

# Data collected and Edited by Dr. Shahid

## Med-Student's Amnesia

A transient selective loss of memory during an exam that prevents one from remembering the eponymically-named diseases discovered by old, dead doctors.

Addison's Disease	1. Primary adrenocortical deficiency
Addisonian Anemia	2. Pernicious anemia (antibodies to intrinsic factor or parietal cells → ↓IF → ↓Vit B <sub>12</sub> → megaloblastic anemia)
Albright's Syndrome	3. Polyostotic fibrous dysplasia, precocious puberty, café au lait spots, short stature, young girls
Alport's Syndrome	4. Hereditary nephritis with nerve deafness
Alzheimer's	5. Progressive dementia
Argyll-Robertson Pupil	6. Loss of light reflex constriction (contralateral or bilateral) 7. "Prostitute's Eye" - accommodates but does not react 8. Pathognomonic for 3° Syphilis 9. Lesion pretectal region of superior colliculus
Arnold-Chiari Malformation	10. Cerebellar tonsil herniation through foramen magnum = see thoracolumbar meningocele
Barrett's	11. Columnar metaplasia of lower esophagus (↑ risk of adenocarcinoma) - constant gastroesophageal reflux
Bartter's Syndrome	12. Hyperreninemia
Becker's Muscular Dystrophy	13. Similar to Duchenne, but less severe (mutation, not a deficiency, in dystrophin protein)
Bell's Palsy	14. CN VII palsy (entire face; recall that UMN lesion only affects lower face)
Berger's Disease	15. IgA nephropathy causing hematuria in kids, usually following infection
Bernard-Soulier Disease	16. Defect in platelet <i>adhesion</i> (abnormally large platelets & lack of platelet - surface glycoprotein)
Berry Aneurysm	17. Circle of Willis (subarachnoid bleed) Anterior Communicating artery 18. Often associated with ADPKD
Bowen's Disease	19. Carcinoma in situ on <b>shaft</b> of penis (↑ risk of visceral ca) [compare w/ Queyrat]
Brill-Zinsser Disease	20. Recurrences of rickettsia prowazaki up to 50 yrs later
Briquet's Syndrome	21. Somatization disorder 22. Psychological: multiple physical complaints without physical pathology
Broca's Aphasia	23. Motor Aphasia (area 44 & 45) intact comprehension
Brown-Sequard	24. Hemisection of cord (contralateral loss of pain & temp / ipsilateral loss of fine touch, UMN / ipsi loss of consc. Proprio)
Bruton's Disease	25. X-linked agammaglobinemia (↓ B cells)
Budd-Chiari	26. Post-hepatic venous thrombosis = ab pain; hepatomegaly; ascites; portal HTN; liver failure
Buerger's Disease	27. Acute inflammation of medium and small arteries of extremities → painful ischemia → gangrene 28. Seen almost exclusively in young and middle-aged men who smoke.
Burkitt's Lymphoma	29. <b>Small noncleaved cell lymphoma</b> EBV 30. 8:14 translocation 31. Seen commonly in jaws, abdomen, retroperitoneal soft tissues 32. Starry sky appearance
Caisson Disease	33. Nitric gas emboli
Chagas' Disease	34. Trypanosoma infection - cardiomegaly with apical atrophy, achlasia
Chediak-Higashi Disease	35. (AR) Phagocyte Deficiency = defect in microtubule polymerization 36. Neutropenia, albinism, cranial & peripheral neuropathy & repeated infections w/ strep & staph
Conn's Syndrome	37. Primary <b>Aldosteronism</b> : HTN; retain Na <sup>+</sup> & H <sub>2</sub> O; hypokalemia (causing alkalosis); ↓ renin
Cori's Disease	38. Type III Glycogenosis - Glycogen storage disease (debranching enz: amylo 1,6 glucosidase def. ↑ Glycogen)
Creutzfeldt-Jakob	39. Prion infection → cerebellar & cerebral degeneration

Crigler -Najjar Syndrome	40. Congenital hyperbilirubinemia (unconjugated) 41. Glucuronyl transferase deficiency. Can progress to Kernicterus 42. Less severe form will respond to Phenobarbital therapy
Crohn's	43. IBD; ileocecum, transmural, skip lesions, cobblestones, lymphocytic infiltrate, granulomas 44. (contrast to UC: limited to colon, mucosa & submucosa, crypt abscesses, pseudopolyps, ↑ colon cancer risk) 45. Clinically: ab pain & diarrhea; fever; malabsorption; fistulae b/t intestinal loops & abd structures
Curling's Ulcer	46. Acute gastric ulcer associated with severe burns
Cushing's	47. Disease: <b>Hypercorticism</b> 2° to ↑ ACTH from pituitary (basophilic adenoma) 48. Syndrome: hypercorticism of all other causes (1° adrenal or ectopic) 49. - moon face; buffalo hump; purple striae; hirsutism; HTN; hyperglycemia
Cushing's Ulcer	50. Acute gastric ulcer associated with CNS trauma
de Quervain's Thyroiditis	51. Self-limiting focal destruction (subacute thyroiditis)
DiGeorge's Syndrome	52. Failure of 3 <sup>rd</sup> & 4 <sup>th</sup> pharyngeal pouches formation: Thymus & Parathyroid 53. Thymic hypoplasia → T-cell deficiency 54. Hypoparathyroidism → Tetany
Down's Syndrome	55. Trisomy 21 or translocation – Simian Crease
Dressler's Syndrome	56. Post-MI Fibrinous Pericarditis autoimmune
Dubin-Johnson Syndrome	57. Congenital hyperbilirubinemia ( <u>conjugated</u> ) = bilirubin transport is defective not conjugation 58. Striking brown-to-black discoloration of the liver
Duchenne Muscular Dystrophy	59. Deficiency of dystrophin protein → MD X-linked recessive
Edwards' Syndrome	60. Trisomy 18 61. <b>Rocker-bottom feet</b> , low ears, small lower jaw, heart disease
Ehler's-Danlos	62. Defective collagen
Eisenmenger's Complex	63. Late cyanotic shunt (R→L) pulmonary HTN & RVH 2° to long-standing VSD, ASD, or PDA
Erb-Duchenne Palsy	64. Trauma to superior trunk of brachial plexus Walter's Tip
Ewing Sarcoma	65. Malignant undifferentiated round cell tumor of bone in boys <15yoa - t11;22
Erythroplasia of Queyrat	66. Carcinoma in situ on <b>glans</b> penis
Fanconi's Syndrome	67. Impaired proximal tubular reabsorption 2° to lead poisoning or Tetracycline (glycosuria, hyperphosphaturia, aminoaciduria, systemic acidosis)
Felty's Syndrome	68. Rheumatoid arthritis, neutropenia, splenomegaly
Gardner's Syndrome	69. AD = adenomatous polyps of colon, osteomas & soft tissue tumors
Gaucher's Disease	70. Lysosomal Storage Disease glucocerebrosidase deficiency – glucocerebroside accumulation 71. Hepatosplenomegaly, femoral head & long bone erosion, anemia
Gilbert's Syndrome	72. Benign congenital hyperbilirubinemia (unconjugated) = ↓d glucuronyl transferase activity
Glanzmann's Thrombasthenia	73. Defective glycoproteins on platelets = deficient platelet <i>aggregation</i>
Goodpasture's	74. Autoimmune: ab's to glomerular & alveolar basement membranes. Seen in men in their 20's
Grave's Disease	75. Autoimmune hyperthyroidism (TSI): IgG Ab reactive w/ TSH receptors. Low TSH & TRH – High T3 / T4
Guillain-Barre	76. Polyneuritis following viral infection/ autoimmune (ascending muscle weakness & paralysis; usually self-limiting)
Hamman-Rich Syndrome	77. Idiopathic pulmonary fibrosis. Can see honey comb lung.
Hand-Schuller-Christian	78. Chronic progressive histiocytosis
Hashimoto's Thyroiditis	79. Autoimmune hypothyroidism. May have transient hyperthyroidism. Low T3 /T4 & High TSH
Hashitoxicosis	80. Initial hyperthyroidism in Hashimoto's Thyroiditis that precedes hypothyroidism
Henoch-Schonlein purpura	81. Hypersensitivity vasculitis = allergic purpura. Lesions have the same age. 82. Hemorrhagic urticaria (with fever, arthralgias, GI & renal involvement) 83. Associated with upper respiratory infections
Hirschprung's Disease	84. Aganglionic megacolon
Horner's Syndrome	85. Ptosis, miosis, anhidrosis (lesion of cervical sympathetic nerves often 2° to a Pancoast tumor)
Huntington's (Chromosome 4)	86. AD: Progressive degeneration of caudate nucleus, putamen (striatum) & frontal cortex ↓ GABA
Jacksonian Seizures	87. Epileptic events originating in the primary motor cortex (area 4)
Job's Syndrome	1. Immune deficiency: neutrophils fail to respond to chemotactic stimuli 2. Defective neutrophilic chemotactic response = repeated infections 3. Commonly seen in light-skinned, red-haired girls 88. ↑d IgE levels
Kaposi Sarcoma	89. Malignant vascular tumor (HHV8 in homosexual men)
Kartagener's Syndrome	90. Immotile cilia 2° to defective dynein arms infection, situs inversus, sterility
Kawasaki Disease	91. Mucocutaneous lymph node syndrome in kids (acute necrotizing vasculitis of lips, oral mucosa)

Klinefelter's Syndrome	92. 47, XXY: Long arms, Sterile, Hypogonadism
Kluver -Bucy	93. Bilateral lesions of amygdala (hypersexuality; oral behavior)
Krukenberg Tumor	94. Adenocarcinoma with signet-ring cells (typically originating from the stomach) metastases to 95. the ovaries
Laennec's Cirrhosis	96. Alcoholic cirrhosis
Lesch-Nyhan	97. HGPRT deficiency 98. Gout, retardation, self-mutilation
Letterer -Siwe	99. Acute disseminated Langerhans' cell histiocytosis
Libman-Sacks	100. Endocarditis with small vegetations on valve leaflets 101. Associated with SLE
Lou Gehrig's	102. Amyotrophic Lateral Sclerosis degeneration of upper & lower motor neurons
Mallory-Weis Syndrome	103. Bleeding from esophagogastric lacerations 2° to writhing (alcoholics)
Marfan's	104. Connective tissue defect: defective Fibrillin gene Dissecting aortic aneurysm, subluxation of lenses
McArdle's Disease	105. Type V Glycogenosis - Glycogen storage disease (muscle phosphorylase deficiency = ↑ Glycogen)
Meckel's Diverticulum	106. Rule of 2's: 2 inches long, 2 feet from the ileocecum, in 2% of the population 107. Embryonic duct origin; may have ectopic tissue: gastric/pancreatic remnant of vitelline duct/yolk stalk
Meig's Syndrome	108. Triad: ovarian fibroma, ascites, hydrothorax – associated w/ fibroma of ovaries
Menetrier's Disease	109. Giant hypertrophic gastritis (enlarged rugae; plasma protein loss)
Monckeberg's Arteriosclerosis	110. Calcification of the media (usually radial & ulnar aa.)
Munchausen Syndrome	111. Factitious disorder (consciously creates symptoms, but doesn't know why)
Nelson's Syndrome	112. 1° Adrenal Cushing's → surgical removal of adrenals → loss of negative feedback to pituitary → Pituitary Adenoma
Niemann-Pick	113. Lysosomal Storage Disease (sphingomyelinase deficiency – sphingomyelin accumulation) 114. "Foamy histiocytes"
Osler -Weber-Rendu Syndrome	115. Hereditary Hemorrhagic Telangiectasia. Seen in the Mormon's of Utah.
Paget's Disease	116. Abnormal bone architecture (thickened, numerous fractures → pain)
Pancoast Tumor	117. Bronchogenic tumor with superior sulcus involvement → Horner's Syndrome
Parkinson's	118. Dopamine depletion in nigrostriatal tracts
Peutz-Jegher's Syndrome (AD)	119. Melanin pigmentation of lips, mouth, hand, genitalia + hamartomatous polyps of small intestine
Peyronie's Disease	120. Subcutaneous fibrosis of dorsum of penis
Pick's Disease – 2 Different Diseases -	121. 1. Progressive dementia similar to Alzheimer's 122. 1. Constrictive pericarditis – sequel to mediastinal tuberculosis 123. Calcium-frosting, unyielding layer – heart chambers may be unable to dilate to receive blood during diastole
Plummer's Syndrome	124. Hyperthyroidism, nodular goiter, absence of eye signs (Plummer's = Grave's - eye signs)
Plummer-Vinson	125. Esophageal webs & iron-deficiency anemia, spoon-shaped nails, ↑ SCCA of esophagus
Pompe's Disease	126. Type II Glycogenosis – Glycogen storage disease → cardiomegaly (α 1,4 Glucosidase deficiency: ↑ Glycogen)
Pott's Disease	127. Tuberculous osteomyelitis of the vertebrae
Potter's Complex	128. Renal agenesis → oligohydramnios → hypoplastic lungs, defects in extremities
Raynaud's	129. <b>Disease:</b> recurrent vasospasm in extremities = seen in young, healthy women 130. <b>Phenomenon:</b> 2° to underlying disease (SLE or scleroderma)
Reiter's Syndrome	131. Urethritis, conjunctivitis, arthritis non-infectious (but often follows infections), HLA -B27, polyarticular
Reye's Syndrome	132. Microvesicular fatty liver change & encephalopathy 133. 2° to aspirin ingestion in children following viral illness, especially VZV
Riedel's Thyroiditis	134. Idiopathic fibrous replacement of thyroid
Rotor Syndrome	135. Congenital hyperbilirubinemia ( <u>conjugated</u> ) 136. Similar to Dubin-Johnson, but no discoloration of the liver
Sezary Syndrome	137. Leukemic form of cutaneous T-cell lymphoma (mycosis fungoides)
Shaver's Disease	138. Aluminum inhalation → lung fibrosis
Sheehan's Syndrome	139. Postpartum pituitary necrosis = hemorrhage & shock usually occurred during delivery
Shy-Drager	140. Parkinsonism with autonomic dysfunction & orthostatic hypotension
Simmond's Disease	141. Pituitary cachexia – can occur from either pituitary tumors or Sheehan's
Sipple's Syndrome	142. MEN type IIa = pheochromocytoma, thyroid medullary CA, hyperparathyroidism
Sjogren's Syndrome	143. Triad: dry eyes, dry mouth, arthritis ↑ risk of B-cell lymphoma
Spitz Nevus	144. Juvenile melanoma (always benign)

