatment (Supportive psychotherapy helpful but not as effective as cognitive behavioral therapy) Performance only social anxiety disorder: anxiety limited to public speaking/performance situations tx- benzodiazepines, beta-blockers(propranolol), cognitive behavioral therapy
3843	Psychiatry	Psychiatric/Behavioral & Substance Abuse	When tx a single episode of major depression, the antidepressant should be continued for a period of *six months* following the pt's response. If multiple episodes of depression have occurred, maintenance therapy will likely need to be continued for a longer period.
3844	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Minimizing conflict & stress in the home decreases the risk of relapse in pts w/ schizophrenia
3845	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Sx of hypochondriasis usually develop during periods of stress. Pts should be asked about their current emotional stressors & then referred for brief psychotherapy.
4043	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Pts who have experienced 2 episodes of acute mania should be considered for long-term (years), if not lifetime, maintenance tx w/ lithium, esp if the episodes were severe or there is a family hx. Pts w/ a hx of 3 or more relapses are rec. to have lifetime maintenance tx
4046	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Although primarily a serotonin-dopamine antagonist,olanzapine also has affinity for histamine,alpha-1 adrenergic,& muscarinic receptors.Most common side effects of olanzapine are sedation & *weight gain.*Weight gain is ass. w/ antagonism of histamine (H1) & 5-HT2c receptors.Sedation due to antagonism at the histamine receptor.Other metabolic side effects like hyperglycemia,dyslipidemia,& new onset diabetes mellitus are ass. w/ olanzapine but are less common than weight gain
4051	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Pts w/ dysthymia (persistent depressive disorder) often describe feeling depressed their entire lives
4063	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Altered levels of serotonin play an imp role in obsessive compulsive disorder. The tx of choice is an SSRI such as paroxetine
4067	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Noncompliance w/ antipsychotic meds is a common cause of relapse & rehospitalization in pts w/ schizophrenia. Long-acting injectable antipsychotics are useful in pts who are chronically noncompliant but have responded to oral antipsychotics.

4137	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Circumstantial thought process: Pts deviate from original subject but eventually return to it</p> <p>Tangential thought process: Pts drift away without ever returning to the subject</p>
4141	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>SSRIs(*escitalopram*) or SNRIs are 1st-line meds for tx Generalized anxiety disorder that can also potentially tx comorbid major depression. Benzodiazepines should be reserved for nondepressed pts w/o a hx of substance abuse who fail to respond to or can't tolerate antidepressants</p>
4195	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Ppl w *grandiose delusions* believe they have special powers,extraordinary accomplishments,or a special relationship w/ God</p> <p>Magical thinking:belief that one's thoughts can control events in a manner not explained by natural cause & effect. It also includes the attribution of casual incidents to supernatural forces</p> <p>Individuals w/ ideas of reference believe that everyday occurrences have a special implication for them</p> <p>Perseveration:repetition of words or ideas during a convo</p>
4285	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Panic disorder: frequently ass. w/ other psychiatric illnesses, including agoraphobia(fear of public places), *major depression*, bipolar disorder, & substance abuse. It's also linked to a higher rate of suicide attempts or suicidal ideations [Panic disorder has a very common association w/ depression!]</p>
4815	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Obsessive-compulsive personality disorder: characterized by impairment resulting from perfectionism & intense concerns about time & the need to complete tasks meticulously</p> <p>Obsessive compulsive disorder: marked by obsessions that cause anxiety, resulting in compulsive behaviors to decrease the anxiety</p> <p>Pts w/ Asperger's disorder have impairments in reciprocal social interactions & restricted interests. They often desire relationships but lack awareness of social conventions</p>
4816	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Persistent depressive disorder(dysthymia): look for pt w/ low energy, fatigue, low self esteem, poor concentration or difficulty making decisions, feelings of hopelessness. Sx last 2 years or more. tx- antidepressants/therapy can improve sx & quality of life</p>
4848	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Valproic acid side effects: blood dyscrasias & liver toxicity</p> <p>Carbamazepine: treats both bipolar & seizure disorders. Side effects include aplastic anemia & SIADH</p> <p>Lamotrigine: treats epilepsy & bipolar disorder</p>
4869	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Somnambulism=sleep walking</p> <p>Benign paroxysmal vertigo consists of episodes in which the child is off-balance & may be ass. w/ nystagmus, fear, nausea, vomiting, or diaphoresis. The child may try to reach out to steady themselves. Episodes are short (<1 minute) & are not ass. w/ a change in level of consciousness. Usually, this disorder resolves as the child ages</p>
4879	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Pts taking monoamine oxidase inhibitors like phenelzine should avoid foods high in tyramine, as the combination can result in *hypertensive crisis*</p>
4883	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Acute stress disorder: sx lasting from 3 days to 1 month following traumatic event. Dx requires exposure to actual or threatened death, injury, sexual violation accompanied by characteristic sx of re-experiencing (intrusive memories & flashbacks), avoidance, negative mood, dissociation, & hyperarousal</p> <p>Insomnia disorder: dx requires insomnia for at least 3 nights a week for at least 3 months</p>
4884	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Bupropion is an antidepressant & a smoking cessation aid</p> <p>Amitriptyline has been used for diabetic neuropathy & prevention of migraine headaches</p>
4885	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Although they have a lower risk of extrapyramidal side effects,Second-generation(atypical)antipsychotics,especially Clozapine & *Olanzapine*,cause metabolic side effects(eg, weight gain,hyperglycemia,dyslipidemia).We have to routinely monitor *BMI,fasting plasma glucose & lipids,bp,waist circumference in pts taking these meds*</p> <p>The atypical antipsychotic ziprasidone is ass. w/ QT prolongation at higher doses</p> <p>Hyperprolactinemia occurs w/ 1st gen antipsychotics & risperidone</p>
4886	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Risperidone is an atypical antipsychotic that acts as a dopamine receptor antagonist(look for pt on it to have sx of dopamine blockage like bradykinesia, masked facies, micrographia). Although it's less likely than typical antipsychotics to cause parkinsonian extrapyramidal side effects(EPS), risperidone is the most likely atypical antipsychotic to cause EPS(rigidity,tremor,akathisia). The anticholinergic med *benztropine* is used to reduce the extrapyramidal sx.</p>
4887	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Serotonin syndrome appears clinically similar to neuroleptic malignant syndrome with high fevers and rigidity. However serotonin syndrome often begins with diarrhea, restlessness, and autonomic instability.</p>
4897	Psychiatry	Psychiatric/Behavioral & Substance Abuse	<p>Delusional disorder: involves one or more delusions & the absence of other psychotic sx in an otherwise high-functioning individual. NO HALLUCINATIONS OR DISORGANIZED THOUGHTS OR BEHAVIOR AS SEEN W/ SCHIZOPHRENIA & SCHIZOPHRENIFORM DISORDER</p>

4905	Psychiatry	Psychiatric/Behavioral & Substance Abuse	1st line tx for specific phobia is behavioral therapy(superior to pharmacological tx) Buspirone used for tx of generalized anxiety disorder Eye movement desensitization & reprocessing treatment is a complex method of psychotherapy that integrates therapy w/ eye movements. It's helpful for pts w/ post-traumatic stress disorder