Stein-Leventhal	145. Polycystic ovary: see amenorrhea; infertility; obesity; hirsutism = ↑↑LH secretion
Stevens-Johnson Syndrome	146. Erythema multiforme, fever, malaise, mucosal ulceration (often 2° to infection = mycoplasma or sulfa drugs)
Still's Disease	147. Juvenile rheumatoid arthritis (absence of rheumatoid factor)
Takayasu's arteritis	148. Aortic arch syndrome 149. Loss of carotid, radial or ulnar pulses = pulseless disease. Night sweats. 150. Common in young Asian females
Tay-Sachs (AR)	151. Gangliosidosis (hexosaminidase A deficiency → G <sub>M2</sub> ganglioside) Cherry Red Spots of the Macula
Tetralogy of Fallot	152. 1.VSD, 2.overriding aorta, 3.pulmonary artery stenosis, 4.right ventricular hypertrophy
Tourette's Syndrome	153. Involuntary actions, both motor and vocal Txt w/ Pimozide
Turcot's Syndrome	154. Colon adenomatous polyps plus CNS tumors
Turner's Syndrome	155. 45, XO = most common cause of Primary Amenorrhea. No Barr body on buccal smear.
Vincent's Infection	156. "Trench mouth" – acute necrotizing ulcerative gingivitis due to <b>Fusobacterium</b>
Von Gierke's Disease	157. Type I Glycogenosis – Glycogen storage disease (G6Pase deficiency) – Glycogen accumulation
Von Hippel-Lindau	158. Hemangioma (or hemangioblastoma) = cerebellum, brain stem, & retina 159. Adenomas of the viscera, especially ↑ Renal Cell Carcinoma 160. Chromosome 3p
Von Recklinghausen's	161. Neurofibromatosis & café au lait spots & Lisch nodules (Chromosome 17)
Von Recklinghausen's Disease of Bone	162. Osteitis fibrosa cystica ("brown tumor") 2° to hyperparathyroidism = osteoclastic resorption w/ 163. fibrous replacement
Von Willebrand's Disease (AD)	164. Defect in platelet adhesion 2° to deficiency in vWF. ↑aPPT, ↑Bleed time
Waldenstrom's macroglobinemia	165. Proliferation of IgM-producing lymphoid cells in men 50-70 yoa; PAS(+) <b>Dutcher</b> bodies
Wallenberg's Syndrome	166. Posterior Inferior Cerebellar Artery (PICA) thrombosis "Medullary Syndrome" 167. Ipsilateral: ataxia, facial pain & temp; Contralateral: body pain & temp
Waterhouse-Friderichsen	168. Adrenal insufficiency 2° to DIC 169. DIC 2° to meningococcemia
Weber's Syndrome	170. Paramedian Infarct of Midbrain 171. Ipsilateral: mydriasis; Contralateral: UMN paralysis (lower face & body)
Wegener's Granulomatosis	172. Necrotizing granulomatous vasculitis of paranasal sinuses, lungs, kidneys, etc.
Weill's Disease	173. Icteric Leptospirosis non-icteric progresses to renal failure & myocarditis 174. Dark field microscopy for dx
Wermer's Syndrome	175. MEN type I = thyroid, parathyroid, adrenal cortex, pancreatic islets, pituitary
Wernicke's Aphasia	176. Sensory Aphasia impaired comprehension
Wernicke-Korsakoff Syndrome	177. Thiamine deficiency in alcoholics; bilateral mamillary bodies (mediodorsal nucleua) (confusion, ataxia, ophthalmoplegia)
Whipple's Disease	178. Malabsorption syndrome (with bacteria-laden macrophages) & polyarthritis
Wilson's Disease	179. Hepatolenticular degeneration (copper accumulation [Txt w/ Penicillamine] & decrease in ceruloplasmin) 180. Mallory Bodies in the Liver & also w/ alcoholic hepatitis & Hyaline change 181. Chromosome 13
Wiskott-Aldrich Syndrome	182. Immunodeficiency: combined B- & T-cell deficiency (thrombocytopenia & eczema) 183. ↓ IgM w/ ↑ IgA
Wolff-Chaikoff Effect	184. High iodine level (-)'s thyroid hormone synthesis
Zenker's Diverticulum	185. Esophageal; cricopharyngeal muscles above UES
Zollinger-Ellison	186. Gastrin-secreting tumor of pancreas (or intestine) → ↑ acid → recurrent ulcers
Roger's Disease	187. Interventricular septal defect
Barlow's Syndrome	188. Floppy valve syndrome – women b/t 20-40 yoa
Bracht-Wachter Lesions	189. Minute abscesses found in subacute bacterial endocarditis
Lutembacher's Syndrome	190. Combination of septum secundum atrial septal defect w/ mitral stenosis
Schmidt's Syndrome	191. Autoimmune thyroid Disease (Hashimoto's) & insulin-dependent diabetes

## Hallmark Findings

Albumino-Cytologic Dissociation	192. Guillain-Barre (markedly increased protein in CSF with only modest increase in cell count)
Antiplatelet Antibodies	193. Idiopathic thrombocytopenic purpura
Arachnodactyly	194. Marfan's
Aschoff Bodies	195. Rheumatic fever

Auer Rods	196. Acute promyelocytic leukemia (AML type M <sub>3</sub> )
Autosplenectomy	197. Sickle cell anemia: switch a glu → val in β chain 198. Low O <sub>2</sub> ↑ sickling 199. Aplastic crisis w/ B19 (Parvovirus ssDNA) infection 200. Salmonella osteomyelitis 201. Vaso-occlusive painful crises 202. Hydroxyurea as Txt (↑ Hb <sup>f</sup> ) & Bone marrow transplant
Babinski	203. UMN lesion
Basophilic Stippling of RBCs	204. Lead poisoning
Bence Jones Protein	205. Multiple myeloma free light chains (either kappa or lambda) 206. Waldenstrom's macroglobinemia
Birbeck Granules	207. Histiocytosis X (eosinophilic granuloma)
Blue Bloater	208. Chronic Bronchitis (at least 3 months for at least 2 years of excessive mucus secretion & chronic recurrent productive cough)
Boot-Shaped Heart	209. Tetralogy of Fallot
Bouchard's Nodes	210. Osteoarthritis (Proximal IP joint of the fingers)
Boutonniere's Deformity	211. Rheumatoid arthritis flex proximal & extend distal IP joints
Brown Tumor	212. Hyperparathyroidism
Brushfield Spots	213. Down's
Call-Exner Bodies	214. Granulosa cell tumor: associated w/ endometrial hyperplasia & carcinoma 215. Granuloma-Theca cell tumor
Cardiomegaly with Apical Atrophy	216. Chagas' Disease
Chancre	217. 1° Syphilis
Chancroid	218. <i>Haemophilus ducreyi</i>
Charcot Triad	219. Multiple sclerosis = nystagmus, intention tremor, scanning speech
Charcot-Leyden Crystals	220. Bronchial asthma
Cheyne-Stokes Breathing	221. Cerebral lesion
Chocolate Cysts	222. Endometriosis
Chvostek's Sign	223. Hypocalcemia facial spasm in tetany
Clue Cells	224. Gardnerella vaginitis
Codman's Triangle	225. Osteosarcoma
Cold Agglutinins	226. <i>Mycoplasma pneumoniae</i> 227. Infectious mononucleosis
Condyloma Lata	228. 2° Syphilis 229. New coffee flavor at Bagel & Bagel
Cotton Wool Spots	230. HTN 231. Aka, cytoid bodies seen w/ SLE (yellowish cotton wool fundal lesions)
Councilman Bodies	232. Dying hepatocytes – HepB
Crescents In Bowman's Capsule	233. Rapidly progressive (crescentic glomerulonephritis)
Currant-Jelly Sputum	234. <i>Klebsiella</i>
Curschmann's Spirals	235. Bronchial asthma
Depigmentation Of Substantia Nigra	236. Parkinson's
Donovan Bodies	237. Granuloma inguinale (STD)
Eburnation	238. Osteoarthritis (polished, ivory-like appearance of bone)
Ectopia Lentis	239. Marfan's
Erythema Chronicum Migrans	240. Lyme Disease
Fatty Liver	241. Alcoholism
Ferruginous Bodies	242. Asbestosis - & Iron laden
Ghon Focus / Complex	243. Tuberculosis (1° & 2°, respectively)
Glitter Cells	244. Acute Pyelonephritis
Gower's Maneuver	245. Duchenne's MD use of arms to stand
Heberden's Nodes	246. Osteoarthritis (Distal IP joint of the fingers)
Heinz Bodies	247. G6PDH Deficiency
Heterophil Antibodies	248. Infectious mononucleosis (EBV)
Hirano Bodies	249. Alzheimer's

Hypersegmented PMNs	250.Megaloblastic anemia
Hypochromic Microcytic RBCs	251. Iron-deficiency anemia or $\beta$ Thalassemia
Jarisch-Herxheimer Reaction	252.Syphilis over-aggressive treatment of an asymptomatic pt. that causes symptoms 2° to rapid lysis
Joint Mice	253.Osteoarthritis (fractured osteophytes)
Kaussmaul Breathing	254.Acidososis / <b>Diabetic</b> Ketoacidosis
Keratin Pearls	255.Squamous Cell CA of skin Actinic Keratosis is a precursor
Keyser-Fleischer Ring	256.Wilson's
Kimmelstiel-Wilson Nodules	257.Diabetic nephropathy: Nodular Glomerulosclerosis nodules of mesangial matrix
Koilocytes	258.HPV 6 & 11 (condyloma acuminatum - benign) and HPV 16 & 18 (malignant association)
Koplik Spots	259.Measles
Lewy Bodies	260.Parkinson's (eosinophilic inclusions in damaged substantia nigra cells)
Lines of Zahn	261.Arterial thrombus
Lisch Nodules	262.Neurofibromatosis (von Recklinhausen's disease) = pigmented iris hamartomas
Lumpy-Bumpy IF Glomeruli	263.Poststreptococcal glomerulonephritis - prototype of nephritic syndrome
Mallory Bodies	264.Alcoholic hepatitis
McBurney's Sign	265.Appendicitis (McBurney's Point is 2/3 of the way from the umbilicus to anterior superior iliac spine)
Michealis-Gutmann Bodies	266.Malakoplakia lesion on bladder due to macros & calcospherites (M-G Bodies): usually due to E. Coli
Monoclonal Antibody Spike	267.Multiple myeloma this is called the M protein (usually IgG or IgA) 268.MGUS
Myxedema	269.Hypothyroidism
Negri Bodies	270.Rabies
Neuritic Plaques	271. Alzheimer's
Neurofibrillary Tangles	272.Alzheimer's
Non-pitting Edema	273.Myxedema 274.Anthrax Toxin
Notching of Ribs	275.Coarctation of Aorta
Nutmeg Liver	276.CHF = causing congested liver
Owl's Eye Cells	277.CMV 278.Reed Sternburg Cells (Hodkins Lymphoma) 279.Aschoff cells seen w/ Rheumatic Fever
Painless Jaundice	280.Pancreatic CA (head)
Pannus	281. Rheumatoid arthritis, also see morning stiffness that ↓ w/ joint use, HLA-DR4
Pautrier's Microabscesses	282.Mycosis fungoides (cutaneous T-cell lymphoma), Sezary
Philadelphia Chromosome	283.CML
Pick Bodies	284.Pick's Disease
2 types of COPD	285.Pink Puffer - Type A: Emphysema 286.Blue Bloater - Type B: Bronchitis 287.Emphysema Centriacinar - smoking Panacinar - $\alpha_1$ -antitrypsin deficiency
Podagra	288.Gout (MP joint of hallux)
Port-Wine Stain	289.Hemangioma
Posterior Anterior Drawer Sign	290.Tearing of the ACL
Psammoma Bodies	291.Papillary adenocarcinoma of the thyroid 292.Serous papillary cystadenocarcinoma of the ovary 293.Meningioma 294.Mesothelioma
Pseudohypertrophy	295.Seen w/ Duchenne muscular dystrophy @ the calf muscles, due to ↑ fat
Punched-Out Bone Lesions	296.Multiple myeloma
Rash on Palms & Soles	297.2° Syphilis 298.RMSF 299.Coxsackie virus infection: Hand-Foot-Mouth Disease
Red Morning Urine	300.Paroxysmal nocturnal hemoglobinuria. You would use <b>Ham's test</b> to confirm.
Reed-Sternberg Cells	301. Hodgkin's Disease
Reid Index Increased	302.Chronic bronchitis = ↑d ratio of bronchial gland to bronchial wall thickness
Reinke Crystals	303.Leydig cell tumor
Rouleaux Formation	304.Multiple myeloma RBC's stacked as poker chips

S3 Heart Sound	305.L→R Shunt (VSD, PDA, ASD) 306.Mitral Regurg 307.LV Failure
S4 Heart Sound	308.Pulmonary Stenosis 309.Pulmonary HTN
Schwartzman Reaction	310. <i>Neisseria meningitidis</i> impressive rash with bugs
Smith Antigen	311. SLE (also anti-dsDNA) 312. Malar Rash, Wire loop kidney lesions, Joint pain, False (+) syphilis test (VDRL) 313. 90% 14-45 yo females 314. also seen w/ use of INH; Procainamide; Hydralazine = SLE-like syndrome
Soap Bubble on X-Ray	315. Giant cell tumor of bone
Spike & Dome Glomeruli	316. Membranous glomerulonephritis = Nephrotic syndrome 317. Spike = basement membrane material & Dome = immune complex deposits (IgG or C3)
String Sign on X-ray	318. Crohn's bowel wall thickening
Target Cells	319. Thalassemia in $\alpha$ Thalassemia w/ no $\alpha$ gene: Hydrops Fetalis & Intrauterine death associations = HbBarts
Tendinous Xanthomas	320.Familial Hypercholesterolemia
Thyroidization of Kidney	321. Chronic pyelonephritis
Tophi	322.Gout
Tram-Track Glomeruli	323.Membranoproliferative GN: Nephritic syndrome – basement membrane is duplicated into 2 layers
Trousseau's Sign	324.Visceral ca, classically pancreatic (migratory thrombophlebitis) 325.Hypocalcemia (carpal spasm) 326. <i>These are two entirely different disease processes and different signs, but they unfortunately have the same name.</i>
Virchow's Node	327.Supraclavicular node enlargement by metastatic carcinoma of the stomach
Warthin-Finkeldey Giant Cells	328.Measles
WBC Casts	329.Pyelonephritis
Whipple's Triad	330.CNS disfunction – Hypoglycemic episodes – glu injection reverses CNS Sympt's
Wire Loop Glomeruli	331. Lupus nephropathy, type IV (diffuse proliferative form)
↑ AFP in amniotic fluid or mother's serum	332.Spina Bifida 333.Anencephaly
↑ Uric Acid	334.Gout 335.Lesch Nyhan 336.Myeloproliferative Disorders 337.Diuretics (Loop & Thiazides)
↓ FEV <sub>1</sub> /FVC	338.COPD
"Ground Glass" on chest x-ray (Hyaline)	339.Due to Pneumocystis carinii 340.Seen w/ Atelectasia
Honey Combing of the lung	341. Seen w/ Asbestosis (a restrictive lung disease)
Crescents	342.Goodpastures syndrome (pneumonia w/ hemoptysis & rapidly progressive glomerulonephritis)
Linear Ig Deposits	343.Goodpastures syndrome
45 Degree Branch Points	344.Aspergillosis
PAS(+) Dutcher Bodies	345.Waldenstrom's Macroglobulinemia = ↑ IgM = Hyperviscosity
"Ground Glass" in Abdomen(Hyaline)	346.Seen in the hepatocytes of healthy carriers of HBsAg in liver biopsies
"Signet Ring" Cells	347.Cells that replace the ovaries, due to Krukenberg's tumor that has metastasized from the stomach
Ground Glass Appearance (Hyaline)	348.Seen w/ Progressive Multifocal Leukoencephalopathy oligodendrocytes 349.Nuclei seen in Papillary CA of the thyroid (malignant)
Congo Red	350.Shows amyloid deposition in plaques & vascular walls
Meningiomas & Progesterone	351. Some meningiomas have Progesterone receptors = rapid growth in pregnancy can occur
Tuberous Sclerosis Triad	352.Seizures; Mental retardation; Leukoderma (congenital facial white spots or macules): angiofibromas
Cowdry A Inclusions	353.Seen w/ Herpes Simplex Encephalitis – in oligodendroglia
Devic's Syndrome	354."Neuromyelitis Optica" 355.A variant of multiple sclerosis: rapid demyelination of the optic nerve & spinal cord w/ paraplegia
c-erb B2	356.Breast Cancer association

Foster-Kennedy Syndrome	357.A tumor causing blindness & loss of smell w/ papilloedema
Hoffman's Sign	358.Flicking of the middle finger's nail
Red Nucleus Destruction	359.Intention tremors of the arm
Ventral Spinocerebellar tr.	360.Unconscious proprioception of lower extremities
Dorsal Spinocerebellar tr.	361. Unconscious proprioception & fine motor movements
Cuneocerebellar tr.	362.Unconscious proprioception & fine motor movements of upper extremities
Dorsal Column	363.Conscious proprioception of the body
Lateral Spinothalamic tr.	364.Pain & Temperature sensation
Ventral Spinothalamic tr.	365.Light touch perception
SVA	366.Taste & Smell
GSE	367.Muscles of the eye & of the tongue
SSA	368.Vision; Hearing; Equilibrium
GVA	369.Sensation of tongue; soft palate. Carotid Body & Sinus innervation
GVE	370.Edinger Westphal = parasympathetic eye innervation 371. Gland innervation = secretions 372.Viscera
GSA	373.Pain & temperature of face 374.Sensation of external ear
SVE	375.Innervation of muscles of mastication, facial expressions, larynx & pharynx
LMN Lesion	376.Werdnig Hoffman (progressive infantile muscular atrophy) 377.Poliomyelitis
Sensory Pathway Lesion	378.Subacute Combined Degeneration = Friedrich's Ataxia = B12 deficiency 379.Tabes Dorsalis (Neurosyphilis)
Both UMN & LMN Lesion	380.ALS = Lou Gehrig's Disease
Both Sensory & Motor Lesion	381. Brown Sequard 382.Anterior Spinal artery Occlusion
Suprachiasmatic Nucleus	383.Controls circadian rhythm
Ventromedial Nucleus	384.Satiety center. Savage behavior & obesity when lesioned
Lateral Nucleus	385.Induces eating. Starvation when lesioned
Arcuate Nucleus	386.Releases PIF (dopa-ergic neurons)
Mamillary Body	387.Can have hemorrhages as seen in Wernicke's Encephalopathy
Acanthocytes	388.RBSc w/ spiny projections. Seen in Abetalipoproteinemia.