4906	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Adjustment disorder eg: college student living by herself for first time, within the first 3 months feeling anxious that someone will break into home, feels tense, difficulty sleeping at night, feels tired all day, difficulty sleeping at night Generalized anxiety disorder:excessive worry or anxiety over many aspects of one's life(work,family,finances,health) for at least 6 months
7289	Psychiatry	Psychiatric/Behavioral & Substance Abuse	The slightly increased risk of antidepressant-related suicidality in child & adolescent pts must be weighed against the established efficacy of antidepressants. Depressed pts should be carefully monitored for worsening depression & suicidality at the beginning of antidepressant therapy
7723	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Pts w/ depression & comorbid medical conditions, including terminal illnesses, can benefit from tx w/ antidepressant meds to improve their quality of life. SSRIs are the best option in pts w/ a longer life expectancy(SSRIs take a longer time[compared to psychostimulants] to reach full therapeutic effect). Psychostimulants (eg, methylphenidate, modafinil) are more appropriate for pts w/ a shorter life expectancy
7957	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Clozapine:reserved for pts w/ tx resistant schizophrenia(failure to respond to at least 2 antipsychotic trials) or those at high risk for suicidality due to the risk of agranulocytosis.Other serious adverse effects include seizures,myocarditis,& metabolic syndrome Lamotrigine & lithium are mood stabilizers used in tx of bipolar disorder
8841	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Remission: absence of or minimal sx, w/ a return to the pt's premorbid functioning or wellness Treatment response: pt demonstrates significant improvement(with or without a remission), 50% reduction in the baseline level of severity
8875	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Hoarding disorder: pt has difficulty getting rid of cheap items, thought of parting with items causes distress. tx- cognitive behavioral therapy and SSRIs
8915	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Survivors of sexual assault are at high risk for developing post-traumatic stress disorder, depression, & suicidality
8938	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Cognitive behavioral therapy focuses on reducing automatic negative thoughts & avoidance behaviors that cause distress
10780	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Drug induced parkinsonism presents w/ bradykinesia(eg. slow finger tapping), rigidity, & tremor Acute dystonia: sudden onset of sustained muscle contractions resulting in twisting & abnormal postures (eg, torticollis, sustained contraction of neck, mouth, tongue, eye muscles) Tardive dyskinesia: dyskinesic movements involving mouth/face & extremities Lewy body dementia: older adults, fluctuating cognition, parkinsonism, visual hallucinations
11790	Psychiatry	Psychiatric/Behavioral & Substance Abuse	High dose glucocorticoids given for allergic,inflammatory(eg,asthma),or autoimmune conditions may cause glucocorticoid induced psychosis in pts w/ no underlying psychiatric illness. This is an example of substance/medication-induced psychotic disorder
11794	Psychiatry	Psychiatric/Behavioral & Substance Abuse	inhalant abuse: boys age 14-17 perioral skin changes (glue sniffer's rash). this dermatitis can be seen around mouth or nostrils
11827	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Electroconvulsive therapy (ECT) is an evidence-based tx for major depression refractory to antidepressants & is also indicated to achieve a rapid response in depressed geriatric patients who are unable to eat & drink, psychotic, or actively suicidal [Antidepressants take up to 6-8 weeks for response & need to be combined w/ an antipsychotic med to effectively tx major depression w/ psychotic features]
11853	Psychiatry	Psychiatric/Behavioral & Substance Abuse	*Ecstasy* aka Molly aka MDMA(3,4-methylenedioxy-methamphetamine) is a synthetic amphetamine w/ hallucinogenic properties. It can cause euphoria, increased sexual desire, & empathy. Intoxication may lead to hypertension, tachycardia, hyperthermia, SEROTONIN SYNDROME, & HYPONATREMIA. Coma, seizures, & death may occur.[Combining MDMA w/ other serotonergic drugs such as serotonergic antidepressants can increase the risk of serotonin syndrome]
11884	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Second-generation antipsychotics (*quetiapine*, lurasidone) are effective in the *depressed phase of bipolar illness*.[Antidepressant monotherapy should be avoided in pts w/ bipolar I disorder due to risk of precipitating mania]
11894	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Panic disorder:recurrent & unexpected panic attacks w/ >4 of the following: Chest pain,palpitations,SOB,trembling,sweating,nausea,dizziness,paresthesias,derealization,depersonalization,fear of losing control,dying,worry about additional attacks,avoidance behavior.Sx resolve within minutes In somatic sx disorder,physical sx are persistent over time Illness anxiety disorder:excessive health anxiety w/o significant somatic sx

11897	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Neuroleptic malignant syndrome (NMS): ass w/ antipsychotic use. Sx-delirium, high fever, autonomic instability, severe rigidity, elevated creatine kinase, & leukocytosis Serotonin syndrome:neuromuscular irritability(tremor,hyperreflexia,myoclonus)rather than the rigidity seen in NMS.Fever in this syndrome not as high as in NMS. GI sx more common(vomiting/diarrhea).[Wait 2 weeks between discontinuing MAOI & start of serotonergic antidepressant to avoid Serotonin syndrome]
11898	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Akathisia should be considered if a psychotic pt worsens clinically as the dose of antipsychotic is increased. Tx-*reduction of antipsychotic dose & tx w/ B-blocker(propranolol) or benzodiazepine(lorazepam)* [Make sure not to discontinue the antipsychotic altogether cuz doing so could place pt at higher risk of further decompensation] Acute dystonia tx:Benzotropine & diphenhydramine
11967	Psychiatry	Psychiatric/Behavioral & Substance Abuse	The sudden onset of psychosis in a child or adolescent is rare, & it's important to search for potentially reversible conditions such as medical disorders or substance use. Common medical conditions to rule out include SLE(check for *antinuclear antibodies* esp if child has arthralgia & psychosis w/ hematuria & proteinuria), thyroiditis, metabolic or electrolyte disorders, CNS infection, & epilepsy
12002	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Nightmare disorder: involves recurrent awakenings from REM sleep associated w/ full alertness & dream recall. It should be differentiated from non-REM sleep terrors, which are characterized by partial arousals, unresponsiveness, & lack of dream content Sleep terror disorder: is a non-REM arousal disorder charac by incomplete awakenings, unresponsiveness to comfort, & no recall of dream content. Charac by marked autonomic arousal & amnesia for the episode in the morning.
12003	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Narcolepsy is ass. w/ low csf levels of orexin-A/hypocretin-1 Hypersomnolence disorder is charac by persistent daytime sleepiness (not sleep attacks) & is diagnosed only when excessive sleepiness is not better explained by another sleep disorder
12140	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Chronic methamphetamine abuse can cause psychotic sx, including paranoid delusions & auditory, visual, & tactile hallucinations (bugs crawling under the skin). Other signs include marked weight loss, severe tooth decay, & excoriations due to skin picking
12145	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Catatonia: a syndrome seen in severe psychiatric & medical illness & is charac by immobility, mutism, & posturing. Benzodiazepines(*lorazepam*) & electroconvulsive therapy(ECT) are the tx of choice.[ECT is tx of choice in pts who don't improve w/ benzodiazepines] Antipsychotics can worsen catatonia & should be avoided Cyproheptadine(serotonin antagonist):tx severe cases of serotonin syndrome(triad of autonomic instability,altered mental status, & neuromuscular irritability)
12186	Psychiatry	Psychiatric/Behavioral & Substance Abuse	Trauma-focused cognitive-behavioral therapy & SSRIs(*escitalopram*)/SNRIs are 1st line tx for post-traumatic stress disorder Bupropion: is a norepinephrine dopamine reuptake inhibitor. It can be stimulating and therefore cause insomnia. Commonly used to tx major depression.