## Most Common...

1 <sup>o</sup> Tumor arising from bone in adults	389.Osteosarcoma
Adrenal Medullary Tumor - Adults	390.Pheochromocytoma: 5 P's: ↑ Pressure; Pain (Headache); Perspiration; Palpitations; Pallor/Diaphoresis
Adrenal Medullary Tumor - Children	391. Neuroblastoma
Agent of severe viral encephalitis	392.Herpes simplex
Aggressive lung tumor	393.Small cell or oat cell
Associated with gallstones	394.Adenocarcinoma
Bacterial Meningitis - adults	395. <i>Strep pneumoniae</i> & in young adults = <i>Neisseria meningitidis</i>
Bacterial Meningitis - elderly	396. <i>Neisseria meningitidis</i>
Bacterial Meningitis - newborns	397. <i>E. coli</i> / Group B Strep.
Bacterial Meningitis - toddlers	398.Hib
Benign epithelial tumor of oral mucosa	399.Papilloma
Benign fallopian tube tumor	400.Adenomatoid



Benign ovarian tumor	401. Mature(Native) Teratoma = benign dermatoid
Benign tumor of soft tissue	402. Lipoma
Benign tumor of the breast <25yoa	403. Fibroadenoma
Benign tumor of the liver	404. Hemangioma
Benign tumor of the vulva	405. Hidradenoma
Benign uterine tumor	406. Leiomyoma: estrogen sensitive: changes size during pregnancy & menopause
Bone Tumors	407. Metastases from Breast & Prostate
Brain Tumor – Child	408. Medulloblastoma (cerebellum)
Brain Tumor –Adult	409. Astrocytoma (including Glioblastoma Multiforme) then: mets, meningioma, Schwannoma
Breast Carcinoma	410. Invasive Duct Carcinoma
Breast Mass	411. Fibrocystic Change: premenopausal women (Carcinoma is the most common in post-menopausal women)
Bug in Acute Endocarditis	412. <i>Staph aureus</i>
Bug in debilitated, hospitalized pneumonia pt	413. <i>Klebsiella</i>
Bug in Epiglottitis	414. Hib
Bug in GI Tract	415. Bacteroides (2 <sup>nd</sup> – E. coli)
Bug in IV drug user bacteremia / pneumonia	416. <i>Staph aureus</i>
Bug in PID	417. N. Gonorrhoeae
Bug in Subacute Endocarditis	418. <i>Strep Viridans</i>
CA of urinary collecting system	419. Transitional cell CA (assoc. w/ benzidine; βnaphthylamine; analine dyes; long term txt w/ cyclophosphamide)
Cardiac 1 <sup>st</sup> Tumor – Adults	420. Myxoma: “Ball Valve”
Cardiac 1 <sup>st</sup> Tumor – Child	421. Rhabdomyoma – associated w/ Tuberous sclerosis
Cardiac Tumor – Adults	422. Metastases
Cardiomyopathy	423. Dilated (Congestive) Cardiomyopathy: Alcohol, BeriBeri, Cocaine use, Coxsackie B, Doxorubicin 424. Systolic Dysfunction
Cause of 2 <sup>nd</sup> HTN	425. Renal Disease
Cause of Addison's	426. Autoimmune (2 <sup>nd</sup> – infection)
Cause of breast lumps	427. CA of the breast
Cause of chronic endometriosis	428. TB
Cause of Congenital Adrenal Hyperplasia	429. 21-Hydroxylase Deficiency: NaCl lost & Hypotension (then, 11- NaCl retention & HTN)
Cause of Cushings	430. Exogenous Steroid Therapy (then, 1 <sup>st</sup> ACTH, Adrenal Adenoma, Ectopic ACTH)
Cause of Death in Alzheimer pts	431. Pneumonia
Cause of Death in Diabetics	432. MI
Cause of Death in premature	433. NRDS = hyaline membrane disease
Cause of Death in SLE pts.	434. Lupus Nephropathy Type IV (Diffuse Proliferative) = Renal Disease
Cause of Dementia	435. Alzheimer's
Cause of Dementia (2 <sup>nd</sup> most common)	436. Multi-Infarct Dementia
Cause of Dwarfism	437. Achondroplasia
Cause of Food poisoning	438. <i>Staph aureus</i>
Cause of Hematosalpyngia	439. Ectopic pregnancy
Cause of Hypoparathyroidism	440. Thyroidectomy
Cause of Hypothyroidism	441. Corrective surgery I 31 treatment
Cause of Kidney infections	442. E. coli
Cause of Liver disease in US	443. Alcohol consumption
Cause of Malignancy in	444. Acute leukemia

children	
Cause of Mental retardation	445.Down's
Cause of Mental retardation (2 <sup>nd</sup> most common)	446.Fragile X
Cause of NaCl loss and Hypotension	447.21 hydroxylase deficiency
Cause of PI D	448.N. gonorrrhea
Cause of Portal cirrhosis	449.Alcohol
Cause of Preventable Blindness	450.Chlamydia (serotypes A,B,Ba,C)
Cause of Pulmonary HTN	451.COPD
Cause of Secondary Hypertension	452.Renal disease
Cause of SI ADH	453.Small Cell Carcinoma of the Lung
Cause of UT Obstruction in men	454.BPHyperplasia
Cause Pernicious Anemia	455.Chronic atrophic gastritis = no production of intrinsic factor
Chromosomal Disorder	456.Down's
Common Tumor of the Appendix	457.Carcinoid tumor: flushing; diarrhea; bronchospasm; RHeart valvular lesions 458.Txt: Methysergide (5HT antagonist)
Congenital Cardiac Anomaly	459.VSD (membranous > muscular)
Congenital Early Cyanosis	460.Tetralogy of Fallot =right to left shunt
Coronary Artery Thrombosis	461. LAD artery: MI
Demyelinating Disease	462.Multiple Sclerosis: (Charcot Triad = nystagmus, intention tremor, scanning speech) 463.Periventricular plaques w/ ↓ Oligodenrocytes 464.↑ IgG in CSF, Optic Neuritis, MLF Syndorme = Internuclear Ophthalmoplegia, bladder incontinence
Dental Tumor	465.Odontoma
Dietary Deficiency	466.Iron
Disease of the Breast	467.Fibrocystic disease
Disseminated Opportunistic Infection in AI DS	468.CMV ( <i>Pneumocystis carinii</i> is most common overall)
Esophageal Cancer	469.SCCA
Fallopian Tube Malignancy	470.AdenoCA
Fatal Genetic Defect in Caucasians	471. Cystic Fibrosis (chromosome 7q)
Female Tumor	472.Leimyoma
Form of Amyloidosis	473.Immunologic (Bence Jones protein in multiple myeloma is also called the Amyloid Light Chain)
Form of Tularemia	474.Ulceroglandular
Germ Cell Tumor of Testes	475.Seminoma (analogous to dysgerminoma of ovaries)
Gynecological Malignancy	476.Endometrial Carcinoma
Gynecological Finding	477.Endometrial CA
Heart Murmur	478.Mitral Valve Prolapse
Heart Valve in Bacterial Endocarditis	479.Mitral
Heart Valve in Bacterial Endocarditis in IV drug users	480.Tricuspid
Heart Valve involved in Rheumatic Fever	481. Mitral then Aortic
Hereditary Bleeding Disorder	482.Von Willebrand's Disease
Hormone secreted in Pituitary Adenoma	483.Prolactin
Inherited disease of the Kidney	484. Adult polycystic kidney disease: associated w/ polycystic liver, Berry aneurysms, Mitral prolapse 485.APD1 – chromosome 16

Intracranial tumor in adults	486.Glioblastoma multiforme
Islet Tumor	487.Insulinoma = $\beta$ cell tumor
Liver 1 <sup>st</sup> Tumor	488.Hepatoma
Liver Disease	489.Alcoholic Liver Disease
Location of Adenocarcinoma of the Pancreas	490.Head (99%)
Location of Adult Brain Tumors	491. Above Tentorium
Location of Childhood Brain Tumors	492.Below Tentorium
Lung Tumor, malignant or benign	493.Malignant
Lung Tumor, primary or secondary	494.Secondary
Lysosomal Storage Disease	495.Gaucher's
Malignancy in Women	496.Lung (2 <sup>nd</sup> breast)
Malignancy of the Larynx	497.Glottic CA (squamous cell)
Malignancy of the Small Intestine	498.Adenocarcinoma
Malignancy Vulva	499.Squamous cell CA
Malignant Eye Tumor in Kids	500.Retinoblastoma
Malignant Tumor of the Liver	501. Hepatocellular CA
Motor Neuron Disease	502.ALS
Muscular Dystrophy	503.Duchenne's: Dystrophin deletion. Presents <5yos weakness at pelvic girdles w/ upward progression
Nasal Tumor	504.Squamous cell CA
Neoplasm – Child	505.Leukemia
Neoplasm – Child (2 <sup>nd</sup> most common)	506.Medulloblastoma of brain (cerebellum)
Neoplasm of the West	507.Adeno CA of the rectum and/or colon
Neoplastic Polyp	508.Tubular adenoma
Nephrotic Syndrome in Adults	509.Membranous Glomerulonephritis
Nephrotic Syndrome in Children	510. Minimal Change (Lipoid Nephrosis) Disease (responds well to steroid txt)
Non Hodgkin's Lymphoma	511. Follicular small clear cell
Number of Deaths per year in Women	512. Lung CA
Skin tumor	513. Basal cell CA
Opportunistic infection in AIDS	514. PCP
Ovarian Malignancy	515. Serous Cystadenocarcinoma
Ovarian Tumor	516. Hamartoma
Pancreatic Tumor	517. Adeno (usually in the head)
Patient with ALL / CLL / AML / CML	518. ALL – Child / CLL – Adult over 60 / AML – Adult over 60 / CML – Adult 35-50
Patient with Goodpasture's	519. Young male
Patient with Reiter's	520.Male
Pituitary Tumor	521.Prolactinoma (2 <sup>nd</sup> – Somatotrophic "Acidophilic" Adenoma)
Place for Primary Squamous Cell CA of esophagus	522.Mid 1/3
Place for Peptic Ulcer Disease	523.Lesser curvature in antrum – associated w/ blood group O
Primary Benign Salivary Tumor	524.Pleomorphic Adenoma (Mixed) – 90% localized to the parotid

Primary Hyperparathyroidism	525. Adenomas (followed by: hyperplasia, then carcinoma)
Primary Malignancy of Bone	526. Osteosarcoma
Primary Malignancy of Small Intestine	527. Lymphoma
Pt. with Hodgkin's	528. Young Male (except Nodular Sclerosis type - Female)
Pt. with Minimal Change Disease	529. Young Child
Renal Malignancy	530. Renal cell CA
Renal Malignancy of Early Childhood	531. Wilm's tumor (neuroblastoma) - chromosome 11p
Salivary Tumor	532. Pleomorphic adenoma
Secondary Hyperparathyroidism	533. Hypocalcemia of Chronic Renal Failure
Sexually Transmitted Disease	534. Chlamydia (sero types D-K)
Site of Diverticula	535. Sigmoid Colon
Site of Embolic Occlusion	536. Middle cerebral aa: contralateral paralysis; aphasia; motor & sensory loss
Site of Metastasis	537. Regional Lymph Nodes
Site of Metastasis (2 <sup>nd</sup> most common)	538. Liver
Sites of Atherosclerosis	539. Abdominal aorta > coronary > popliteal > carotid
Skin CA of Fair Skinned People	540. Malignant melanoma
Skin Cancer	541. Basal Cell Carcinoma
Small Intestine Congenital Anomaly	542. Meckel's diverticulum
Stomach Cancer	543. Adeno - associated w/ blood group A
Testicular Tumor	544. Seminoma = malignant painless testes growth
Thyroid Anomaly	545. Thyroglossal duct cyst
Thyroid CA	546. Papillary CA
Tracheoesophageal Fistula	547. Lower esophagus joins trachea / upper esophagus - blind pouch - polyhydramnios association
Tumor in men <20	548. Germ cell tumor
Tumor of Infancy	549. Benign vascular tumor = port wine stain = Hemangioma
Tumor of the Stomach >50 years of age	550. CA of stomach (adeno CA)
Type of Hodgkin's	551. Mixed Cellularity (versus: lymphocytic predominance, lymphocytic depletion, nodular sclerosis)
Type of Non-Hodgkin's	552. Follicular, small cleaved
Type of Portal Cirrhosis	553. Micronodular
Type of Soft Tissue Tumor of Childhood	554. Rhabdomyosarcoma
Vasculitis (of medium & small arteries)	555. Temporal Arteritis (branch of Carotid Artery)
Viral Encephalitis	556. HSV
Worm Infection in US	557. Pinworm (2 <sup>nd</sup> - Ascaris)
Worst Prognosis in Thyroid Cancers	558. Follicular CA
Cause of Lobar Pneumonia	559. Strep. Pneumoniae
Cause of Death b/t 24-44 yoa	560. AIDS
Cause of Pneumonia in Cystic Fibrosis	561. Pseudomonas
Cause of Osteomyelitis in IV Drug Users	562. Pseudomonas
Cause of Infection in Burn Pts	563. Pseudomonas

Mental Problem in Males	564. Specific phobia
Intelligence Test	565. Stanford Binet (ages 6 & under) 566. WI PSI (ages 4-6) 567. WI SK-R (for ages 6-17) 568. WAI S-R (for > 17 yoa)
Paraphilia	569. Pedophilia
Metabolite seen w/ Pheochromocytoma	570. VMA: vanillylmandelic acid (NE metabolite)
Severe Shigella	571. Dysenteriae
Bug in Otitis Media & Sinusitis in Kids	572. Strep. Pneumoniae
Cause of a Solitary Brain Abscess	573. A. Israeli
Cause of Bacterial Diarrhea in U.S.	574. Campylobacter jejuni
Shigella Type	575. S. Sonnei
Cause of Non-Gonococcal Urethritis	576. Chlamydia trichomonas
Pneumonia	577. Strep. Pneumoniae
Urethritis	578. N. gonorrhoea
Cause of Glomerulonephritis	579. IgA Nephropathy = Berger's Disease
Cause of Viral Pneumonia	580. RSV – infants 581. Parainfluenza – kids 582. Influenza virus – adults 583. Adeno virus – military recruits
Complication of COPD	584. Pulmonary infections
Cause of Death w/ SLE	585. Renal failure
Atrial Septal Defect	586. Ostium Secundum Type
Warm Antibody	587. Most common form of immune hemolytic anemia 588. IgG auto antibodies to RBC 589. See spherocytosis; (+) Coombs' test; complication to CLL
Immunodeficiency	590. IgA Deficiency
Congenital GI T Anomaly	591. Meckel's Diverticulum: persistence of vitelline duct/yolk sac stalk
Cause of Congenital Malformation	592. Fetal Alcohol Syndrome

## Pharmacology

### Autonomic Nervous System

Epinephrine	1. $\alpha_1$ , $\alpha_2$ , $\beta_1$ , $\beta_2$
Norepinephrine	2. $\alpha_1$ , $\alpha_2$ , $\beta_1$ (no $\beta_2$ activity)
GABA	3. Causes an inhibitory cell hyperpolarization
Muscarinic-r	4. Uses DAG & IP3 as 2 <sup>nd</sup> messengers 5. Parasympathetic control
Bethanechol	6. Cholinergic. ↑ GI & Bladder motility. <b>Txt atonic bladder post-op</b>
Pilocarpine	7. Cholinergic. Pupillary constriction = miosis. Ciliary constriction = accommodation. 8. <b>Txt acute glaucoma</b>
Isoflurophate	9. Organophosphate. Irreversible acetylcholinesterase (-)r
Pralidoxime	10. "2PAM". Reverses organophosphate binding to acetylcholinesterase
Neostigmine	11. Reversible acetylcholinesterase (-)r 12. <b>Txt Myasthenia Gravis</b>
Myasthenia Gravis	13. Antibodies to Ach-r. ↑ g muscular weakness due to Ach's weak postsynaptic effect @ NMJ. Inactivates-r
Tubocurium	14. Nondepol. Competitive cholinergic N-r (-)r. 15. Prevents Ach binding but does not activate NMJ

	16. ↑ Histamine release= ↓ BP & ↑ bronchospasm
Trimethaphan	17. Nonselectively binds N-r of the PS- and SNS
Pancurium	18. More potent than tubocurium w/o histamine release
Succinylcholine	19. Depol. Non competitive (-)r of muscle aciton 20. Opens Na Ch.= fasciculations. Closes Na Ch.= paralysis. Continuous infusion.
α1 & Eye	21. Mydriasis due to norepinephrine. Prazosin (-).
M-r & Eye	22. Miosis due to Ach. Atropine (-).
Sympathetic	23. Post ganglionic symapthetic fibers releases norepinephrine
Parasym.	24. Post ganglionic parasympathetic fibers release Ach
M3-r & Eye	25. Contracts sphincter = miosis. Contracts ciliary = accomodation.
M2-r & Heart	26. Negative chronotropy: ↓ HR = vagal arrest 27. Negative inotropy: ↓ contractility
M3-r & Lung	28. Bronchospasm ↑ secretions
M3-r & GI	29. ↑ motility (cramps & diarrhea). Involuntary defecation
Tacrine	30. Acetylcholine esterase (-)r. <b>Txt Alzheimer's</b>
Atropine	<b>31. DOC w/ vagal arrest</b>
Glycopyrrolate	32. M-r(-). Antispasmodic. Txt peptic ulcers.
Pirenzepine	33. M-r(-). Antispasmodic. Txt peptic ulcers.
Doxacurium	34. Most potent competitive non-depol NMJ (-)r. No cardiovascular side effects. No Histamine release.
β bungarotoxin	35. Prevent the releasal of Ach from vesicles @ the pre synaptic nerve ending
α bungarotoxin	36. Irreversible N-r (-)r = ↓ action potentials
α1 & Eye	37. Contracts radial muscle = mydriasis (pupil dilation)
α1 & Arterioles	38. Constiction: ↑TPR = ↑ Diastolic pressure = ↑ Afterload
α1 & Venules	39. Constriction: ↑ Venous return = ↑ Preload
α1 & Sex Function	40. Ejaculation
↑ Diastolic	41. ↑ α1 = ↑TPR
↓ Diastolic	42. ↑ β2; Direct acting vasodilators; (+)Cholinergics
β1 & Heart	43. (+)chronotropism = ↑HR. 44. (+)inotropism = ↑ contractility; ↑SV; ↑CO; ↑O <sub>2</sub> consumption. 45. ↑ conduction velocity
Phenylephrine	46. α1 (+) Nasal decongestant.
β2(+) Asma Drugs	47. Metaproterenol; Albuterol; Terbutaline; Ritodrine; Salmeterol
Ritodrine/Turbutaline	48. Relaxes myometrium used in pre-mature labor pains
Phentolamine	49. Epi reversal. Blocks α, vasodilation occurs. Pt goes from HyperTN to HypoTN. <b>50. Txt pheochromocytoma = - BP</b>
Terazosin	<b>51. Txt BPH</b>
Yohimbine	52. ↑ sympathetic outflow = α2 (-). <b>Txt impotence.</b>
Cardioselective NMJ	53. Pancuronium = ↑HR due to atropine-like anti muscarinic vagolytic effect & Gallamine (-)r
Ecothiophate	54. Irreversible cholinesterase (-)r.
Pyridostigmine	55. Cholinomimetic that ↑s M & N-r effects. (-) acetylcholinesterase & plasma cholinesterase <b>56. DOC for the oral Txt of MG</b>

## Cardio

Digoxin	1. ↓ AV nodal conduction/ inh. Na/K/ATPase = inc. Ca conc. in heart cells = inc. contracti on force
Diltiazem	2. Txt black men. Txt AV nodal re entrance
Quinidine	3. ↓ AV nodal conduction. Cinchonism. Anticholinergic= aggravate MG. Hypotension= α block
Verapamil	4. ↓ AV nodal conduction. ↓ BP. Negative inotrope= no CHF use
Propranolol	5. ↓ AV nodal conduction. ↓ BP. Negative inotrope(= β block) Aggravates Asthma and Diabetes Melitus via β2 block.
Diazoxide	6. Balanced vasodilator.
Nitroprusside	7. Balanced vasodilator. Unloads heart. ↑s cyanide= pre-txt w/ thiosulfate. Txt Acute HTN/v Crisis
Reserpine	8. <b>Txt severe &amp; resistant HTN.</b> Depletes CA. See stuffy nose. No to pts w/ peptic ulcers.
Dobutamine	9. At high doses β2(+) offsets α1 = β1 ↑ CO w/o systemic vascular resistance
Dopamine	10. At low doses Txt Shock= dilates renal and mesenteric aa= maintain urine output

Esmolol	11. Short acting $\beta(-)$
Captopril	12. Balanced vasodilator. Txt Outpt. CHF see dry cough(bradykinin induced)
Digoxin	13. <b>Txt CHF &amp; Atrial Flutter</b> - inotropic - $\downarrow$ K <sup>+</sup> levels= dig. Toxicity
Dig. Toxicity	14. Fatal ventricular arrhythmias w/ sever AV block
Quinidine	15. Class I a anti arrhythmic. Moderate Na Ch. Block
Lidocaine	16. Class I b anti arrhythmic. Normalizes conduction. Txt initial MI = control arrhythmias
Flecainide	17. Class I c anti arrhythmic. Marked conduction slowing
Amiodarone	18. Long t <sub>1/2</sub> = need potent doses to obtain desired level for action. See blue skin, ocular deposits, Pulmonary Fibrosis.
NE	19. $\uparrow$ AV nodal conduction via $\beta_1$ . Metoprolol(-) $\beta_1$
Ach	20. $\downarrow$ AV nodal conduction via M receptor. Atropine(-) M-r
Atenolol	21. Controls catecholamine induced arrhythmias
Bretylium	22. <b>Txt Malignant Ventricular Arrhythmias</b> but causes passing catecholamine release that can aggravate arrhythmias briefly
Nimodipine	23. <b>Txt Acute subarachnoid hemorrhage</b> by preventing post hemorrhagic vasospasm
Atropine	24. $\downarrow$ excess vagal tone as seen in Sinus Bradycardia
Nitrates	25. $\downarrow$ preload= venous pooling. $\downarrow$ MVO <sub>2</sub> = reflex tachy. $\uparrow$ ventr work= dec O <sub>2</sub> demand
Propranolol	26. Blocks reflex tachy but causes excess brady= $\uparrow$ diastole time= $\uparrow$ EDV
Verapamil	27. $\uparrow$ O <sub>2</sub> supply via $\downarrow$ in vasospasm Txt Prinzmetal's variant angina
Aspirin	28. Prevents arterial platelet adhesion (not DVThrombi). Inactivates COX= $\downarrow$ platelet production of TxA <sub>2</sub> , a potent vasoconstrictor
Warfarin	29. (-)Vit. K dependent gamma carboxylation of clotting factors= anticoagulation state
Heparin	30. Dependent on Antithrombin III activation
TPA	31. Binds to fibrin clots & activates plasminogen on the spot. Short t <sub>1/2</sub> , given I.V. 32. Does not discriminate b/t fibrin-based clots= bleeding & stroke complications arise
Streptokinase	33. From bacteria= allergies arise. Can see excess bleeding in post-op pts.
Urokinase	34. Human source. $\uparrow$ plasmin. Can see excess bleeding in post-op pts.
Colestipol	35. Bile acid sequestrants. Interrupt bile acid reabsorption= $\uparrow$ LDL uptake. Cholestyramine same MOA.
Lovastatin	36. HMGCoA reductase(-)= $\uparrow$ LDL-r synthesis. Pravastatin/ Mevastatin same MOA.
Losartan	37. $\downarrow$ Aldosterone. $\uparrow$ Renin 2-3x's
Diazoxide	38. <b>Txt insulinomas</b> . Not balanced vasodilator= onlt dilates arterial smooth muscle
Clonidine	39. Central $\alpha_2(+)$ . $\downarrow$ TPR via $\downarrow$ symapthetic effect
Methyldopa	40. Central $\alpha_2(+)$ . (++) Coombs= Hemolytic anemia
Phenytoin	41. Class I b. Reverses mild AV block due to digitoxin toxicity
Procainamide	42. Class I a. SLE like syndrome.
Indopamide	43. Only Thiazide that will have no effect on cholesterol levels
Thiazides	44. Older black men w/ HTN due to $\uparrow$ Renin.
$\beta(-)$	45. Young white men w/o asthma (cause bronchospasm)
ACEI s	46. (-) change AI $\rightarrow$ AI I. (-) Bradykinin inactivation. Captopril/ Enalapril 47. Cause renal failure = use w/ caution in the elderly
Epinephrine	48. $\uparrow$ contraction rate & force via $\beta_1$ . 49. $\uparrow$ systolic but $\downarrow$ diastolic BP. 50. $\downarrow$ peripheral resistance via $\beta_2$ vasodilation
Norepi.	51. $\uparrow$ heart rate and $\uparrow$ systolic and diastolic BP 52. $\uparrow$ peripheral blood vessel resistance
Methyldopa	53. DOC for pregnancy induced HTN
Quinidine pre-txt	54. Atrial arrhythmia pretxt w/ a drug that will $\downarrow$ ventricular response: Dig: $\beta(-)$ ; Ca Ch.(-)
Class I	55. $\beta(-)$ $\downarrow$ risk fo reinfarction & sudden death following MI
"Gray man"	56. Amiodarone: Class I II antiarrhythmia
Beperidil	57. Ca Ch(-). Limited clinical use due to Torsades de Pointes
ACEI s	58. Vasodilate renal efferents > than afferent arterioles: $\downarrow$ GFR & Filtration pressure 59. $\downarrow$ Diabetic renal failure progression
Adenosine	60. I ts receptor is blocked by Methylxanthines (ie... Theophylline) 61. Favored for the <b>Txt of Reentrant Supra Ventricular Tachycardia</b>
Enoxaparin	62. Low molecular weight heparin = Oral anticoagulant

Isoproterenol	63. ↑HR & ↓MAP
Variant angina	64. Use Ca Ch. (-)r ie... Nifedipine
Contraindicated in CHF	65. β (-)r = you don't want to ↓ the heart's pumping strength

## CNS

"TOM"	1. Short -acting BDZs: 2. Triazolam 3. Onazepam 4. Midazolam
Butyrophenone	5. Haloperidol & Droperidol
Atypical D4	6. Clozapine - Thioridazine - Olanzapine - Risperidone = Do not cause EPS
Flumazenil	7. BDZ antidote for OD
Methylphenidate	<b>8. Txt attention deficit disorder</b>
Phenytoin	9. Causes aplastic anemia/ gingival hyperplasia/ cleft lip & palate
Thiopental	10. Short acting Barb
Carbamazepine	11. <b>DOC trigeminal neuralgia.</b> Txt lennox gestaut seizures in kids
Atypical D4-r	12. Thioridazine; Olanzapine; Clozapine
Pimozide	<b>13. Txt Tourette's</b>
Risperidone	<b>14. Good for negative symptoms</b>
Thioridazine	15. Most anti cholinergic neuroleptic
Haloperidol	16. Neuroleptic malignant hyperthermia due to chronic D2 block. give Dantrolene and Bromocriptine
Amphetamine	17. Enuresis
Clomipramine	18. <b>Txt OCD</b> See aggressive behavior w/ use
Trazadone	19. Priapism
Bupropion	20. Helps to quit smoking
SSRI s	21. Primarily used for OCD
Fluoxetine	22. Good for negative symptoms
Phenelzine	23. Irreversible MAOI
Lithium	<b>24. Txt manic phase of Bipolar Disorder</b> 25. Causes goiter by (-) conversion of T4 to T3 26. Nephrogenic diabetes insipidus 27. Low salt diet will lead to Li toxicity
Alprazolam	<b>28. DOC stage fright</b>
Propranolol	29. Social phobia
κ-r	30. Spinal analgesia. Euphoria. ++euphoria. ++sedation. Constipation.
μ-r	31. Supraspinal analgesia. Dysphoria. +respiratory depression. +sedation.
Morphine & O <sub>2</sub>	32. Admin. is contraindicated to pts on morphine sedation= ↓ CO <sub>2</sub> sensitivity and O <sub>2</sub> admin. can stop breathing.
Morphine	33. ↑ ICP = do not give to pt. with head trauma
Morphine OD	34. 1.pinpoint pupils 2.↓d respiration 3.coma
Meperidine	35. Anesthetic used during labor
Hydromorphone	36. μ(+) used in renal failure
Tramadol	37. Ambulatory txt for mod. to severe pain
Naloxone	38. <b>Txt opioid OD.</b> Reverses respiratory depression
Pentazocine	39. Part κ(+) & part μ(-)
Butorphenol	40. Part κ(+) & part μ(-)
Nalbuphene	41. Part κ(+) & part μ(-)
↓ GABA	42. ↓ seizure focus= Barbs & BDZs
↓ Fast Na Ch.	43. ↓ electrical activity spread = Phenytoin & Carbamazepine
Methoxyflurane	44. Can be nephrotoxic. Needs low MAC for anesthetic induction.
Enflurane	45. Can cause tonic/clonic muscle spasms
Isoflurane	46. Can cause bronchospasm
Halothane	47. Can cause ventricular extrasystoles & Malignant hyperthermia & Hepatitis



Nitric Oxide	48. No effect on HR. Needs high MAC for anesthetic induction.
Thiopental	49. Short acting Barb.
Ketamine	50. Dissociative anesthetic
Droperidol	51. Can be used in combo w/ Fentanyl for neuroleptoanalgesic effect 52. Neuroleptic tranquilizer. Has mild alpha block
Fentanyl	53. Can be used on combo w/ Droperidol for neuroleptoanalgesic effect 54. Used transdermally for chronic pain
Midazolam	55. Pre anesthetic. Induces amnesia
Primidone	56. Biotransformed to Phenobarb.
C & A delta Fibers	57. First fibers to be blocked w/ anesthesia
Esters	58. Procaine, Tetracaine, Benzocaine 59. Broken down and make PABA (allergen)
Amides	60. Lidocaine, Mepivacaine, Bupivacaine, Etidocaine= "i" before "caine" always an amide 61. Metabolized in the liver
Amphetamine	62. DA reuptake (-)r. MAOI. Parkinson's txt
Bromocriptine	63. D2(+). Used w/ L-Dopa for "on-off" phenomenon of Parkinson's
Benzotropine	64. Ant M w/ some DA reuptake (-). Parkinson's txt
Amantidine	65. ↓ DA reuptake. Can cause livido reticularis= skin mottling.
Diphenhydramine	<b>66. Txt early Parkinson's stages</b>
Pergolide	67. > Effective & longer acting than Bromocriptine
Ethosuximide	<b>68. DOC for Absence seizures</b>
Tranlycypromine	69. MAOI = antidepressant
SSRI & MAOI	70. Fatal combo, especially seen with the use of Paroxetine or Fluoxetine (SSRI s) and Tranlycypromine (MAOI)
Labor opioids	71. Meperidine & Nalbuphine
Desipramine causes	72. Sudden cardiac death in children

## Anti-Infective

Primaquine	<b>4. Malaria prophylaxis</b> 5. Used for extraerythrocytic forms Plasmodium vivax or P. ovale
Ciprofloxacin	6. Quinolone derivative
Sulfonamides	7. PABA structural analogs 8. Inhibit Folic acid synthesis
Tetracyclines, anuria & the exception	9. Should not be used in anuric pt due to production of (-) Nitrogen balance & ↑d BUN levels. 10. Doxycycline is the exception
Ceftriazone	11. 3 <sup>rd</sup> generation cephalosporin 12. <b>DOC for bacterial meningitis in kids</b> (ie... HiB) 13. One dose txt of gonorrhea
Hepatic coma DOC	14. Neomycin (aminoglycoside) – it suppresses the normal flora = ↓g NH <sub>4</sub> production = ↓g free nitrogen levels in the bloodstream.
Clavulanic acid	15. Irreversible (-)r of β lactamases, but ot of transpeptidase = use w/ a β lactamase sensitive penicillin
Piperacillin	<b>16. Txt Pseudomonas aeruginosa &amp; Klebsiella</b> 17. Broad spectrum antibiotic
Streptomycin (aminoglycoside)	<b>18. Txt Mycobacterium tuberculosis</b>
Isoniazid	19. Most commonly used drug for TB. 20. Usually combined w/ Rifampin and/or Ethambutol 21. <b>Pre Txt w/ Pyridoxine (Vit B6)</b> can prevent peripheral neuritis'
Pyrantel Pamoate	<b>22. Txt of Hookworm disease</b> 23. Depolarizing NMJ (-)r
Buy "AT" 30, "CELL" at 50	24. A = Aminoglycosides 25. T = Tetracyclines 26. C = Chloramphenicol 27. E = Erythromycin (macrolide) 28. L = Clindamycin 29. L = Lincomycin
Cefoxitin	30. <b>Txt intraabdominal infections</b> (ie... w/ Bacteroides fragilis)