9848	Psychiatry	Social Sciences (Ethics/Legal/Professional)	Most effectic strategy to prevent firearm injuries is to remove all firearms from the home. If families choose to keep firearms in the home, they should be advised to at least store unloaded firearms & ammunition in separate, locked containers
3325	Surgery	Allergy & Immunology	Tetanus-diphtheria toxoid vaccine should be given to individuals w/ severe or dirty wounds who received a booster >5 years ago & those w/ minor clean wounds who received a booster >10 years ago. Tetanus immune globulin should be given to any individual w/ a severe or dirty wound & an unclear or incomplete immunization hx
2337	Surgery	Cardiovascular System	Acute mediastinitis:can occur following cardiac surgery & present w/ fever,chest pain,leukocytosis & mediastinal widening on CXR.It's a serious condition that requires drainage,surgical debridement & prolonged antibiotic therapy Postpericardiotomy syndrome:fever,leukocytosis,tachycardia & chest pain.Usually autoimmune & occurs a few weeks following a procedure w/ a pericardium incision.NSAIDs or steroids tx inflammation. Pericardial puncture is indicated if tamponade occurs
2371	Surgery	Cardiovascular System	*Bowel ischemia is a complication of abdominal aortic aneurysm repair*.Due to inadequate colonic collateral arterial perfusion to the left & sigmoid colon after loss of the inferior mesenteric artery during aortic graft placement.Sx-ab pain,bloody diarrhea,fever,leukocytosis Aortoenteric fistula is a rare & late complication where the duodenum erodes into the proximal part of the aortic graft
2734	Surgery	Cardiovascular System	Aortic dissection: can extend into the major vessels (eg, carotid, renal, & spinal arteries) & lead to impending stroke, acute renal failure, & *lower extremity weakness/paraplegia* respectively. Dx confirmed w/ contrast chest computed tomography or transesophageal echocardiogram
3455	Surgery	Cardiovascular System	Edema, stasis dermatitis & venous ulcerations result from lower extremity venous insufficiency due to valve incompetence -> *venous hypertension*/increased pressures in postcapillary venules Xerosis is most common early finding; lipodermatosclerosis & ulcerations characterize late disease
3551	Surgery	Cardiovascular System	Pts who present w/ acute onset of back pain & profound hypotension should be evaluated for a presumptive dx of *ruptured abdominal aortic aneurysm* & emergently taken to the operating room

4025	Surgery	Cardiovascular System	Venous insufficiency (valvular incompetence): mcc of lower extremity edema. Worsens throughout the day & resolves overnight when pt is recumbent
4241	Surgery	Cardiovascular System	Femoral artery aneurysm:pulsatile groin mass below inguinal ligament.Anterior thigh pain occurs due to compression of femoral nerve that runs lateral to the artery.2nd most common peripheral artery aneurysm after popliteal aneurysm. Ass. w/ abdominal aortic aneurysm
4494	Surgery	Cardiovascular System	Femoral hernias:located below inguinal ligament, NOT pulsatile Inguinal hernias:located above inguinal ligament Femoral vein dilatation results from AV fistula(typically traumatic);venous HTN results Ankle-brachial index (ABI) is highly sensitive and specific for peripheral arterial disease (PAD)
4501	Surgery	Cardiovascular System	arterial ultrasound of lower extremities can diagnose PAD but is less sensitive and specific than ABI. Only do it in symptomatic pts w/ abnormal ABI who are being considered for interventional procedures Retroperitoneal hematoma: Can occur as a local vascular complication of cardiac catheterization, & often presents w/ sudden hemodynamic instability & ipsilateral flank or back pain. Dx is confirmed w/ *non-contrast CT scan of abdomen & pelvis* or abdominal ultrasonography. Tx is supportive w/ bed rest, intensive monitoring, & iv fluids and/or blood transfusion
4507	Surgery	Cardiovascular System	embolic arterial occlusion: sudden/severe pain, diminished pulses, pallor, coolness to touch, neurologic deficits and muscle dysfunction in affected extremity arterial thrombosis: slow, progressive narrowing of lumen, insidious onset, diminished pulses bilaterally venous thrombosis (DVT): pain and edema of lower extremity, warmth to touch, dull & aching pain, no pulselessness
4508	Surgery	Cardiovascular System	Aortoiliac occlusion (Leriche syndrome): sx- triad of bilateral hip, thigh, & buttock claudication, impotence & symmetric atrophy of the bilateral lower extremities due to chronic ischemia. Men w/ a predisposition for atherosclerosis such as smokers are at greatest risk of this condition.
4527	Surgery	Cardiovascular System	Aortic injury findings: widened mediastinum, large left sided hemothorax, deviation of mediastinum to the right and disruption of the normal aortic contour. Dx can be confirmed w/ CT scanning. Manage pts w/ antihypertensive therapy and immediate operative repair.
4541	Surgery	Cardiovascular System	In a pt who develops hypovolemic shock after a mva, an elevated pulmonary capillary wedge pressure at baseline should raise the suspicion of myocardial dysfunction due to cardiac contusion(the PCWP is is slightly elevated at baseline & increases significantly after infusion of saline) This is suggestive of elevated intracardiac filling pressures due to left ventricular dysfunction, which is most likely caused by myocardial contusion(injury to the myocardium) from accident
4556	Surgery	Cardiovascular System	Acute cardiac tamponade: suspect in adult pts w/ blunt chest trauma who present w/ JVD, tachycardia,& hypotension despite aggressive fluid resuscitation. CXR reveals normal cardiac silhouette Esophageal rupture: severe retrosternal chest pain & mediastinal free air on CXR
4608	Surgery	Cardiovascular System	Reperfusion of a limb following arterio-occlusive ischemia for longer than 4-6 hours can lead to intracellular and interstitial edema. Compartment syndrome may occur when edema causes the pressure within a muscular fascial compartment to rise above 30 mm Hg, leading to further ischemic injury. [Compartment syndrome - pain increases on passive stretch, paresthesia(early)]
4696	Surgery	Cardiovascular System	blunt aortic injury: pt's in MVA or falls > 10 ft chest xray initial screening study mediastinal widening most sensitive finding deviation of trachea or nasogastric tube to the right or depression of left mainstem bronchus also seen
3456	Surgery	Dermatology	Dx of malignancy should be suspected in all non-healing wounds. Squamous cell carcinoma (SCC) may arise within chronically wounded, scarred or inflamed skin. SCC arising within burn wounds is known as Marjolin ulcer. Biopsy should be obtained in all chronic wounds failing to heal in order to rule out malignancy Dysplastic nevi: melanocytic nevi, size > 6mm, irregular borders & irregular pigmentation, demonstrate varying degrees of architectural disorder & cytologic atypia
4550	Surgery	Dermatology	In pts w/ significant total body surface area burns, the major cause of morbidity & mortality is hypovolemic shock. In the setting of adequate initial fluid resuscitation, *bacterial infection*(usually bronchopneumonia or burn wound infection) leading to sepsis & septic shock is the leading complication Hypermetabolic phase: after a severe burn injury, significant increases in catecholamines & cortisol cause protein losses(muscle degradation is used for gluconeogenesis)

			<p>*Most feared complication of a retropharyngeal abscess is spread of infection into the mediastinum*, which can lead to acute necrotizing mediastinitis. Early dx & debridement of the mediastinum is essential in the tx of this severe complication</p>
2846	Surgery	Ear, Nose & Throat (ENT)	<p>Major complication of an infection in the parapharyngeal space is involvement of the carotid sheath, which leads to erosion of the carotid artery & jugular thrombophlebitis</p> <p>Sublingual space is a division of the submandibular space</p>
2847	Surgery	Ear, Nose & Throat (ENT)	<p>Retropharyngeal abscess: pain w/ neck EXTENSION. Usually caused by local penetrating trauma (eg after instrumentation, or following an injury from a chicken bone)</p> <p>Meningitis: increased pain w/ neck FLEXION</p>
3427	Surgery	Ear, Nose & Throat (ENT)	<p>Torus palatinus: young pt w/ fleshy immobile mass on midline hard palate. Thought to be due to both genetic/congenital & environmental factors. usually <2 cm in size but can increase in size throughout a person's life. No medical/surgical tx required unless the growth becomes symptomatic or interferes w/ speech or eating</p>
3428	Surgery	Ear, Nose & Throat (ENT)	<p>nasal septal perforation due to septal hematoma: sx- whistling noise during respiration following rhinoplasty</p>
3500	Surgery	Ear, Nose & Throat (ENT)	<p>Nasopharyngeal carcinoma: Undifferentiated carcinoma Occurs in people of mediterranean or far eastern descent These pts often present w/ recurrent otitis media, recurrent epistaxis, & nasal obstruction Strongly ass. w/ EBV</p> <p>Helicobacter pylori gastritis can cause gut associated lymphoid tissue (GALT) lymphoma</p>
4077	Surgery	Endocrine, Diabetes & Metabolism	<p>Acute adrenal insufficiency: potentially lethal postoperative complication. Features include nausea, vomiting, ab pain, hypoglycemia, & hypotension. Pts taking chronic glucocorticoids may have glucocorticoid-induced suppression of hypothalamic-pituitary-adrenal axis & require stress-dose perioperative glucocorticoids</p> <p>Pts w/ Cushingoid features who are taking glucocorticoids are at risk for HPA suppression & won't respond appropriately to stress (surgery, infection, bleeding, MI)</p>
4254	Surgery	Endocrine, Diabetes & Metabolism	<p>Kidneys are responsible for converting 25-hydroxyvitamin D to 1,25-dihydroxyvitamin D by the enzyme 1-alpha-hydroxylase. Impaired 1-alpha hydroxylation occurs w/ chronic kidney disease, which can lead to hyperphosphatemia, hypocalcemia, & secondary hyperparathyroidism</p> <p>Precipitation of calcium w/ phosphate in peripheral tissues can cause hypocalcemia (occurs in renal failure, rhabdomyolysis, phosphate administration, acute pancreatitis, diffuse osteoblastic metastases)</p>
8882	Surgery	Endocrine, Diabetes & Metabolism	<p>Thyroidectomy or removal of 3 1/2 parathyroid glands -> post-surgical hypoparathyroidism -> hypocalcemia (QT-interval prolongation, tetany of lips face extremities, fatigue anxiety depression)</p> <p>Vit D toxicity -> hypercalcemia -> shortened QT interval</p> <p>Persistent hypothyroidism can be seen post-thyroidectomy & can cause hyponatremia w/o thyroid hormone supplementation</p>
12160	Surgery	Female Reproductive System & Breast	<p>Ruptured ovarian cyst: may present w/ an acute abdomen (sudden onset, severe, unilateral lower ab pain immediately following strenuous or sexual activity) due to hemoperitoneum (labs will show decreased Hct due to intra-abdominal blood loss). Hemodynamically unstable pts require immediate surgical intervention</p> <p>Ovarian torsion: may present w/ sudden lower ab pain; it doesn't typically result in an acute abdomen on physical exam & doesn't cause a drop in Hct</p>
2245	Surgery	Gastrointestinal & Nutrition	<p>Acalculous cholecystitis: occurs in critically ill pts in ICU w/ multiorgan failure, severe trauma, surgery, burns, sepsis, or prolonged parenteral nutrition. Gallbladder wall thickening & distension & pericholecystic fluid on imaging. Emergency tx of choice is antibiotics & percutaneous cholecystostomy, followed by cholecystectomy when medical condition stabilizes</p> <p>Duodenal perforation: sudden onset, diffuse ab pain, ab rigid on initial exam (becomes distended later), sx of peritonitis</p>
2322	Surgery	Gastrointestinal & Nutrition	<p>Small bowel obstruction (SBO): sx- colicky abdominal pain, vomiting, no bowel movement or passing gas (obstipation), abdominal distention, & diffuse tenderness. Abdominal radiographs reveal dilated bowel loops w/ multiple air-fluid levels. Pt's who don't improve w/ conservative measures or develop signs of increased risk of strangulation (fever, tachycardia, leukocytosis, & metabolic acidosis) should be referred for *urgent surgical intervention*</p>
2327	Surgery	Gastrointestinal & Nutrition	<p>Blunt abdominal trauma is most frequently caused by motor vehicle accidents, & the most common solid organs injured are the liver & *spleen*. Free intraperitoneal fluid should raise suspicion for a liver or splenic laceration</p>
2476	Surgery	Gastrointestinal & Nutrition	<p>Umbilical hernia: common finding in African American infants. Generally reducible & close spontaneously before age 5. Surgery not usually required</p> <p>Umbilical granuloma: appears after the umbilical cord has separated & presents as a soft, moist, pink, pedunculated, friable lesion. Tx- Silver nitrate</p>

2822	Surgery	Gastrointestinal & Nutrition	<p>Acute mesenteric ischemia: diffuse abdominal tenderness, metabolic acidosis (low bicarbonate) from increased serum lactate levels, sudden onset of severe periumbilical pain out of proportion to exam findings, leukocytosis, elevated amylase levels. Mesenteric angiography is gold standard for dx.</p> <p>Tx- supportive (iv fluids & antibiotics, ng tube)</p> <p>Dx of bowel ischemia depends on a high index of clinical suspicion in pts w/ known risk factors for thromboembolic disease (a-fib, pvd)</p>
2897	Surgery	Gastrointestinal & Nutrition	<p>The development of a palpable mass in the epigastrium four weeks after the onset of acute pancreatitis is highly suggestive of *pancreatic pseudocyst* formation. Ultrasound is the preferred means of imaging pseudocysts. Because the pseudocyst often resolves spontaneously, drainage should only be performed if it persists for >6 weeks, is >5 cm in diameter, or becomes secondarily infected</p> <p>Pancreatic abscess: localized collection of pus, tender epigastric mass, fever & leukocytosis</p>
2903	Surgery	Gastrointestinal & Nutrition	<p>Abdominal ultrasound is the best tool for the initial investigation of gallbladder pathology</p> <p>ERCP is the preferred procedure when cholangitis or biliary obstruction w/ a stone appears likely</p> <p>HIDA scan is superior to abdominal ultrasound in confirming suspected acute cholecystitis (esp. acalculous type)</p> <p>Percutaneous transhepatic cholangiography (PTC) is not commonly utilized due to better alternative procedures. Good for studying intrahepatic and extrahepatic biliary tree.</p>
2922	Surgery	Gastrointestinal & Nutrition	<p>The first step in the treatment of acute variceal bleeding is to establish vascular access w/ two large bore intravenous needles or a central line. [The second step is to control the bleeding]</p> <p>Balloon tamponade w/</p> <p>Sengstaken-Blakemore, Minnesota, or Linton-Nachlas tubes used for short term control of acute variceal bleeding when endoscopy is unavailable or when meds are not working quickly. Surgical tx or creation of TIPS used for pts who have failed medical or endoscopic tx</p>
2933	Surgery	Gastrointestinal & Nutrition	<p>Acute pancreatitis in non-alcoholics:</p> <p>sx- mid epigastric pain radiating to back, leukocytosis, elevated serum amylase & lipase</p> <p>etiology- Gallstones are responsible for this in non-alcoholics</p> <p>tx- Cholecystectomy (after pt improves), in order to prevent recurrent attacks of acute pancreatitis secondary to gallstones</p> <p>Perform ERCP in pts w/ severe biliary pancreatitis, chronic pancreatitis, ampullary cancers, the need to obtain tissue samples, & the need for bile duct exploration</p>
2940	Surgery	Gastrointestinal & Nutrition	<p>Emphysematous cholecystitis: common form of acute cholecystitis in diabetic males (aged 50-70 years). Arises due to infection of the gallbladder wall w/ gas-forming bacteria. Sx- RUQ pain, nausea, vomiting, low-grade fever. Abdominal radiograph shows air fluid levels in the gallbladder. Ultrasound shows curvilinear gas shadowing in the gallbladder. Tx- fluid & electrolyte resuscitation, early cholecystectomy, & parenteral antibiotic therapy</p>
2973	Surgery	Gastrointestinal & Nutrition	<p>Sphincter of Oddi dysfunction can cause post cholecystectomy pain. An elevated biliary sphincter pressure is highly specific for sphincter of Oddi dysfunction. Sphincter dysfunction is characterized by RUQ pain & elevation of liver enzymes during the pain attack, which resolve when the attacks subside. *ERCP w/ sphincterotomy* is the tx of choice for sphincter of oddi dysfunction</p>
2983	Surgery	Gastrointestinal & Nutrition	<p>Postoperative cholestasis can develop after a prolonged surgery. Look for jaundice, decreased liver functionality, & decreased renal bilirubin excretion.</p> <p>ALK phos. elevated significantly</p> <p>AST & ALT either normal or mildly elevated</p>
3064	Surgery	Gastrointestinal & Nutrition	<p>Pts w/ classic presentation of acute appendicitis (migratory pain, nausea, vomiting, fever, leukocytosis, McBurney point tenderness, Rovsing sign) should have IMMEDIATE appendectomy! Imaging studies used for pts w/ nonclassic sx, equivocal findings on assessment, or delayed presentation</p> <p>Pts w/ appendicitis w/ sx for >5 days usually have a phlegmon w/ an abscess that has walled off. Manage them w/ iv antibiotics, bowel rest, & delay appendectomy for weeks later</p>
3179	Surgery	Gastrointestinal & Nutrition	<p>Paralytic (adynamic) ileus: due to retroperitoneal hemorrhage ass. w/ vertebral fractures. Failure to pass stool/flatus, nausea/vomiting, distended ab w/ tympany & decreased/absent bowel sounds. Ab xray- air fluid levels, distended gas filled loops of small & large intestines</p> <p>Acute colonic pseudoobstruction: nausea, ab pain/distention, tympanic bowel sounds, hyperactive bowel sounds. Ab film- dilated colon w/o sig. small bowel dilation</p> <p>SBO: bowel distal to obstruction won't be distended</p>
3181	Surgery	Gastrointestinal & Nutrition	<p>Psoas abscess:</p> <p>sx- fever, low abdominal or back pain. Deep abdominal palpation is required to elicit tenderness due to the deep location of the psoas on the posterior abdominal wall</p> <p>etiology- hematogenous spread of bacteria from furuncles, or contiguous spread from nearby bone/bowel</p> <p>Confirm dx with a CT scan*. If CT negative, then do exploratory laparoscopy if suspicion is high</p> <p>tx- drainage & antibiotics</p>

3182	Surgery	Gastrointestinal & Nutrition	CT guided percutaneous drainage is tx for complicated diverticulitis w/ abscess formation. If this fails, then surgical drainage can be attempted Fluid collection <3 cm can be treated w/ iv antibiotics & observation Fluid collection >3 cm should initially be drained w/ CT guided drainage (if drain doesn't control sx by fifth day, surgery for drainage is next step)
3358	Surgery	Gastrointestinal & Nutrition	Blunt abdominal trauma can cause splenic injury which can present w/ delayed onset hypotension, LUQ abdominal pain, & left shoulder pain(due to diaphragmatic irritation). Pts should have an *abdominal CT scan* w/ iv contrast for dx. Those w/ persistent hemodynamic instability require urgent laparotomy Transesophageal echocardiogram is indicated for suspected aortic injury
3851	Surgery	Gastrointestinal & Nutrition	Isolated duodenal hematoma: occurs in children following blunt abdominal trauma tx- nasogastric suction & parenteral nutrition. If this fails, only then do we consider surgery(either laparotomy or laparoscopy)
3877	Surgery	Gastrointestinal & Nutrition	Ischemic colitis:common complication of vascular surgery(eg,repair of an AAA),as pts are older & have underlying atherosclerosis.CT shows thickening of bowel wall.Colonoscopy shows cyanotic mucosa & hemorrhagic ulcerations Acute diverticulitis causes LLQ pain.Diverticula causes rectal bleeding. Both are independent events Although ulcerative colitis causes ab pain/bloody diarrhea,we can rule it out/eliminate it as dx if sx presents for the first time at age 75
4062	Surgery	Gastrointestinal & Nutrition	Dumping syndrome is a common postgastrectomy complication. The sx usually diminish over time & *dietary changes are helpful to control the sx*. In resistant cases, octreotide should be tried. Reconstructive surgery is reserved for intractable cases
4098	Surgery	Gastrointestinal & Nutrition	Suspect ischemic colitis in pts who have evidence of atherosclerotic vascular disease, present w/ abdominal pain followed by bloody diarrhea, & have minimal abdominal exam findings. The most commonly involved segment of the colon is the *splenic flexure*, because it is supplied by end arteries. The two watershed zones in the colon are 1)splenic flexure 2)recto-sigmoid junction. These areas are most vulnerable to ischemia during systemic hypotension.