	31. Traditional txt has been Clindamycin & Gentamycin
Chloramphenicol	32. Broad spectrum antibiotic 33. Bone marrow depression (common) - Aplastic anemia (rare) 34. Gray baby syndrome (chloramphenicol cannot be conjugated) 35. <b>DOC Typhoid Fever</b> (symptomatic Salmonella infection) 36. <b>DOC HiB meningitis in kids</b> - especially resistant strain to ampicillin
Nifurtimox	<b>37. Txt trypanosomiasis</b>
Metronidazole	<b>38. Txt Leishmaniasis &amp; Amebiasis</b> 39. Good for anaerobic bacteria = Bacteroides fragilis <b>40. DOC Trichomoniasis</b> <b>41. DOC Giardia lamblia</b>
Txt P. carinii	42. TMP-SMX & Pentamidine
Tetracycline	43. Txt of Brucellosis & Cholera 44. Txt Rocky Mountain Spotted Fever 45. Txt spirochete infections = Lyme disease (Borrelia burgdorferi)
TMP-SMX	46. (-) dihydrofolate reductase activity
Benzathine Penicillin G	47. Long duration of action = given once every 3-4 weeks for Txt of Syphilis
Praziquantel	48. Txt Schistosomiasis (trematode [fluke] infections)
Melarsoprol	49. Txt Trypanosomiasis that has neurological symptoms
Stibogluconate	50. Txt Leishmaniasis
Fluconazole	51. Txt fungal encephalitis
Amphotericin B	52. Polyene antifungal
Ketoconazole MOA	53. (-) fungal ergosterol synthesis = disrupts membrane
Griseofulvin MOA	54. Accumulates in keratinized layers of the skin = used in dermatomycoses infections
<b>Mefloquine</b>	<b>55. Anti malarial</b> <b>56. Txt Chloroquine resistant strains = P. falciparum</b>
Chloroquine	57. Txt for Malaria when inside RBC
Nifurtimox	58. DOC Chagas disease due to Trypanosoma cruzi
Erythromycin	59. Used in pts allergic to penicillins
Nystatin	60. Topical txt of superficial mycotic infections = Candidiasis
Acyclovir	61. Guanine analog 62. Txt Herpes infections
Imipenem	63. Used w/ Cilastatin 64. Can cause seizures
Cefoperazone side effects	65. Bleeding due to vit K level alterations 66. Contraindicated in pts w/ bleeding disorders
Vancomycin	67. Used for MRSS (methicillin resistant Staph. Aureus) 68. "Red neck": due to histamine release causes facial flushing
Meropenem	69. used w/ Cilastatin 70. Does not cause seizures (cf w/ Imipenem)
Nafcillin	71. Only penicillin that does not need dose adjustment in renal impairment
Peripheral neuropathy	72. Seen w/ use of: 73. Metronidazole - Isoniazid - Vincristine - ddi - AZT - Allopurinol
Sulfonamides & newborns	74. Kernicterus can occur
"O.N.E." for gonorrhea	75. Fluoroquinolones used in a one dose deal for gonorrhea: 76. O = Ofloxacin 77. N = Norfloxacin 78. E = Enoxacin
Ribavirin	79. Txt RSV (Respiratory Syncytial Virus)

## Anti-Neoplastics

Cyclosporine	80. Protects against rejections from organ transplants 81. Does not induce bone marrow depression
Cyclophosphamide	82. Alkylating agent of both purine & pyrimidine bases of DNA 83. Txt CLL
Cisplatin's toxicities	84. Nephro- & Ototoxicity

Methotrexate	85. Antimetabolite of folic acid: (-)dihydrofolate reductase
Leucovorin Rescue	86. Can block/reduce Methotrexate = ↑ folic acid via a reduced folate
Bleomycin toxicities	87. Pneumonitis & pulmonary fibrosis
Azathiorine	88. Used in organ transplantation = kidney allografts 89. Allopurinol can ↑ its activity by (-) its biotransformation to xanthine oxidase
MOPP	90. Chemotherapy used in the txt of Hodgkin's disease 91. M = Mechlorethamine - nitrogen mustard 92. O = Oncovin (Vincristine) - prevents microtubule assembly 93. P = Procarbazine 94. P = Prednisone - glucocorticoid, inducing apoptosis
Tamoxifen	95. (-) estrogen receptor 96. Txt of breast tumors, can see associated endometrial CA
Flutamide	97. Antiandrogenic 98. Used w/ Leuprolide (LH-RH analog) 99. Txt prostatic CA
Megestrol	100. (-) progesterone receptor 101. Txt endometrial CA
Fluoxymesterone	102. Androgenic steroid 103. Txt mammary CA in postmenopausal women
Methotrexate	104. Folic acid analog that (-) tetrahydrofolate synthesis by (-) dihydrofolate reductase 105. Txt of ALL 106. Txt of Psoriasis
Brain tumor Txt	107. Lomustine 108. Carmustine - Causes pulmonary fibrosis
Streptozocin	109. Attaches to β cells 110. Txt of pancreatic insulinomas
Cytarabine (AraC)	111. Pyrimidine analog 112. DOC for AML
Dactinomycin	113. Used for Wilms tumor & rhabdomyosarcoma
Etoposide	114. Used for oat cell CA
Paclitaxel	115. Used for ovarian CA
Amifostine	116. Can ↓ nephrotoxicity due to chronic use of Cisplatin

## Path

Mobitz I	117. Usually due to inferior MI . Rarely goes into 3 <sup>rd</sup> degree block. 118. Txt w/ Atropine or Isoproterenol.
Mobitz II	119. BBB association. Often goes to 3 <sup>rd</sup> degree AV block. Usually due to anterior MI .
P wave	120. Atrial depol.
a wave	121. LA contraction
T wave	122. Ventricular repol.
Wavy fibers	123. Eosinophilic bands of necrotic myocytes. Early sign of MI .
Janeway's lesions	124. Acute bacterial endocarditis. 125. Nontender, erythematous lesions of palms & soles.
Osler's nodes	126. Subacute bacterial endocarditis. 127. Tender lesions of fingers & toes.
Thiamine defcy	128. Wet Beri Beri heart. Dilated (congested) cardiomyopathy due to chronic alcohol consumption 129. Dry Beri Beri = peripheral neuropathy 130. Wernicke-Korsakoff = ataxia; confusion; confabulation; memory loss
Fibrinous Pericarditis	131. Associated w/ MI : Dressler's
Serous Pericarditis	132. Associated w/ nonbacterial; viral (Coxsackie) infection; immunologic reaction.
Friction Rub	133. Pericarditis association
Hemorrhagic Pericarditis	134. Associated w/ TB or neoplasm
Restrictive Cardiomyopathy	135. Aka infiltrative cardiomyopathy that stiffens the heart 136. Due to amyloidosis in the elderly 137. Due to , also see schaumann & asteroid bodies in young (<25 yoa).
PML's infectious agent	138. JC Virus (Papovavirus = dsDNA, naked icosahedral capsid)

Edema	139. ↑Pc (more seeps out) 140. ↓πc (less reabsorbed) 141. ↑ permeability 142. Block lymphatic drainage
Adult Polycystic Kidney Disease	143. Commonly see liver cysts & Berry aneurysms along w/ kidney cysts. Hematuria & HTN also present. 144. 3 cysts in ea. Kidney w/ + family history confirms diagnosis
Malignant HTN & Kidneys	145. Petehial hemorrhages are seen on kidney surfaces = Flea-Bitten surface = young black men
Nephritic signs	146. Hematuria; RBC casts; HTN
Nephrotic signs	147. Proteinuria; Hypoalbuminemia; Edema
Podocyte Effacement seen w/	148. Minimal Change (Lipoid nephrosis) disease
ASO seen in	149. Acute post-streptococcal GN (due to βHGASrtep) 150. Anti streptolysin O
Crescentic GN	151. Rapidly progressive GN – nephritic syndrome 152. Associated w/ multi system disease or post-strep/post infectious glomerular nephritis
Hereditary Nephritis	153. Alport's syndrome. X linked 154. Renal disease w/ deafness & ocular abnormalities
Membranoproliferative GN	155. Can be secondary to complement deficiency; chronic infections; CLL 156. See tram tracking
TypeI Membrano Proliferative GN deposits	157. C3 & IgG deposits
TypeII Membrano Proliferative GN deposits	158. Only C3 deposits 159. Aka Dense deposit disease
Focal segmental glomerulosclerosis deposits	160. IgM & C3 deposits
Cold agglutinins	161. Seen in atypical pneumonia 162. It is IgM Ab with specificity for I Ag on adult RBCs
Scrofula	163. TB in the lymph nodes
Aspirin-Asthma Triad	164. Nasal polyps – Rhinitis – bronchoconstriction
Ferruginous bodies	165. Hemosiderin (pigment w/ Fe <sup>3+</sup> ) covered macrophages that have been phagocytised
Pancoast's tumor causes	166. Ulnar nerve pain & Horner's syndrome
Fatty degeneration	167. Made up primarily of triglycerides 168. Most commonly due to alcoholism which commonly leads to hepatic cirrhosis 169. Associated w/ CCl <sub>4</sub>
Cloudy swelling	170. Failure of cellular Na pump 171. Seen in Fatty degeneration of the liver and in Hydropic (Vacuolar) degeneration of the liver
Hydropic degeneration	172. Severe form of cloudy swelling 173. Seen with hypokalemia induced by vomiting/diarrhea
Liquefaction necrosis	174. Rapid enzymatic break down of lipids 175. Seen commonly in Brain & Spinal cord (CNS) injuries 176. Seen in suppurative infections = pus formation
Coagulation necrosis	177. Result of sudden ischemia 178. Seen in organs w/ end arteries limited collateral circulation) = heart, lung, kidney, spleen
Caseation necrosis	179. Combination of both coagulation & liquefaction necrosis 180. Seen w/ M. tuberculosis & Histoplasma capsulatum infection
Fibrinoid necrosis	181. Seen in the walls of small arteries 182. Associated w/ malignant hypertension, polyarteritis nodosa, immune mediated vasculitis
Fat necrosis	183. Result of lipase actions liberated from pancreatic enzymes 184. Seen w/ Acute pancreatitis = saponification results
Hemoptysis	185. Blood in sputum
Pulmonary embolism	186. Most commonly thrombus from lower extremity vein
Phlebothrombosis	187. From a vein of lower extremities, of a pregnant uterus, in Congestive heart failure, bed ridden pt, 188. As a complication in a pt w/ Pancreatic CA due to ↑d blood coagulability
Saddle embolus	189. Embolus lodged in bifurcation of pulmonary trunks 190. ↑↑ RV strain = RV & RA dilate = Acute cor Pulmonale
Paradoxical embolism	191. Right to Left shunt allows a venous embolism to enter arterial circulation 192. Patent ovale foramen or Atrial septal defect
Tuberculoid granuloma	193. Collection of macrophages w/o caseation 194. Seen w/ Sarcoidosis (non-caseating); Syphilis; Brucellosis and Leprotic infections

Cellulitis	195. Spreading infection due to streptococcus
PSA	196. Prostate Specific Antigen = elevated in prostatic CA
↑↑5-HT	197. In cases of metastatic carcinoid, txt w/ Methysergide (5HT antagonist)
↑ αFeto Protein	198. Hepatocarcinoma 199. Neural tube defects
CEA	200. Carcinoembryonic Antigen = elevated in Colon CA
Chromosome 13	201. Retinoblastoma
Chromosome 11p	202. Wilms tumor of the kidney
Vinyl Chloride	203. Associated w/ Angiosarcoma of the liver
Agent Orange	204. Contains dioxin 205. Implicated as a cause of Hodgkin's disease, non-Hodgkin's lymphoma & soft tissue sarcomas
Parasites & CA	206. <i>Schistosoma haematobium</i> = Urinary bladder CA 207. <i>S. mansoni</i> = Colon CA 208. <i>Aspergillus flavus</i> = potent hepatocarcinogen
Ochronosis	209. Alkaptonuria 210. Error in tyrosine metabolism due to Homogentisic acid (oxidizes tyrosine) 211. Involving intervertebral disks = Ankylosing Spondylitis = Poker spine 212. See dark urine; dark coloration of sclera, tendons, cartilage
Lead poisoning	213. Acid fast inclusion bodies 214. ↑ urinary coproporphyrin 215. Anemia: microcytic/ hypochromic 216. Stippling of the basophils 217. Gingival line & lead line in bones: x-ray 218. Mental retardation
Heroin OD, clinically	219. Massive pulmonary edema w/ frothy fluid from the nostrils
Fetal alcohol syndrome	220. Small head, small eyes, funnel chest, ASD, mental deficiency, and hirsutism
Atypical mycobacterium	221. <i>M. kansasii</i> & <i>M. avium</i> intracellulare
Cold abscesses	222. Liquefied TB lesions similar to pyogenic abscesses but lacking acute inflammation
Actinomyces israelii	223. Farmer's infection 224. Lumpy jaw (from chewing grain) & PID (IUD), but most common is due to saprophytic
Congenital Syphilis	225. Saddle nose, Saber shin, Hutchinson's teeth, nerve deafness, interstitial keratitis
Warthin-Finkeldey cells	226. Reticuloendothelial giant cells on tonsils, lymph nodes, spleen 227. Seen with Rubella (measles) due to paramyxovirus
Diphyllobothrium latum	228. Tapeworm infection causing megaloblastic anemia by consuming large amount of vit B12 in the host
Subacute Bacterial Endocarditis	229. α Hemolytic Streptococci ( <i>S. viridans</i> ) = usually in pt w/ pre-existing heart problem
Acute Bacterial Endocarditis	230. <i>Staph aureus</i> , β Hemolytic Streptococci, <i>E. coli</i> 231. Common among drug addicts & diabetics
Mitral Insufficiency	232. Ruptured papillary muscle
Left Anterior Descending branch	233. Branch of the Left Coronary artery 234. Highest frequency of thrombotic occlusion 235. MI = anterior wall of the LV, especially in apical part of interventricular septum
Left Circumflex branch	236. Branch of the Left Coronary artery 237. Occlusion = MI of posterior/lateral wall of the LV
Dissecting Aneurysm	238. False aneurysm: it is splitting of the media of the aorta 239. Usually accompanied w/ long history of severe hypertension, also seen w/ familial hyperlipidemia, atherosclerotic disease, Marfan's Collagen disease 240. Zones of medial necrosis +/- slitlike cysts = Medial Cystic Necrosis of Erdheim
Cor Pulmonale	241. Right ventricular strain, associated w/ right ventricular hypertrophy
Acute Cor Pulmonale	242. Sudden right ventricular strain due to a massive pulmonary embolism
Bronchopneumonia	243. Lobular (rather than lobar) 244. Due to <i>Staph aureus</i> ; <i>Pseudomonas aeruginosa</i> ; <i>Klebsiella</i> ; <i>E. coli</i> 245. Abscess formation is common
Lobar pneumonia	246. Due to <i>Strep. Pneumoniae</i> infection (5% due to <i>Klebsiella</i> ) 247. Red Hepatization: days 1-3 of the pneumonia 248. Gray Hepatization: days 3-8 of untreated pneumonia 249. Complications: pleural effusion; atelectasia; fibrinous pleuritis; empyema; fibrinous pericarditis; otitis media