4111	Surgery	Gastrointestinal & Nutrition	Anal fissure tx includes increased fiber/fluid intake, stool softeners, sitz baths, & *topical anesthetics(eg,lidocaine) & vasodilators(eg,nifedipine,nitroglycerin)*
4251	Surgery	Gastrointestinal & Nutrition	Pts who present w/ appendicitis >5 days after onset of sx have a high incidence of perforation w/ abscess formation.They often have a contained abscess.If pts are stable,tx w/ iv hydration,abx, bowel rest,& interval appendectomy In pts w/ appendiceal rupture w/ a contained abscess,maneuvers that assess deep abdominal spaces(psoas sign,obturator sign,rectal exam) are useful Psoas sign suggests presence of abscess posterior to appendix adjacent to psoas muscle
4364	Surgery	Gastrointestinal & Nutrition	Adhesions(typically from abdominal operations/inflammatory processes/postoperative) are the mcc of small bowel obstruction. They may be congenital in children(eg, Ladd's bands) Recent weight loss can predispose pts to superior mesenteric artery syndrome
4462	Surgery	Gastrointestinal & Nutrition	Decompressing the gi tract (via suctioning and stopping oral intake) is part of the tx of a partial or complete small bowel obstruction Air under diaphragm indicates perforated viscus, which is a surgical emergency. Once diagnosed, obtain surgical consultation for emergent exploratory laparotomy
4486	Surgery	Gastrointestinal & Nutrition	gastric outlet obstruction: sx- early satiety, nausea, nonbilious vomiting, weightloss can be caused by acid ingestion, leading to stricture (with pyloric stenosis) phys exam will show abdominal succussion splash confirm with upper endoscopy tx- surgical diabetic gastroparesis: occurs in pt's w/ diabetes for longer than a decade
4498	Surgery	Gastrointestinal & Nutrition	Pts presenting w/ blunt abdominal trauma and/or shock should be assessed initially w/ a bedside abdominal ultrasound or FAST examination (Focused Assessment w/ Sonography for Trauma). In hemodynamically unstable pts who have an equivocal or inconclusive FAST examination, diagnostic peritoneal lavage can accurately determine the presence of active intraperitoneal hemorrhage & subsequent need for emergency laparotomy
4555	Surgery	Gastrointestinal & Nutrition	Blunt trauma to the upper abdomen can cause a *pancreatic* contusion, crush injury, laceration, or transection. Pancreatic injuries may be missed by CT scan immediately following trauma. An untreated pancreatic injury can later be complicated by a retroperitoneal abscess or pseudocyst Initial CT scan would have diagnosed a splenic injury. Delayed splenic rupture would cause acute LUQ ab pain & possibly hypotension, but not signs of sepsis

4601	Surgery	Gastrointestinal & Nutrition	Acute gastrointestinal perforation(subdiaphragmatic free intraperitoneal air on abdominal xray) requires emergent laparotomy. If the affected pt is already taking warfarin from before(for an old health problem like a-fib), then reversal of anticoagulation must be rapidly achieved pre-operatively by infusion of *fresh frozen plasma*[Vit K takes time so not used for emergency situations]. Otherwise pt at risk for intraoperative & post-operative bleeding complications
4609	Surgery	Gastrointestinal & Nutrition	Postoperative ileus(sx-abdominal distention, decreased/absent bowel sounds)follows most abdominal surgeries.*Morphine* and other opiates compound this problem by decreasing GI motility Occasionally after cholecystectomy,diarrhea can occur due to bile acid malabsorption & shortened intestinal transit times Chronic poor glucose control -> gastroparesis: early satiety,nausea,postprandial vomiting Erythromycin and Metoclopramide have promotility effects
4640	Surgery	Gastrointestinal & Nutrition	pilonidal disease: acute pain & swelling of the midline sacrococcygeal skin & subcutaneous tissues is due to infection of a pilonidal cyst
4655	Surgery	Gastrointestinal & Nutrition	Acute cholecystitis: manage conservatively, followed by cholecystectomy within 72 hours(early cholecystectomy within 72 hours reduces disease duration, duration of hospitalization, & cholecystitis associated mortality when compared to delayed cholecystectomy). Laparoscopic cholecystectomy is the procedure of choice Percutaneous transhepatic gallbladder drainage is used to decompress the gallbladder in pts who are unstable or have a contraindication to surgery
4930	Surgery	Gastrointestinal & Nutrition	Pts w/ *blunt abdominal trauma* should undergo initial evaluation by focused assessment w/ sonography for trauma(FAST) to evaluate for *intraperitoneal hemorrhage*. Positive findings on FAST require emergent exploratory laparotomy
12142	Surgery	Gastrointestinal & Nutrition	Perforated viscus:presents w/ severe ab pain,fever,tachycardia,& signs of peritonitis(guarding,rigidity,reduced bowel sounds,rebound tenderness).Can occur in the setting of 'peptic ulcer disease',which is often ass. w/ 'NSAID & alcohol use'[positive stool guaiac test raises suspicion for peptic ulcer disease as the cause of perforation].Dx of GI perforation confirmed w/ *upright xray of chest & abdomen* showing free intraperitoneal air under diaphragm(pneumoperitoneum)
3213	Surgery	General Principles	*Glasgow coma scale assesses the pt's ability to open his/her eyes, motor response, & verbal response* Exaggerated deep tendon reflexes can be seen in locked-in syndrome
3221	Surgery	General Principles	Any penetrating wound below the 4th intercostal space(ie, level of the nipples) is considered to involve the abdomen & requires an exploratory laparotomy in unstable pts Diagnostic peritoneal lavage is done in hemodynamically unstable pts w/ blunt abdominal trauma & inconclusive FAST examination FAST can be done in a few minutes on all pts & has high sensitivity & specificity for detecting hemoperitoneum, pericardial effusion, & intraperitoneal fluid
3222	Surgery	General Principles	Hypotension not responsive to fluid administration following trauma is suggestive of ongoing occult blood loss. Pts in this scenario must be treated emergently w/ *surgical intervention* to stop further hemorrhage Intraabdominal hemorrhage: pt will have abdominal distention, absent bowel sounds & abdominal bruising
3227	Surgery	General Principles	Orotracheal intubation preferred for establishing an airway(unless pt has significant facial trauma) in an apneic pt w/ a cervical spine injury Laryngeal mask placement is a temporary measure Nasotracheal intubation is contraindicated in apneic/hypopneic pts and pts w/ basilar skull fractures(periauricular hematomas, raccoon eyes) Needle cricothyroidotomy not ideal for pts w/ head injury due to CO2 retention Tracheostomy no longer a 1st option for establishing an airway
3420	Surgery	General Principles	All hemodynamically unstable pts(low systolic bp,obtunded mental status,abdominal distention) w/ sharp penetrating abdominal trauma & gunshot wounds must be treated w/ emergent *exploratory laparotomy*. Don't delay exploratory laparotomy for imaging procedures in these pts! Laparoscopy used in assessing hemodynamically stable pts who have suffered penetrating abdominal trauma in which injury to a hollow viscus or other organ can't be readily determined clinically

3464	Surgery	General Principles	Coagulase negative staphylococci(S.epidermidis) causes nosocomial bloodstream infections in pts w/ intravascular devices
			Febrile nonhemolytic reaction:cytokine accumulation during blood storage
			Acute hemolytic reaction: pink plasma
			Delayed hemolytic r: anamnestic antibody response
			Anaphylactic r: recipient anti-IgA antibodies
3503	Surgery	General Principles	Transfusion related acute lung injury: in 6 hours of transfusion, anti-leukocyte antibodies, resp distress, sx of noncardiogenic pulm. edema
			Persistent pneumothorax & significant air leak following chest tube placement in a pt who has sustained blunt chest trauma suggests tracheo*bronchial* rupture. Other findings include pneumomediastinum & subcutaneous emphysema
			Tension pneumothorax management: emergency needle thoracostomy in the 2nd intercostal space in the mid-clavicular line
			In case of amputation injury, amputated parts should be wrapped in saline moistened gauze, sealed in a plastic bag, placed on ice & brought to the emergency department w/ the pt
			A change in the *pulse rate* is the first indicator of hypovolemia.