Bronchiectasis	250. Permanent dilatation of the bronchi – predisposed by chronic sinusitis and post nasal drip 251. Suppuration associated 252. Lower lobe > than upper lobe involvement
Cold Agglutinins	253. Found w/ <i>Mycoplasma pneumoniae</i>
Panlobular Emphysema	254. $\alpha_1$ – antitrypsin deficiency, causing elastase $\uparrow$ = $\uparrow$ compliance in the lung
Bulla	255. Associated w/ Emphysema = “Bleb” = outpouching - If it ruptures causes Pneumothorax
Farmer's Lung	256. Due to <i>Micropolyspora faeni</i> (thermophilic actinomycetes)
Bagassosis	257. Due to <i>M. vulgaris</i> (actinomycetes) 258. Inhalation of sugar cane dust
Silo-Filler's Lung	259. Due to Nitrogen dioxide from nitrates in corn
G6PDH Deficiency	260. Sex-linked chronic hemolytic anemia w/o challenge or after eating fava beans 261. Heinz Bodies appear in RBCs
HbF $\uparrow\uparrow$	262. Sick Cell Anemia
Multiple Myeloma	263. Lytic lesions of flat bones (“salt & pepper lesions”) = vertebrae, ribs, skull; Hypercalcemia; Bence-Jones protein casts
Hodgkin's Disease	264. Malignant neoplasm of the lymph nodes causing pruritis; fever = looks like an acute infection 265. Reed Sternberg cells
Polyarteritis Nodosa	266. Immune complex disease of Ag-Ab complexes on blood vessel wall 267. Half of the immune complexes have Hepatitis B Ag 268. Can see fever; abd. pain; $\downarrow$ wt; HTN; muscle aches
Sprue	269. Celiac disease due to a gluten-induced enteropathy = small intestine villi are blunted 270. High titers of anti-gliadin Abs & $\uparrow$ IgA levels
Regional Enteritis	271. Crohn's Disease 272. Association w/ Arthritis; Uveitis; Erythema Nodosum
Whipple's Disease	273. Intestinal Lipodystrophy = malabsorption syndrome
Kulchitsky cells	274. Neural crest cells from which carcinoids arise = of the Bronchi; GI T; Pancreas
Ulcerative Colitis	275. Inflammatory disease of the colon w/ $\uparrow$ colon CA incidence 276. Crypt abscess in the crypts of Lieberkuhn 277. Pseudopolyps when ulcers are deep 278. Not transmural involvement
Vaginal Adenosis	279. Women exposed to DES (Diethylstilbesterol) in utero before the 18 <sup>th</sup> week of pregnancy 280. Some develop clear cell adenocarcinoma of the vagina & cervix
Scirrhus Carcinoma	281. Infiltrating Duct Carcinoma w/ fibrosis – most common type of breast carcinoma
Hofbauer Cells	282. Lipid laden macrophages seen in villi of Erythroblastosis Fetalis
Retinopathy of Prematurity	283. Retrolental Fibroplasia = cause of blindness in premies due to high O <sub>2</sub> concentrations
IgA deficiency	284. Pt has recurrent infections & diarrhea w/ $\uparrow$ respiratory tract allergy & autoimmune diseases 285. If given blood w/ IgA = develop severe, fatal anaphylaxis reaction
Primary Sjorgren's	286. Dry eyes & dry mouth, arthritis. $\uparrow$ risk for B cell lymphoma. HLA-DR3 frequent. Autoimmune disease.
Secondary Sjorgren's	287. Rheumatoid arthritis, SLE, or systemic sclerosis association 288. RA association shows HLA-DR4
LDH1 & LDH2	289. Myocardium. LDH1 higher than LDH2 = Myocardial Infarction
LDH3	290. Lung tissue
LDH4 & LDH5	291. Liver cells
Keratomalacia	292. Severe Vit A deficiency. See Bitot's spots in the eyes = gray plaques = thickened, keratinized ET
Metabisfite Test	293. Suspending RBCs in a low O <sub>2</sub> content solution 294. Can detect Hemoglobin S, which sickles in low O <sub>2</sub>
Microangiopathic Hemolytic Anemia	295. Can be due to Hemolytic Uremic Syndrome & Thrombotic Thrombocytopenic Purpura (TTP) 296. See Helmet cells
Wright's stain	297. Stain for Burkitt's lymphoma
Mononucleosis	298. Due to EBV infection 299. If Mono is treated w/ Ampicillin, thinking that it is a strep pharyngitis, a rash will occur.
T(8;14)	300. Burkitt's lymphoma = c-myc oncogene overexpression
T(9;22)	301. CML = c-abl/bcr gene formation = Philadelphia translocation
Langerhan Cell Histiocytosis	302. Letter Siwe syndrome; Hand Schuller Christian Disease; Eosinophilic Granuloma 303. Birbeck granules are present = tennis racket shape
Myeloid Metaplasia	304. Alkaline phosphatase $\uparrow$ /normal compare to CML = low to absent 305. Anemia; splenomegaly; platelets > 1 million = extensive extra-medullary hematopoiesis

Multiple Myeloma	306.Weakness; wt. loss; recurrent infection; proteinuria; anemia; ↑ proliferation of plasma cells in BM = plasma cell dx 307.Serum M protein spike – most often of IgG or IgA 308.Hypercalcemia (↑ bone destruction)
T(14;18)	309.NH Lymphoma = bcl2 proto-oncogene overexpression seen w/ <u>Small Cleaved Cell (Follicular) Lymphoma</u>
Focal Segmental GN exs	310. IgA Focal GN = Berger's disease; SLE; PAN; Schonlein-Henoch purpura (anaphylactoid purpura)
Nephrotic Syndrome exs	311. Focal (Segmental) GN; Membranous GN; Lipoid (Minimal Change) GN; Membranoproliferative GN; Hep B; Syphilis; Penicillamine
Schistosoma Haematobium	312. Infection is associated w/ Squamous cell CA of the Bladder (most common Bladder CA is transitional cell type) 313. Associated w/ portal HTN due to intrahepatic obstruction
Penicillin Resistant PID	314. PID is usually due to N. Gonorrhoeae, but if unresponsive to penicillin think of Bacteroides species
Duret Hemorrhages	315. Severe ↑ in ICP w/ downward displacement of cerebellar tonsils into Foramen Magnum causing a compression on the brainstem w/ hemorrhaging into the pons & midbrain 316. Nearly always associated w/ death due to damage to the vital centers in these areas
Hypertensive Hemorrhage	317. Predilection for lenticulostriate arteries = putamen & internal capsule hemorrhages
Cerebral Embolism from	318. MI w/ Mural Thrombi; Atrial Fib Thrombi = Marantic thrombi; L-sided Bacterial Endocarditis; Paradoxical Embolism of septal defect
Neurosyphilis	319. Tabes Dorsalis = ↓ joint position sensation, ↓ pain sensation, ataxia, Argyl Robertson pupils 320.Syphilitic meningitis 321. Paretic neurosyphilis
5p-	322.Cri di Chat: mental retardation; small head; wide set eyes; low set ears; cat-like cry
Trisomy 13	323.Patau's: small head & eyes; cleft lip & palate; many fingers
Acute Cold Agglutination	324.Abs to I blood group Ag. Mediated by IgM Abs 325.Complication of EBV or Mycoplasma pneumoniae infections
Chronic Cold Agglutination	326.Associated w/lymphoid neoplasms. See agglutination & hemolysis in tissue exposed to cold. IgM Abs
RBC Osmotic Fragility	327.Hereditary Spherocytosis
Non-Hodgkin's Lymphomas	328.Small Lymphocytic: low grade B cell lymphoma of the elderly. Related to CLL. 329.Small Cleaved cell (Follicular): low grade B cell lymphoma of the elderly. T(14;18) bcl-2 oncogene 330.Large Cell 331. Lymphoblastic: high grade T cell lymphoma of kids progressing to T-ALL 332. <b>Small Non Cleaved</b> = Burkitt's: high grade B cell lymphoma. EBV infection. <i>Starry sky</i> histo appearance. T(8;14) c-myc proto-oncogene. Related to B-ALL
Singer's Nodules	333.Benign laryngeal polyps associated w/ smoking & overuse of the voice
Paraseptal emphysema	334.Associated w/ blebs (large subpleural bullae) that can rupture and cause pneumothorax
Superior Vena Cava Syndrome	335.Obstructed due to bronchogenic carcinoma. Causing swollen face & cyanosis.
Betel nuts	336.Associated to oral cancer.
Fundal (Type A) Gastritis	337.Antibodies to parietal cells; pernicious anemia; autoimmune diseases
Antral (Type B) Gastritis	338.Associated w/ Helicobacter (Campylobacter) pylori infection. 90% of duodenal ulcer
Primary Biliary Cirrhosis	339.Autoimmune origin; middle aged women; anti -mitochondrial Abs 340.Jaundice; itching; hypercholesterolemia (can see cutaneous xanthomas)
Acute Pancreatitis	341. ↑ pancreatic enzymes = fat necrosis; saponification = hypocalcemia; ↑ serum amylase 342.Severe epigastric ab pain; prostration; radiation to the back
Radiating Back Pain	343.Chronic pancreatitis
Complete Hydatidiform Mole	344.No embryo. Paternal derivation only. 46XX
Partial Hydatidiform Mole	345.Embryo. 2 or more sperms fertilized 1 ovum: triploidy/tetraploidy occurs
Cold Nodules	346.Hypoplastic Goiter nodules that do not take up radio active iodine. [Opposite: hot & do take up iodine]
Acidophils	347.Mammotrophs = Prolactin 348.Somatotrophs = GH
Basophils	349.Thyrotrophs = TSH 350.Gonadotrophs = LH 351. Corticotrophs = ACTH & FSH
Lacunar Strokes	352.Small/focal aa occlusions. Purely motor or sensory. 353.Sensory: lesion of thalamus 354.Motor: lesion of internal capsule

CSF of Bacterial Meningitis	355. ↓ Glucose; ↑ Protein; ↑ Neutrophils; ↑ Pressure
CSF of Viral Meningitis	356. Normal Glucose; +/- ↑ Protein; ↑ Lymphocytes
Marble Bone Disease	357. Osteoporosis: Albers-Schonberg Disease = in spite of ↑ bone density, many fractures = ↓ osteoclasts
C5a	358. Involved in Chemotaxis (for Neutrophils)
C3b	359. Involved in Opsonization (& IgG)
Anaphylotoxins	360. C3a & C5a (mediate Histamine release from Basophils & Mast cells)
Vasoactive Mediators	361. <u>Vasoconstriction</u> : TxA <sub>2</sub> ; LTC <sub>4</sub> ; LTD <sub>4</sub> ; LTE <sub>4</sub> ; <b>PAF</b> 362. <u>Vasodilation</u> : PGI <sub>2</sub> ; PGD <sub>2</sub> ; PGE <sub>2</sub> ; PGF <sub>2α</sub> ; Bradykinin; <b>PAF</b> 363. <u>↑ Vascular Permeability</u> : Hist.; 5HT; PGD <sub>2</sub> ; PGE <sub>2</sub> ; PGF <sub>2α</sub> ; LTC <sub>4</sub> ; LTD <sub>4</sub> ; LTE <sub>4</sub> ; Bradykinin; <b>PAF</b>
Platelet Aggregation	364. ADP; Thrombin; TxA <sub>2</sub> ; collagen; Epinephrine; PAF
Platelet Antagonist	365. Prostacyclin (PGI <sub>2</sub> )
Intrinsic Pathway	366. F XII (Hagman): APTT
Extrinsic Pathway	367. F VII: PT
Lines of Zahn	368. Arterial thrombi = pale red colored (dark red is venous thrombi)
Currant Jelly appearance	369. Post mortem clots
Emigration: Chemotaxis	370. Margination 371. Pavementing 372. Adhesion 373. Chemotaxis 374. Phagocytosis 375. Intracellular microbial killing
Transudate	376. Specific gravity < 1.012 – low protein
Exudate	377. Specific gravity > 1.020 – high protein
Hurler's	378. Lysosomal storage disease α L I iduronidase – Heparan/Dermatan Sulfate accumulation
Galactosemia	379. Deficiency of Galactose 1 Phosphate Uridyl Transferase. ↑ Galactose 1 Phosphate
Phenylketonuria	380. Deficiency: Phenylalanine Hydroxylase. ↑ Phenylalanine & degradation products 381. Mousy body odor
Autosomal Dominant Diseases	382. Adult Poly Cystic Kidney Disease 383. Familial Hypercholesterolemia Disease 384. Hereditary Hemorrhagic Telangiectasia (Osler-Weber-Rendu) 385. Hereditary Spherocytosis 386. Huntington's Disease (chromosome 4p) 387. Marfan's Syndrome 388. Neurofibromatosis (von Recklinghausen's) 389. Tuberous Sclerosis 390. Von Hippel Lindau Disease
Autosomal Recessive Diseases	391. Tay-Sachs 392. Gaucher's 393. Niemann-Pick 394. Hurler's 395. Von Gierke's 396. Pompe's 397. Cori's 398. McArdle's 399. Galactosemia 400. PKU 401. Alcaptonuria
X Linked Recessive Diseases	402. Hunter's Syndrome (L-I iduronosulfate Sulfatase deficiency, ↑ Heparan/Dermatan Sulfate) 403. Fabry's Disease (α Galactosidase A deficiency, ↑ Ceramide Trihexoside) 404. Classic Hemophilia A (Factor VIII deficiency, F8 Gene on X chromosome is bad, ↑ Ceramide Trihexoside) 405. Lisch-Nyhan Syndrome (HGPRT deficiency, ↑ Uric acid) 406. G6P dehydrogenase deficiency (G6PDH deficiency, ↑ Ceramide trihexoside) 407. Duchenne's Muscular Dystrophy (Dystrophin deficiency, ↑ Ceramide Trihexoside)
Hypersensitivity Reactions "ACID"	408. <b>Type I</b> (Anaphylactic): IgE mediated. Exs: Hay Fever; Allergic asthma; Hives 409. <b>Type II</b> (Cytotoxic): Warm Ab autoimmune hemolytic anemia; hemolytic transfusion reactions; Erythroblastosis Fetalis; Grave's Disease; Goodpastures 410. <b>Type III</b> (Immune Complex): Insoluble complement bound aggregates of Ag-Ab complexes. Exs: Serum sickness; Arthus Reaction; Polyarteritis Nodosa; SLE; Immune Complex Mediated Glomerular



	Disease 411. <b>Type IV</b> (Delayed = Cell mediated immunity): Delayed hypersensitivity. Involves memory cells. Exs: Tuberculin reaction; Contact dermatitis; Tumor cell killing; Virally infected cell killing
Transplant Rejections	412. Hyperacute Rejection = occurs w/in minutes of transplant. Ab mediated. 413. Acute Rejection = occurs w/in days to months of transplant. Lymphocytes & macrophages. Only rejection type that can be treated w/ therapy. 414. Chronic Rejection = occurs months to years of transplant. Ab mediates vascular damage.
Blood Metastasis	415. Sarcoma, exception – renal cell CA: early venous invasion
Lymph Metastasis	416. Carcinoma, exception – renal cell CA: early venous invasion
Aflatoxin	417. Seen w/ Aspergillus. ↑ risk for Hepatocellular CA
Cleft Lip	418. Incomplete fusion of maxillary prominence w/ median nasal prominence
Cleft Palate	419. Incomplete fusion of lateral palatine process w/ each other & median nasal prominence & medial palatine prominence
Craniopharyngioma	416. Pituitary tumor - usually calcified
Lateral Geniculate Nucleus	Involved in Vision relay
Medial Geniculate Body	Involved in Hearing relay
Lung Development	Glandular: 5-17 fetal weeks Canalicular 13-25 fetal weeks Terminal Sac 24 weeks to birth Alveolar period birth-8yos
Heart's 1 <sup>st</sup> Beat	21-22 days
Foregut	Mouth → Common Bile Duct - supplied by Celiac Artery
Midgut	Duodenum, just below Common Bile Duct → Splenic flexure of the Colon supplied by Superior Mesenteric artery
Hindgut	Splenic Flexure → Butt crack → supplied by Inferior Mesenteric Artery
Hypnagogic Hallucinations	Narcolepsy
Type I Error	$\alpha$ : "Convicting the innocent" – accepting experimental hypothesis/rejecting null hypothesis
Subdural Hematoma	Ruptured cerebral bridging veins
Epidural Hematoma	Ruptured middle meningeal artery "intervals of lucidness", 2 <sup>nd</sup> to Temporal bone fracture
Type II Error	$\beta$ : "Setting the guilty free" – fail to reject the null hypothesis when it was false
Power	1 - $\beta$
Sensitivity	TP/TP + FN
Specificity	TN/TN + FP
Positive Predictive Value	TP/TP + FP
Negative Predictive Value	TN/TN + FN
Odds Ratio	ad/bc
d-Dimers	DIC
Delusion	Disorder of thought content
Loose Association	Skip from topic to topic
5 Stages of Death	Denial – Anger – Bargaining – Depression – Acceptance
1 <sup>st</sup> Branchial Arch	Meckel's cartilage – gives rise to incus/malleus bones of ear
2 <sup>nd</sup> Branchial Arch	Reichert's cartilage – gives rise to stapes bone of ear
Median nerve lesion	No pronation
Radial nerve lesion	Wrist drop – seen w/ humerus fracture
Common peroneal lesion	Foot drop. No dorsiflexion or eversion of the foot
Direct inguinal hernia	Goes through superficial inguinal ring. Medial to inferior epigastric artery Seen in older men
Indirect inguinal hernia	Goes through deep & superficial inguinal ring Lateral to inferior epigastric artery Seen in young boys – processus vaginalis did not close
@ Diaphragm T8, T10, T12	T8 = Inferior vena cava T10 = Esophagus/ Vagus T12 = Aorta/ Thoracic duct/ Azygous vein
Hemiballism	Wild flailing of 1 arm. Lesion of the sub thalamic nucleus
O Linked Oligosaccharide	In the Golgi

<b>N Linked Oligosaccharide</b>	<b>In the RER</b>
MLF Syndrome	Internuclear Ophthalmoplegia: medial rectus palsy on lateral gaze; Nystagmus on abducting eye. Seen w/ MS
ADA Deficiency	SCID
Raphe Nucleus	Initiation of sleep via 5HT predominance
$\beta$ waves	Alert; Awake; Active mind – also seen in REM, therefore we say “paradoxical sleep”
Irreversible Glycolysis Enzymes	Hexokinase PhosphoFructo Kinase = Rate Limiting Step Pyruvate Kinase Pyruvate Dehydrogenase
Irreversible Gluconeogenesis Enzymes	PyruvateCarboxy Kinase PEPCarboxyKinase Fructose 1,6 BiPhosphatase Glucose 6 Phosphatase **muscle does not take part in Gluconeogenesis, only takes place in the liver, kidney & GI epithelium
<b>Pellagra</b>	<b>Diarrhea, Dermatitis, Dementia</b> <b>Niacin Deficiency (Vit B3 deficiency)</b> <b>Hartnup's Disease</b> <b>Malignant Carcinoid Syndrome</b> <b>INH use</b>
TLCFN	Needed as co-factor for Pyruvate DH complex & $\alpha$ Ketoglutarate DH complex
LCAT or PCAT	Esterification of cholesterol: lecithin cholesterol acetyltransferase Lecithin = Phosphatidylcholine, therefore phosphatidylcholine acetyltransferase
HMGCoA Reductase	Rate limiting step in cholesterol synthesis Changes HMGCoA $\rightarrow$ Mevalonate (-) by Lovastatin
Ketogenic amino acids	Leucine & Lysine
Glucogenic amino acids	Methionine, Threonine, Valine, Arginine, Histidine
Keto & Gluco amino acids	Phenylalanine, Tryptophan, Isoleucine
Carnitine Shuttle	Feeds FA into the mitochondria for their consumption
Cori Cycle	Keeps muscles working anaerobically. Transfers lactate to the liver to make glucose which is sent back into the muscles for energy use
(-) $\text{Na}^+$ Pump (ATPase)	Ouabain [(-) $\text{K}^+$ pump] Vanadate [(-) phosphorylation] Digoxin [ $\uparrow$ heart contractility]
TCA Cycle Products	<b>“Citric Acid Is Krebs Starting Substrate For Mitochondrial Oxidation”</b> <b>Citrate <math>\rightarrow</math> Aconitate <math>\rightarrow</math> Isocitrate <math>\rightarrow</math> <math>\alpha</math> Ketoglutarate <math>\rightarrow</math> Succinyl <math>\rightarrow</math> Succinate <math>\rightarrow</math> Fumarate <math>\rightarrow</math> Malate <math>\rightarrow</math> OAA</b>
Cones	Color vision. Contain Iodopsin = Red-Blue-Green specific pigment. For acuity.
Rods	Contain Rhodopsin pigment. High sensitivity. Concentrated in the fovea. Night vision.
Gastrula	Seen @ 3 <sup>rd</sup> week: Ecto, Meso & Endo
Epiblast	@ 2 <sup>nd</sup> week: forms the primitive streak, from which Meso & Endo come from. Directly gives rise to Ecto.
Sydenham's Chorea	Post streptococcal infection. Necrotizing arteritis of the caudate, putamen, thalamus
(+) Frei Test	Chlamydia trachomatis types L1, L2, L3 = Lymphogranuloma venereum
Sabouraud's Agar	Culture for all Fungi ie...Culture Cryptococcus neoformans which is found in pigeon droppings
FMR1 Gene Defect	Fragile X Syndrome: macro-orchidism; long face; large jaw; large everted ears; autism, mental retardation
Barr Body	Present in Klinefelters: Male: XXY Not present in Turner's: Female: XO
Aortic Insufficiency Signs	Traube Sign = Pistol shot sound over the femoral vessels Corrigan pulse = water hammer pulse over carotid artery = aortic regurgitation
<b>Scleroderma :“CREST”</b>	<b>Calcinosis; Raynauds; Esophageal; Sclerodactyl; Telangiectasis</b>
Cretinism	Sporadic: bad T4 phosphorylation or developmental failure of thyroid formation Endemic: no Iodine in diet: protruding belly & belly button
Hemochromatosis Triad	Micronodular pigment cirrhosis; Bronze Diabetes; Skin pigmentation = due to $\uparrow \text{Fe}^{3+}$ deposition

# Signature Drug Toxicities

Agranulocytosis	420. Clozapine, Chloramphenicol
Aplastic Anemia	421. Chloramphenicol 422. NSAIDs 423. Benzene
Atropine-like Side Effects	424. Tricyclics
Cardiotoxicity	425. Doxorubicin 426. Daunorubicin
Cartilage Damage in Children	427. Fluoroquinolones (Ciprofloxacin & Norfloxacin)
Cinchonism	428. Quinidine
Cough	429. ACE Inhibitors
Nephrogenic Diabetes Insipidus	430. Lithium (Tx w/ Amiloride)
Disulfiram-like Effect	431. Metronidazole 432. Sulfonamides (1 <sup>st</sup> generation)
Extrapyramidal Side Effects	433. Antipsychotics (Thioridazine, Haloperidol, Chlorpromazine)
Fanconi's Syndrome	434. Tetracycline
Fatal Hepatotoxicity (necrosis)	435. Valproic Acid 436. Halothane 437. Acetaminophen
Gingival Hyperplasia	438. Phenytoin
Gray Baby Syndrome	439. Chloramphenicol
Gynecomastia	440. Cimetidine 441. Azoles 442. Spironolactone 443. Digitalis
Hemolytic Anemia in G6PD-deficiency	444. Sulfonamides 445. Isoniazid 446. Aspirin 447. Ibuprofen 448. Primaquine
Hepatitis	449. Isoniazid
Hot Flashes, Flushing	450. Niacin 451. Tamoxifen 452. Ca <sup>++</sup> Channel Blockers
Induce CP450	453. Barbiturates – Phenobarbital 454. Phenytoin 455. Carbamazepine 456. Rifampin
Inhibit CP450	457. Cimetidine 458. Ketoconazole
Interstitial Nephritis	459. Methicillin 460. NSAIDs (except Aspirin) 461. Furosemide 462. Sulfonamides
Monday Disease	463. Nitroglycerin Industrial exposure → tolerance during week → loss of tolerance during weekend → headache, - ach, dizziness upon re-exposure
Orange Body Fluids	464. Rifampin
Osteoporosis	465. Heparin 466. Corticosteroids
Positive Coombs' Test	467. Methyldopa
Pulmonary Fibrosis	468. Bleomycin 469. Amiodarone
Red Man Syndrome	470. Vancomycin
Severe HTN with Tyramine	471. MAOIs
SLE-like Syndrome	472. Procainamide 473. Hydralazine 474. INH
Tardive Dyskinesia	475. Antipsychotics (Thioridazine, Haloperidol, Chlorpromazine) Clozapine: only antipsychotic to not

	476. give you tardive dyskinesia
Tinnitus	477. Aspirin
	478. Quinidine

## Micro

Lactose formers	<ol style="list-style-type: none"> <li>1. "CEEK"</li> <li>2. Citrobacter</li> <li>3. Enterobacter</li> <li>4. E.Coli (K1 capsule most important)</li> <li>5. Klebsiella</li> </ol>
Non lactose formers	<ol style="list-style-type: none"> <li>6. "SHYPS"</li> <li>7. Shigella</li> <li>8. Yersinia enterocolitica (AKA Pestis)</li> <li>9. Proteus</li> <li>10. Salmonella</li> </ol> <div style="position: absolute; top: 200px; right: 50px; border: 1px solid black; padding: 2px;">Motile: make H2S</div> <div style="position: absolute; top: 240px; right: 150px; border: 1px solid black; padding: 2px;">Non Motile: noH2S</div>
May lack color	<ol style="list-style-type: none"> <li>11. "These rascals may microscopically lack color":</li> <li>12. Treponema</li> <li>13. Ricksetta</li> <li>14. Mycobacterium</li> <li>15. Mycoplasma</li> <li>16. Legionella</li> <li>17. Chlamydia</li> </ol>
↑ cAMP	<ol style="list-style-type: none"> <li>18. "CAPE"</li> <li>19. Cholera</li> <li>20. Anthracis (Poly D glutamate capsule)</li> <li>21. Pertusis (via Gi)</li> <li>22. E.coli (LT enterotoxin)</li> </ol>
Have Capsules [ie...are Quellung Reaction (+)]	<ol style="list-style-type: none"> <li>23. "Some killers have pretty nice capsules"</li> <li>24. Strep. Pneumoniae</li> <li>25. Klebsiella</li> <li>26. HiB</li> <li>27. Pseudomonas Aeruginosa</li> <li>28. Neisseria meningitis</li> <li>29. Cryptococcus neoformans (only encapsulated fungal pathogen)</li> </ol>
Dimorphic Fungi	<ol style="list-style-type: none"> <li>30. "Can Also Have Both Shapes"</li> <li>31. Coccidioides</li> <li>32. Aspergillus</li> <li>33. Histoplasma</li> <li>34. Blastomyces</li> <li>35. Sprothrix schenkii</li> </ol>
Have β Prophage	<ol style="list-style-type: none"> <li>36. "OBED"</li> <li>37. O = Salmonella</li> <li>38. B = Botulinum</li> <li>39. E = Erythrogenic strep</li> <li>40. D = Diphtheria</li> </ol>
Spore Forming Bacteria	41. Bacillus & Clostridium (have calcium di-picolinate)
IgA Proteases	42. Neisseria, Haemophilus, S. pneumoniae
Widal Test	43. Salmonella (Salmonella begins in the ileocecal region) agglutination indicates Abs to O, H, Vi Salmonella Ags
Wayson's Stain	44. Yersinia
Pneumonic Plaque Transmission	45. Person to person cf w/ Bubonic plaque that was via infected flea
Splenectomy	46. Predisposes to septicemia
Invasins	47. Yersinia pseudotuberculosis
Fusiform	48. Vincent's trench mouth
S. viridans	49. Dextran mediated adherence
Obligate Aerobes	50. Pseudomonas & Mycobacterium
Obligate Anaerobes	51. Clostridium, Actinomyces, Bacteroides
Staph aureus	52. A Protein, Catalase +/- Coagulase +
Spirochetes	53. Treponema, Borrelia, Leptospira
Non Motile Gram (+) Rods	54. Corynebacterium D & Nocardia

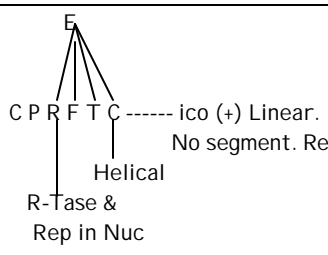
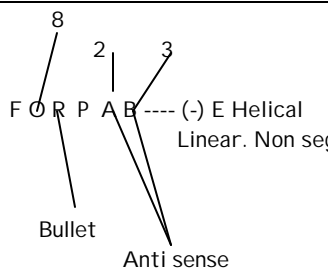
Acid Fast Organisms	55. Mycobacterium; Cryptosporidium; Nocardia (partially); Legionella micdadei; Isospora
Pigment Producing Bacteria	56. Serratia – red (can cause pseudohemoptysis) 57. Pseudomonas A – pyocyanin blue/green 58. Staph Aureus – yellow – Protein A 59. Mycobacteria – photo/scoto chromogenic – carotinoid – yellow/orange 60. Cornebacterium D – black/gray – pseudomembrane plaque in throat 61. Bacteroides (Porphyromonas) melaninogenicus – black (heme) 62. E. coli – iridescent green sheen
Bacterial Morphology	63. Pneumococci – lancet shaped diplococci 64. Neisseria – kidney bean shaped diplococci 65. Campylobacter – gulls' wings/comas 66. Vibrio Cholera – comma shaped 67. Cornebacterium D – club shaped (nonmotile, G+Rod) 68. Yersinia – safety pin seen in Wayson's stain
Inclusion Bodies	69. Rabies – Negri bodies – intracytoplasmic 70. Pox virus – Guarnieri – intracytoplasmic & acidophilic 71. CMV – Owl's eyes – intracytoplasmic & intranuclear 72. HSV – Cowdry bodies – intranuclear
Schistosoma Japonicum Monsoni	73. Intestinal – contact w/ bad water
Schistosoma Haematolium	74. Vesicular – contact w/ bad water
Non Human Schistosom	75. Swimmer's itch – contact w/ bad water
Clonorchichis	76. Chinese liver fluke – eating raw fish. Txt: Praziquantel
Fasciola Hepatica	77. Sheep – eating raw fish. Txt: Praziquantel
Fasciola Biski	78. Giant intestinal flukes – eating raw fish. Txt: Praziquantel
Paragonimus Westermani	79. Lung fluke – eating raw fish. Txt: Praziquantel
Oxidase (+)	80. Neisseria and most Gram (-)s
Micro Aerophilic	81. Campylobacter & Helicobacter
Urease (+)	82. All Proteus – can cause Staghorn/Struvite calculi ( $\text{NH}_4^+$ $\text{Mg}^{2+}$ stones): alkaline urine 83. Ureaplasma 84. Campylobacter pylori (Helicobacter) 85. Cryptococcus 86. Nocardia
Coagulase (+)	87. Staph A & Yersinia pestis
Obligate Intracellular Bacteria	88. Chlamydia Pistacci (Chlamydia do not make own ATP); Mycobacterium Leprae; all Rickettsia except Rochalimaea (make sufficient ATP to survive)
Protozoa	89. Plasmodium; Toxoplasma gondii; Babesia; Leishmania; Trypanosoma Cruzi
Obligate Non Intracellular Parasites	90. Treponema pallidum & Pneumocystis Carinii (cannot be cultured on inert media but can be found extra cellularly in the body)
Haemophilus Factors	91. X = Protoporphyrin & V = NAD
All cocci are	92. Gram (+) except for Neisseria & Moraxella
"Eaton Fried Eggs"	93. Mycoplasma pneumoniae has fried egg colonies on Eaton agar (needs cholesterol)
Mycoplasma	94. No cell wall. Membrane has cholesterol. Smallest living bacteria. 95. P1 protein inhibits ciliary action 96. Fried egg colonies 97. Atypical pneumonia – young adults
Sabirands	98. Fungal media
Malassazia furfur	99. Spaghetti & meat ball
Measles' 3C's	100. Cough – Coryza – Conjunctivitis. Can also have photophobia 101. May lead to subacute Sclerosing Panencephalitis
Non Motile Bacilli & Clostridium	102. B. Anthracis & C. Perfringens
Bloody diarrhea agents	103. EIEC – EHEC – Shigella – Yersinia enterocolitica – Entamoeba histolytica – Salmonella – Campylobacter jejuni
YW-135CA	104. N. meningitidis vaccine capsular polysaccharide strains
Indian Ink	105. Cryptococcus neoformans
Naegleria causes	106. Colonization in the nasal passages after swimming
Need Cysteine for growth	107. "Ella likes cysteine":