4207	Surgery	General Principles	When hemorrhage occurs, tachycardia & peripheral vascular constriction are the first physiological changes
4292	Surgery	General Principles	Splenic trauma pts: if pt initially unstable and improves w/ fluids, do CT if pt initially unstable and unresponsive to fluids, do emergent exploratory laparotomy better to repair spleen rather than remove it
			For hemodynamically unstable pts (collapsed neck veins & hypotension) in whom blunt abdominal trauma is suspected, fluid resuscitation should be initiated, followed by ultrasound examination. If ultrasound reveals intraperitoneal blood, the pt should then undergo urgent *laparotomy* for surgical repair
			Hemodynamically stable pt w/ intraperitoneal blood identified on ultrasound should undergo CT scan of the abdomen w/ contrast. CT scan helps identify site of injury
			Intraabdominal pathology causing pain in one or both shoulders suggests subdiaphragmatic peritonitis. Among the possible blunt traumatic bladder injuries, only an intraperitoneal rupture of the *bladder dome* could, by itself, cause a chemical peritonitis.
			Nonseminomatous germ cell tumor can also present as a *mixed germ cell tumor* so it'll have the usual elevated AFP and elevated B-HCG
2590	Surgery	Hematology & Oncology	Seminomas have elevated B-HCG but AFP is normal
4493	Surgery	Hematology & Oncology	Major surgery is a risk factor for DVT. Pts should be tx w/ a *heparin* product acutely & warfarin for several months. The goal of therapy is to prevent extension of the clot & development of future clots rather than lysis of the present clot. Anticoagulation can begin as early as 48-72 hours after surgery.
			Aspirin is a platelet inhibitor & doesn't modify the coagulation cascade
			Streptokinase & TPA are clot-lysing enzymes used to tx ST elevation MIs & thrombotic strokes
			Necrotizing fasciitis: A rapidly spreading infection involving the subcutaneous fascia, generally following trauma. Sx-fever, hypotension, erythema, swelling, pain out of proportion to physical exam finding. Tx-surgical debridement & broad-spectrum antibiotics
			Pyomyositis (muscle abscess): fever, erythema, swelling, pain. Limited to one muscle group, doesn't spread rapidly
2749	Surgery	Infectious Diseases	Thrombophlebitis: erythema, tenderness, swelling of distal extremity w/ palpable "cord-like" vein
4102	Surgery	Infectious Diseases	Necrotizing surgical infections: common in pts w/ diabetes. Polymicrobial. Characterized by intense pain in the wound, decreased sensitivity at the edges of the wound, cloudy-gray discharge, & sometimes crepitus. Early *surgical exploration* is essential
			Febrile nonhemolytic transfusion reaction can occur within 1-6 hours of transfusion & can cause immediate postoperative fever in pts receiving blood during or after surgery
			Risk of infection due to indwelling urinary catheters & central venous catheters increases w/ duration of catheterization. Fever & infection develop later in the 1st week after surgery
			Drug fever occurs 1-2 weeks after medication administration. Accompanied by rash & peripheral eosinophilia
			Acute bacterial parotitis: presents w/ painful *swelling of the parotid gland* that is aggravated by chewing. High fever & a tender, swollen & erythematous parotid gland are common. This post-operative complication *can be prevented w/ adequate fluid hydration & oral hygiene*. The most common infectious agent is Staphylococcus aureus
4544	Surgery	Infectious Diseases	

9111	Surgery	Infectious Diseases	Delayed-onset prosthetic joint infection(>3 months after primary arthroplasty) -> S.epidermidis
			Early-onset prosthetic joint infection(within 3 months of primary arthroplasty) -> P.aeruginosa & S.aureus C. trachomatis & Salmonella species can be ass. w/ reactive arthritis following an initial genitourinary or GI infection. Sx-arthritis w/ urethritis/enteritis & conjunctivitis
3352	Surgery	Male Reproductive System	Penile fracture: First do *retrograde urethrogram* to rule out a urethral injury. Then do Surgery. Circumcision:tx of choice for phimosis,paraphimosis & Zoon's balanitis. Also ass. w/ lower risk of squamous cell carcinoma
4525	Surgery	Male Reproductive System	Varicoceles:tortuous *dilation of the pampiniform venous plexus*.Left-sided scrotal mass("bag of worms") that worsens w/ standing & Valsalva maneuvers but regresses when pt is supine Spermatocele:painless fluid-filled cyst of head of epididymis,located on superior pole of testis,contains nonviable sperm,mass outside of testis that doesn't change w/ position
3226	Surgery	Nervous System	Femoral hernias:more common in older women.Dx uncommon in men compared to varicocele short term hyperventilation helps lower increased intracranial pressure by causing cerebral washout of CO2, leading to vasoconstriction and decreased cerebral blood flow
3297	Surgery	Nervous System	Acute epidural hematoma:unconsciousness followed by a lucid interval followed by a gradual deterioration of consciousness. Head CT scan shows a biconvex hematoma(look at pic) Acute subdural hematoma:head trauma causing tearing of the bridging veins.Head CT shows semilunar hematoma that crosses the suture lines Concussion ass. w/ confusion/amnesia Diffuse axonal injury is due to traumatic acceleration/deceleration shearing forces that diffusely damage axons in brain
4204	Surgery	Nervous System	Anterior spinal cord infarction is a potential complication of thoracic aortic aneurysm surgery.Sx-spinal shock(abrupt onset of bilateral flaccid paralysis & loss of pain/temperature sensation below the level of spinal injury).Upper motor neuron signs(spasticity & hyperreflexia) develop over days to weeks.Vibration/proprioception preserved Ischemic stroke due to right carotid artery atherosclerosis: abrupt onset of contralateral neurologic deficits(not bilateral deficits!)
4293	Surgery	Nervous System	Femoral nerve: innervates muscles of anterior compartment of the thigh. It's responsible for knee extension & hip flexion. Provides sensation to anterior thigh & medial leg via saphenous branch
4552	Surgery	Nervous System	Transtentorial herniation of the parahippocampal uncus can occur during head trauma & leads to ipsilateral hemiparesis, ipsilateral mydriasis & strabismus, contralateral hemianopsia, & altered mentation.[The uncus is the innermost part of the temporal lobe & herniates thru the tentorium to cause pressure on the ipsilateral *oculomotor nerve*, ipsilateral posterior cerebral artery, & contralateral cerebral peduncle against the edge of the tentorium]
4599	Surgery	Nervous System	Parotid surgery involving the deep lobe of the parotid gland carries a significant risk of facial nerve palsy resulting in facial droop Jaw asymmetry can result from unilateral paralysis of the muscles of mastication, which are innervated by the mandibular division of the trigeminal nerve V3 Strabismus(improper alignment of the eyes) can result from disorders of the extraocular muscles or of the nerves that innervate them (CN III, IV, or VI). Brainstem lesion are responsible
4604	Surgery	Nervous System	Anterior shoulder dislocation: acute shoulder pain after forceful abduction & external rotation at the glenohumeral joint. May cause injury to *axillary nerve* or artery Radial nerve injury can be due to use of improperly fitted crutches
4605	Surgery	Nervous System	In a pt w/ a shoulder injury,a positive drop arm sign suggests rotator cuff tear.In the drop arm test,pt's arm is abducted to greater than 90 degrees,& pt is then asked to lower the arm slowly.With a complete rotator cuff tear,pt will be unable to lower the arm smoothly & it will appear to drop rapidly from near the 90 degree position Injury to inferior trunk of the brachial plexus: Klumpke's palsy. Weakness/atrophy of hypothenar & interosseous muscles. "Claw hand"
4698	Surgery	Nervous System	Cervical spondylosis: etiology- disc degeneration in pts > 40 years old sx- neck pain & stiffness. Pt can develop spinal stenosis, resulting in neurologic deficits
4923	Surgery	Nervous System	Epidural hematoma: ass. w/ lucid interval followed by rapid neurological deterioration. Biconvex mass on CT of head(google image). Pts w/ deteriorating neurological status or increased ICP require an *emergent craniotomy*
11997	Surgery	Nervous System	The presence of an extra axial, well circumscribed, dural based mass that is partially calcified on neuroimaging is strongly suggestive of a meningioma. Meningiomas are benign primary brain tumors; however, they can present w/ headache, seizure, & focal neurologic deficits due to mass effect. In such cases, *complete surgical resection* is recommended

3395	Surgery	Poisoning & Environmental Exposure	When circumferential full-thickness burns involving the extremities or chest are present, an *escharotomy* may be necessary to prevent vascular compromise & respiratory difficulty, respectively.
3398	Surgery	Poisoning & Environmental Exposure	Escharotomy is indicated for circumferential full-thickness burns of an extremity w/ an eschar causing significant edema & constriction of the vascular supply & decreased peripheral pulses. Pts should be evaluated for clinical signs of adequate perfusion after escharotomy, & fasciotomy should be performed if there is no sign of relief Fasciotomy involves incision thru all fascial layers & is the tx for compartment syn. Escharotomy involves incision of only eschar layer
2812	Surgery	Pulmonary & Critical Care	The most important steps in the management of lactic acidosis from septic shock are IV normal saline(IV 0.9% saline) with or without vasopressor therapy to maintain the intravascular pressure & antibiotics to correct the underlying infection
3216	Surgery	Pulmonary & Critical Care	Tension pneumothorax: can occur as a complication of subclavian central venous catheter placement. This condition develops when injured tissue forms a one-way valve allowing air to enter the pleural space but preventing it from escaping naturally. Sx-rapid onset severe shortness of breath, tachycardia, tachypnea, hypotension, & distention of the neck veins due to SVC compression. Tx-*Needle thoracostomy* to decompress pleural cavity
3220	Surgery	Pulmonary & Critical Care	Pain relief should be the prime objective in the management of rib fracture as it will allow proper ventilation & prevent atelectasis & pneumonia. Opiates and NSAIDS are commonly utilized, but an intercostal nerve block w/ a long acting local anesthetic can also be used.
3731	Surgery	Pulmonary & Critical Care	Diaphragmatic rupture should be suspected in pts w/ hx of blunt trauma/motor vehicle accident, abnormal CXR, left lower lung opacity, elevated hemidiaphragm, & mediastinal deviation. Children can have a delayed presentation w/ expansion of the diaphragmatic defect & herniation of abdominal organs. *Chest CT can confirm the dx* in pts w/ suggestive CXR findings
4145	Surgery	Pulmonary & Critical Care	*Pulmonary contusion* is common after high-speed car accidents. Sx usually develop in the first 24 hours & a *patchy alveolar infiltrate* on CXR is typical
4229	Surgery	Pulmonary & Critical Care	Diaphragmatic rupture: more common on the left side(right side protected by the liver). Pts have respiratory distress & can have deviation of the mediastinal contents to the opposite side. Elevation of the hemidiaphragm on chest x-ray is the only abnormal finding. Chest x-ray showing a nasogastric tube in the pulmonary cavity is diagnostic Aortic rupture:can result in instantaneous death. Rarely can get profound hypotension. Cxr shows widened mediastinum
4537	Surgery	Pulmonary & Critical Care	Severe blunt chest trauma causes injury to pulmonary parenchyma & pulmonary contusions.Dyspnea,tachypnea,chest pain,hypoxemia worsened by intravascular volume expansion & patchy irregular alveolar infiltrates on CXR Myocardial contusion:arrhythmia,heart failure,chest pain.Cardiac rupture is an uncommon manifestation.PCWP increased Aortic rupture:mediastinal widening,left main bronchus depression,displacement of trachea/esophagus to right,obliteration of aortic knob shadow
4538	Surgery	Pulmonary & Critical Care	Tension pneumothorax: sx- tachypnea, tachycardia, distended neck veins, & tracheal deviation tx- needle thoracostomy
4539	Surgery	Pulmonary & Critical Care	After blunt chest trauma, hemorrhagic shock ass. w/ decreased breath sounds & dullness to percussion over one hemithorax & contralateral tracheal deviation is most likely due to a large ipsilateral *hemothorax* Tracheobronchial tear:dyspnea, hemoptysis, subcutaneous emphysema, Hamman sign(audible crepitus on cardiac auscultation) & sternal tenderness
4545	Surgery	Pulmonary & Critical Care	Risk factors for postoperative pneumonia: smoking, preexisting pulmonary disease, age >50, thoracic or abdominal surgery, surgery lasting >3 hours, poor general health eg. CAD, diabetes, htn. Tx- Spirometry is very effective in decreasing risk of pneumonia since it encourages lung expansion! 1st line tx! Prophylactic antibiotic use prior to surgery is only used for pts w/ preexisting respiratory infection. Using it in pts w/o respiratory infection DOES NOT improve outcomes
4559	Surgery	Pulmonary & Critical Care	Flail chest should be suspected in pts w/ multiple rib fractures & respiratory distress. CXR shows multiple rib fractures overlying a lung contusion(google CXR image for flail chest!) Diaphragmatic tear: herniation of abdominal contents into the left pleural space
4597	Surgery	Pulmonary & Critical Care	In burn victims w/ signs of thermal inhalation injury to the upper airway and/or smoke inhalation injury to the lungs, early *intubation* is required in order to prevent upper airway obstruction by edema
4600	Surgery	Pulmonary & Critical Care	Elevation of the head of the bed(moving from supine to sitting) can increase functional residual lung capacity(FRC) by 20% to 35%. Increasing the FRC can help prevent postoperative atelectasis. Respiratory quotient close to 1= carbohydrate is the major nutrient being oxidized
4606	Surgery	Pulmonary & Critical Care	Respiratory quotient of .8= protein Respiratory quotient of .7= lipid
4695	Surgery	Pulmonary & Critical Care	Atelectasis is a common postoperative complication(usually following abdominal or thoracoabdominal surgery) that results from *shallow breathing and weak cough* due to pain

4931	Surgery	Pulmonary & Critical Care	Atelectasis is one of the most common postoperative pulmonary complications & is usually due to airway obstruction from retained airway secretions, decreased lung compliance, postoperative pain, & medications that interfere w/ deep breathing. Arterial blood gas levels typically show hypoxemia, hypocapnia, & respiratory alkalosis
4932	Surgery	Pulmonary & Critical Care	Preoperative pt education & a program of inspiratory muscle training(*breath exercises*, forced expiration techniques, incentive spirometry) should be conducted to prevent postoperative atelectasis. Postoperative breathing exercises & incentive spirometry are also effective in reducing the risk of pulmonary complications Smoking cessation reduces risk of postoperative pulmonary complications. Have to quit smoking at least 8 weeks prior to surgery
4936	Surgery	Pulmonary & Critical Care	Pts w/ hemoptysis & high clinical suspicion for pulmonary tb should be placed in respiratory isolation Bronchoscopy should be performed to directly visualize & control the site of bleeding in pts w/ massive hemoptysis Endotracheal intubation should be performed to protect airway in pts w/ hemoptysis who are hemodynamically unstable or have poor gas exchange, severe dyspnea, or massive hemoptysis
4937	Surgery	Pulmonary & Critical Care	Pt w/ massive hemoptysis: Greatest danger is asphyxiation due to the airway flooding w/ blood. Pt should be placed w/ the bleeding lung in the dependent position (lateral position) to avoid blood collection in the airways of the opposite lung. Bronchoscopy is initial procedure of choice. Pulmonary arteriography is performed when initial bronchoscopy is unable to localize the source. Urgent thoracotomy/surgical intervention is used for pts who bleed despite bronchoscopy
3348	Surgery	Renal, Urinary Systems & Electrolytes	Posterior urethral injury: ass w/ pelvic fractures. Blood at urethral meatus, high riding prostate, scrotal hematoma, inability to void despite sensing an urge to void, palpably distended bladder
3349	Surgery	Renal, Urinary Systems & Electrolytes	A *retrograde urethrogram* should be the first step in management of a suspected urethral injury. [Foley catheterization in the presence of a urethral injury will predispose the pt to abscess formation & worsening of the urethral damage] Retrograde cystogram w/ post void films is used for dx of bladder injury Most cases of urethral injury are tx w/ urinary diversion via a suprapubic catheter while the primary injury & ass hematomas are allowed to heal
3784	Surgery	Renal, Urinary Systems & Electrolytes	In pts w/ traumatic spinal cord injuries, urinary catheter placement can assess for urinary retention & prevent acute bladder distension & damage(we suspect spinal cord injury if pt has sx like weakness & decreased pain sensation in both of their legs) IV atropine/external pacing used for symptomatic bradycardia IV cefazolin commonly used for antimicrobial prophylaxis before surgery to prevent wound infections
4607	Surgery	Renal, Urinary Systems & Electrolytes	Oliguria, azotemia, elevated BUN/creatinine ratio of >20:1 in post-operative state indicates acute pre-renal failure from hypovolemia, though urinary catheter obstruction should first be ruled out. The next step in the dx/management of acute renal failure manifesting as oliguria or anuria is an *IV fluid challenge* Low-dose dopamine infusion dilates renal arterioles, thereby increasing GFR & urine output IV pyelogram dx renal calculi, genitourinary neoplasms, & papillary necrosis
4751	Surgery	Renal, Urinary Systems & Electrolytes	Initial hematuria suggests urethral damage. Terminal hematuria(urine turning red by the end of the stream) indicates *bladder* or prostatic damage. Total hematuria reflects damage in the kidney or ureters.[Clots aren't usually seen w/ renal causes of hematuria]
3168	Surgery	Rheumatology/Orthopedics & Sports	Adhesive capsulitis(frozen shoulder): characterized by pain & contracture. Inability to lift arm above head. Even after injection of lidocaine, the arm still can't be lifted above head due to fibrosis of the shoulder capsule Thoracic outlet syndrome: vascular compression may occur, presents w/ combo of numbness, weakness & swelling due to compression of subclavian vessels & lower trunk of brachial plexus. Weakened radial pulse & reproduction of sx w/ specific arm movements
3302	Surgery	Rheumatology/Orthopedics & Sports	Fat embolism:dyspnea, confusion, petechiae in upper part of body. Occurs after multiple fractures of long bones. Dx can be confirmed by presence of fat droplets in urine or presence of intra-arterial fat globules on fundoscopy Air embolism can occur in a trauma pt who is on a respirator. It can also occur w/ subclavian vein access. It can result in sudden collapse & cardiac arrest
3413	Surgery	Rheumatology/Orthopedics & Sports	The Radial nerve is the most commonly injured nerve in ass. w/ fracture of the *midshaft* of the humerus. Radial nerve passes thru radial groove, which is on the posterior surface of the humerus Brachial artery is commonly injured in supra condylar fracture of humerus, commonly seen in children
3415	Surgery	Rheumatology/Orthopedics & Sports	*Wrist immobilization* is recommended in the tx of all nondisplaced scaphoid fractures. Scaphoid fractures-tenderness in anatomic snuffbox hints at scaphoid fracture, xrays can be normal or show fine radiolucent lines(in nondisplaced scaphoid fractures) Rest, ice, compression, & elevation (RICE tx) are the tx for a minor ligament sprain but not for a fracture

3463	Surgery	Rheumatology/Orthopedics & Sports	Compartment syndrome: Common-pain out of proportion to injury, pain increased on passive stretch, rapidly increasing & tense swelling, paresthesia/pins & needles sensation (early) Uncommon-decreased sensation, motor weakness (within hours), paralysis (late), decreased distal pulses (uncommon) If index of suspicion high, compartment pressures must be measured immediately. Fasciotomy is tx of choice.
3556	Surgery	Rheumatology/Orthopedics & Sports	Supracondylar fractures:Due to fall on outstretched hand.Radial & brachial pulses must be assessed before & after reduction as *brachial artery* can be impinged.Also risk of median nerve injury Axillary nerve injured during proximal humerus fractures Brachial plexus injury:complication of neonatal clavicle fracture or high-impact trauma to neck/shoulder Ischemia/infarct from compartment syn->Volkmann contracture Supracondylar fractures of humerus->cubitus varus deformity
3557	Surgery	Rheumatology/Orthopedics & Sports	All pts w/ a clavicular fracture should have a careful neurovascular examination to rule out injury to the underlying brachial plexus & subclavian artery. If bruit heard beneath the clavicle on auscultation, an *angiogram* will be necessary to rule out injury to the underlying vessel Fractures of middle third of clavicle:account for most clavicular fractures. Tx- nonoperatively w/ brace, rest & ice Fractures of distal third of clavicle:tx- open reduction & internal fixation
3562	Surgery	Rheumatology/Orthopedics & Sports	Pts w/ clinical signs of a scaphoid fracture following an injury likely to cause such a fracture should be presumed to have the fracture & have an initial x-ray. If the x-ray is negative, the next step is thumb immobilization in a spica cast & repeated x-rays in 7-10 days
3564	Surgery	Rheumatology/Orthopedics & Sports	Older pts w/ hip fracture should undergo definitive surgical correction as soon as reasonably possible. However, surgery may be delayed up to 72 hours to evaluate surgical risk & ensure medical stability
3566	Surgery	Rheumatology/Orthopedics & Sports	Stress fractures occur in the anterior part of the middle third of the tibia in pts involved in jumping sports(ballet dancers) & the posteromedial part of the distal third of the tibia in runners
3569	Surgery	Rheumatology/Orthopedics & Sports	MRI is the investigation of choice for assessment of soft tissue injuries of the knee. Arthroscopy is invasive. It's only used when MRI is inconclusive or surgical tx of lesion is necessary
3572	Surgery	Rheumatology/Orthopedics & Sports	Medial meniscus: more commonly injured than lateral meniscus, pt complain of popping sound & severe pain at time of injury, effusion not clinically apparent for many hours following injury. McMurray's sign(indicative of medial meniscus tear) is an audible snap occurring while slowly extending the leg at the knee from full flexion while simultaneously applying tibial torsion ACL tear: Effusion seen rapidly following injury
4250	Surgery	Rheumatology/Orthopedics & Sports	Meniscal injury: commonly caused by twisting injury, swelling & pain gradually occurs within 24 hours after injury, knee worse w/ twisting movements, occasionally causes a popping sensation. Do *MRI* if sx are persistent. Surgery (arthroscopic or open) often necessary to correct problem Intraarticular steroid injections can be used in pts w/ secondary meniscal injury due to degenerative joint disease
4485	Surgery	Rheumatology/Orthopedics & Sports	Stress (hairline) fractures of the metatarsals are common in athletes & military recruits. Second metatarsal is most commonly injured. Tx w/ rest, analgesia & a hard-soled shoe Surgical intervention reserved for fractures of the fifth metatarsal, such as Jones fractures, or for displaced fractures not amenable to closed reduction
4546	Surgery	Rheumatology/Orthopedics & Sports	*Trochanteric bursitis*: Can occur in a middle aged adult. Superficial unilateral hip pain that is exacerbated by external pressure to the upper lateral thigh (as when lying on the affected side in bed)
4554	Surgery	Rheumatology/Orthopedics & Sports	Meniscal tears in knee joint:pt can recall when it occurred, popping sensation, joint swelling develops gradually and noticed the next day Ligamentous tears:also ass. w/ popping sensation but cause rapid joint swelling due to hemarthrosis Stress fractures are due to repeated stress eg. in long distance runners.Tibia & fibula most vulnerable Anserine bursitis causes tenderness over medial aspect of knee,affects athletes & obese middle aged to elderly women. No pop reported
11976	Surgery	Rheumatology/Orthopedics & Sports	Prepatellar bursitis(housemaid's knee) is characterized by anterior knee pain, tenderness, erythema, & localized swelling, & is common in occupations requiring repetitive kneeling(concrete work,carpet laying,plumbing). It's often due to Staphylococcus aureus, which can infect the bursa via penetrating trauma, repetitive friction, or extension from local cellulitis. If gram stain/culture are negative, manage w/ activity modification & NSAIDs. Otherwise tx w/ drainage & Abx