	108. Francisella 109. Brucella 110. Legionella 111. Pasturella
Endotoxins, G(+) or G(-)	112. Gram (-): N. meningitidis
Ecthyma Gangrenosum, seen w/	113. Pseudomonas aeruginosa. Target shaped skin lesions w/ a black center and red ring surrounding the lesion
Endospores G(+)	114. Gram (+): Bacillus & Clostridium - made up of dipicolinate & Keratin
Multi Brain Abscess	115. Nocardia
Single Brain Abscess	116. Actinomyces israeli
↑ risk for Strep pneum Infection	117. Asplenic; Sickle cell anemia; immunocompromising illness
α Hemolysis/Optochin Sensitive	118. Strep. Pneumoniae
α Hemolysis/Optochin Resistant	119. Strep. Viridans (Subacute Endocarditis)
Staph. Saprophyticus	120. Novobiocin Resistant (UTIs)
Staph. Epidermidis	121. Novobiocin sensitive (Endocarditis in IVDUs)
β Hemolysis/Bacitracin Sensitive	122. <b>Strep. Pyogenes</b> (pharyngitis; Scarlet fever; cellulitis; impetigo; Rheumatic fever)) 123. Hyaluronic capsule; non-motile; M proteins; Endotoxin A
β Hemolysis/Bacitracin Resistant	124. Strep. Agalactiae (Diabetes predisposes to infection)
EFII Ribosylation	125. Diphtheria toxin & Pseudomonas exotoxin A
Bacillus Anthracis: 3 toxins (work via adenylate cyclase)	126. Protective Antigen (PA) 127. Lethal Factor = toxic to macrophages 128. Edema Factor = ↑ cAMP
Woolsorter's Disease	129. Bacillus anthracis. <b>DOC:</b> Penicillin
Grows in Rice	130. Bacillus Cereus
Clostridium Perfringens	131. Double Zone β Hemolysis (test) 132. Lecithinase: α toxin = lyses RBCs 133. 80% of gas gangrene (myonecrosis) cases
Clostridium Difficile	134. 2 Toxins: Enterotoxin (Exotoxin A) & Cytotoxin (Exotoxin B) 135. Pseudomembranous colitis (can be precipitated by clindamycin/ampicillin)
Spastic Paralysis toxin	136. Clostridium Tetani toxin
Clostridium Botulinum	137. Bad canned foods have neurotoxin = flaccid paralysis (block Ach release)
Infant Botulinum	138. Floppy Baby Syndrome. Pre formed toxin in honey
Thayer Martin Agar	139. Neisseria ID
DOC for N. gonorrhoeae	140. Ceftriazone
K1 E. Coli Capsular Ag	141. Related w/ neonatal meningitis
The A's of Klebsiella	142. Alcoholics 143. Aspiration pneumonia 144. Abscesses in the lungs
Rice H <sub>2</sub> O Diarrhea	145. Vibrio Cholera: metabolic acidosis
Raw seafood intoxication	146. Vibrio parahaemolyticus
Helicobacter Txt	147. Bismuth salts; Metronidazole; Tetracycline (or amoxicillin)
↑ risk of P. aeruginosa infection	148. Burn patients & Cystic fibrosis
Contact lens' infection	149. Pseudomonas aeruginosa
Cat Bites	150. Pasteurella multocida
Undulant Fever	151. Brucella
Bordet Gengou Agar	152. Bordetella pertussis ID
Lowenstein-Jensen medium	153. M. tuberculosis ID
Cat Scratch Disease	154. Bartonella henselae. Lesion can resemble Kaposi's sarcoma. 155. Toxoplasmosis
Pink Eye	156. Adenovirus (type 8)
True Hemaphrodite	157. Testes & Ovaries are present
Pseudo Hemaphrodite	158. External genitalia does not coincide w/ gonads
Male Pseudo Hemaphrodite	159. Testicular Feminization
HLA Genes Location	160. 6p

Parvovirus B19	161. Fifth Disease: Erythema Infectiosum (ssDNA). Linked w/ sickle cell anemia
Interferon MOA	162. Inhibits viral replication (translation or transcription)
Acute Hemorrhagic Conjunctivitis	163. Seen w/ infections from Enterovirus & Coxsackie A
Parainfluenza Causes...	164. Croup (Laryngotracheobronchitis)
Swimming Pool Conjunctivitis	165. Adenovirus (types 3 & 4)
RSV	166. Bronchiolitis in infants
Removed tonsils, find what virus	167. In 80%, Adenovirus. In the immunosuppressed, activation can occur
Bone Fever	168. Dengue: Group B Togavirus, from the Arbovirus, transmitted by mosquitos
HbsAg	169. Appears in blood soon after infection, before onset of acute illness 170. Disappears w/in 4-6 months after the start of clinical illness
HbeAg	171. Appears early acute phase, indicates higher risk of transmitting the disease 172. Disappears before HbsAg is gone
Anti-Hbc	173. Present in beginning of clinical illness 174. Seen in the "window phase"
Filamentous Bacteria	175. Actinomycetes = Nocardia; Actinomyces; Streptomyces
Listeria contaminates	176. Milk, cheese, vegetables (coleslaw) in recent infections
Shiga like Toxin	177. E. Coli O157/H7: Hemorrhagic colitis & Hemorrhagic uremic syndrome
Necrotizing Fasciitis	178. Group A Streptococci
Relapsing Fever	179. Borrelia recurrentis
Löffler's Medium	180. Corynebacterium diphtheriae
Chlamydiae Developmental Cycle	181. Elementary Body: infectious particle that enters the cell 182. Reticulate Body: made from elementary body. Replicates, differentiates and releases elementary bodies to infect other cells 183. W/ infection you will see Glycogen containing inclusions 184. Cell wall lacks muramic acid
Trench Fever	185. Rochalimaea quintana
"Spotted Fever" Members	186. Rickettsia rickettsii (RMSF) & R. akari (rickettsial pox) in the U.S. 187. R. sibirica (tick typhus in China) & R. australis (typhus in Australia)
Thrush Txt	188. Nystatin txts candidiasis of the mouth
Rose Bush Thorns	189. Have Sporothrix schenckii
Contact lens solution infection	190. Acanthamoeba
Filaria Causant	191. Wuchereria bancrofti (infection aka elephantitis & wucheriasis)
Freshwater lake infection	192. Causes amebic meningoencephalitis due to Naegleria fowleri
Reduviid bug bite	193. Transmits Trypanosoma cruzi (Chagas' disease): Romana's Sign
Schistosoma Haematobium causes	194. Bladder calcification & cancer
Schistosoma Mansoni causes	195. Presinusoidal HTN, splenomegaly, esophageal varices
Snail, intermediate host of...	196. Schistosomiasis
Ixodes scapularis transmits	197. Babesia (clinically resembles malaria) & Borrelia burgdorferi
Nantucket Protozoa	198. Babesia microti
Infection by Reduviid Bug	199. Trypanosoma cruzi: Chagas' Disease
Infection by Tsetse Fly	200. Trypanosoma brucei gambiense & rhodiense: African Sleeping Sickness
Infection by Sandfly	201. Leishmaniasis: Mucocutaneous Diseases by L. braziliensis & Visceral Disease by L. donovani & Dermal Leishman by L. tropica, mexicana, peruviana
Infection by Ixodes Tick	202. Babesia microti: Babesiosis & Borrelia burgdorferi: Lyme Disease
Infection by Anopheles Mosquito	203. Malaria
Trophozoites w/ "Face-Like" Appearance	204. Giardia lamblia
Nonseptate Hyphae	205. Zygomycosis: Rhizopus & Mucor. Only mycosis w/o septate. Infect Ketoacidotic Diabetics.
Histoplasmosis Geography	206. Ohio, Mississippi, Missouri River valleys
Coccidioidomycosis Geography	207. Southwestern deserts, California
Blastomycosis Geography	208. States east of Mississippi River
Paracoccidioidomycosis Geography	209. Latin America
Roseola Infection, aka	210. Exanthema Subitum: "Sixth Disease" (Human Herpes Virus-6 dsDNA, enveloped)
Herpangina	211. "Hand-Foot-and-Mouth" Disease: Coxsackie A (Picornavirus +ssRNA)
Orthomyxovirus	212. -ssRNA, enveloped virus. 213. Spike Glycoproteins (peplomers): HA = Hemagglutinin & NA = Neuraminidase.

	These peplomers are what give the virus antigenic variation 214. Influenza A & B
Paramyxovirus	215. -RNA, enveloped. Most common cause of respiratory infections in kids 216. Mumps 217. Croup (Parainfluenza virus) 218. Rubella (Measles virus) 219. RSV
Togavirus	220. +ssRNA, enveloped 221. 3 Day Measles: German Measles: Rubella/ Rubivirus 222. Encephalitis viruses: Alphaviruses: Eastern (more severe) and Western Equine Encephalitis
Flavivirus	223. Dengue Fever – icterus & hemorrhage w/ black vomit 224. Yellow fever 225. St. Louis Encephalitis – no hepatitis or hemorrhage
Bunyavirus	226. -ssRNA, enveloped 227. California Encephalitis – severe bifrontal headaches 228. Hantavirus – hemorrhagic fever w/ acute resp. distress syndrome
IgA Protease Activity	229. H. Influenzae (needs factors V & X for growth) 230. Strep. Pneumoniae 231. N. meningitidis 232. N. gonorrhoeae 233. W/ this activity these bugs are able to colonize the oral mucosa.
Diphtheria: ABCDEFG	234. Adenopathy 235. $\beta$ Prophage encodes the exotoxin 236. Corynebacteria is club shaped 237. Diphtheria 238. Elongation Factor II 239. Granules (metachromatic)
Only ssDNA	240. Parvovirus: "Part of a virus"
Only dsRNA	241. Reovirus, "RepeatOvirus"
Naked RNA	242. "Naked for CPR": Calcivirus; Picornovirus; Reovirus
2 circular DNAs	243. Papovavirus & Hepadnavirus
BK	244. Papovavirus. Seen in kidney transplant patients (causes renal disease)
Hepadna, Retrovirus?	245. No, but has reverse transcriptase
Picornovirus: "PERCH"	246. Poliovirus; Echo; Rhino; Coxsackie; Hep A
Hemorrhagic Fevers	221. Filovirus & Bunyavirus (Hantavirus)
Segmented viruses	All are RNA: Orthomyxo; Arena; Bunya; Reo
Eclipse Phase	No internal virus. 1 total virus per cell
Latent Phase	No external virus. Extracellular virus found
Naked Capsid Virus	Nucleocapsid. DNA or RNA + Structural proteins
Enveloped Virus	Membrane. Nucleocapsid + Glycoprotein
Interferon	Non virus specific. Works by RNA endonuclease = digests viral DNA + inh viral prot synth
AIDS structural prots	Gag, pol, env
AIDS regulatory prots	Tat, rev, nef
AIDS gp41 env prot	Transmembrane
AIDS gp120 env prot	Surface
AIDS p17 gag prot	Matrix
AIDS p24 gag prot	Capsid
AIDS p7p9 gag prot	Nucleocapsid
DNA Viruses	<div style="display: flex; align-items: center;"> <div style="margin-left: 20px;"> <p>A = Adeno H = Herpes H = Hepadna P = Pox P = Parvo P = Papova</p> </div> </div>



(+ ) RNA Viruses		 <p>C = Calici P = Picorno R = Reo F = Flavi T = Toga C = Corona</p> <p>ico (+) Linear. No segment. Rep in Cyto Helical R-Tase &amp; Rep in Nuc</p>			
(-) RNA Viruses		 <p>F = Filo O = Orthomyxo R = Rhabdo P = Paramyxo A = Arena B = Bunya</p> <p>Bullet Anti sense (-) E Helical Linear. Non seg.</p>			
Hepatitis Window Period		After HbsAg disappears & Before HbsAb appears			
Hepatitis	A	B	C	D	E
	Picorna	Hepadna	Flavi	Delta	Calici
Downey Type II cells		EBV			
Infection by Aedes Mosquito		Yellow Fever: Flavivirus: Black vomit, jaundice, high fever			
"Hot T-Bone stEak": ILs		IL1 = ↑ Temp: <b>HOT</b> IL2 = stimulate <b>T</b> cells IL3 = stimulate <b>Bone</b> Marrow stem cells' growth & differentiation (GM CSF) IL4 = stimulate Ig <b>E</b> (& IgG) IL5 = stimulate Ig <b>A</b> (& eosinophils)			
ILs Secreted by CD4s		IL2, IL4, IL5, IFN gamma			
ILs Secreted by Macrophages		IL1 & TNF α			
C5a		Neutral chemotaxis. When it is w/ C3a, participates in anaphylaxis			
C5 Convertase		When both Alternative and Classic pathways come together Alternative: C3b, Bb, C3b + C3a → C5 Classic: 2b, 3b, C3a + C4b → C5			
Only Richettssia not Intracellular		Quintana			
Plasmodium Life Cycle		Sporozoites: from blood to liver Primary tissue schizont Trophozoites: in RBC Erythrocytic schizont Merozoite: ruptured RBC Gametocyte Zygote: inside the mosquito			
Acanthamoeba		Star shaped cysts			
Mucor, Rhizopus, Absidia		Nonseptate, filamentous, 90 degree branching, indian in, capsular halos			
Cryptococcus Neoformans		Monomorphic			
Candida		Yeast normally, pseudo & true hyphae in tissue infections			
Aspergillus Fumigatum		45 degree branching point, asoc'd w/ cystic fibrosis & burns pt			
Coccidioides		Hyphae in wild. Arthroconidia. Arthrocondida & Hyphae. Sherules w/ endospores			
Histoplasma Cap		Hyphae in wild. Microcondida w/ tuberculate macrocondida. Fac intracellular. In the tissue it's a yeast w/ a small neck.			
Blastomycosis		Hyphae in wild			
Sporothrix Schenkii		Hypahe in wild. Potas iodide in milk. Pneumonia in alcoholics.			
PCP		Obligate parasite. Kills type I pneumo cells. Ground glass			
Gram (-) Bugs w/ Exotoxins		E. Coli; V. Cholera; Bordetella Pertussis			

Dermatophytes		Trichophyton: SHN Microsporium: SH Epidermophyton: SN Tinea favus: permanent hair loss	
	Transmission	Diagnosis	
E. Histolitica	Cysts	Trophozoites or cysts in stool	
Giardia	Cysts	Trophozoites or cysts in stool	
Cryptosporidium	Cysts	Acid fast oocysts	
Balantium C.	Cysts	Trophozoites or cysts in stool	
Trichomonas V.	Trophozoites	Motile trophozoites	
	Fever	Fever Spike	
Vivax	Benign 3 degrees	48h	Enlarged Host Cell
Ovale	Benign 3 degrees	48h	Oval/Jagged
Malariae	4 degrees of Malarial	72hrregular	Crescent
Falciparum	Malignant 3 degrees		

## Miscellaneous

1. Fastest growing tumor – Burkitt's
2. PE's are found in half of all autopsies
3. Courvoisier's Law: tumors that obstruct the common bile duct cause enlarged gallbladders, but obstructing gallstones do not (too much scarring), so if you can palpate the gallbladder you're probably looking at cancer.
4. Only DNA virus to replicate in cytoplasm: Pox
5. Only RNA virus to replicate in nucleus: Influenza
6. *Bacillus anthracis* has the only protein capsule
7. *Bordetella pertussis* (Whooping Cough) elicits lymphocytosis rather than granulocytosis
8. Bronchioalveolar carcinomas grow without destroying the normal architecture of the lung
9. *Cryptococcus neoformans* often lacks a capsule and, when stained with GMS, looks just like *Pneumocystis carinii*, except that *Cryptococcus* lacks the prominent nucleoli.
10. Weil Felix reaction: (+)R. rickettsii & (+)Proteus vulgaris & P. mirabilis
11. Treponema pallidum (Syphilis) tests: 1)VDRL 2)FTA-Abs: most widely used 3)TPI (immobilization test – most expensive but the Gold Standard)

Cytokine	Source	Function
IL 1	12. Monocytes, macrophages	Stimulates T cell proliferation & IL2 production
IL 2	13. Macrophages, T & NK cells	Stim prolifer of B, T & NK cell
IL 3	14. T cells	GF of tissue mast cells & hematopoietic stem cells
IL 4	15. T cells	↑ growth of B & T cells/ ↑ HLA II Ags
IL 5	16. T cells	Maturation of B → plasma cell
IL 6	17. T cells, monocytes	Maturation of B & T cell/ (-) fibroblasts
IFN α	18. B cells, macrophages	Antiviral activity
IFN β	19. Fibroblasts	Antiviral activity
IFN gamma	20. T & NK cells	Antiviral activity, (+) macrophages, ↑ HLA II Ags
TNF α	21. Macrophages, T & NK cells	T cell prolifer, IL 2 prod, cytotoxicity
TNF β	22. T cells	T cell prolifer, IL 2 prod, cytotoxicity

## Tumor Suppressor Genes

Genes	Chrom.	Associated Tumors
VHL	3p	Von Hippel Lindau, Renal Cell CA
APC	5p	Familial adenomatous polyposis, Colon CA
WT-1	11p	Wilm's tumor
Rb	13q	Retinoblastoma, Osteosarcoma
BRCA-2	13q	Breast CA

p53	17p	Most human Cas
NF-1	17q	Neurofibromatosis type 1
BRCA-1	17q	Breast CA, Ovarian CA
DCC	18q	Colon & Stomach CA
DPC	18q	Pancreatic CA
NF-2	22q	Neurofibromatosis type 2 = bilateral acoustic neuroma

## Physio Equations:

Resistance in Series: Add all

Resistance in Parallel: Invert the answer

### RENAL:

$$\text{Filtration Fraction} = \frac{GFR}{RPF} \quad GFR: \text{Glomerular Filtration Rate} \quad RPF: \text{Renal Plasma Flow}$$

$$\text{Filtered Load} = GFR \times [\text{Conc}] \quad \text{Excretion Rate} = [\text{Urine}] \times \text{Vel}_{\text{Urine}}$$

$$\text{Clearance} = \frac{[\text{Urine}] \times \text{Vel}(\text{Urine})}{[\text{Plasma}]} \quad \text{or} \quad \frac{\text{Excretion}}{[\text{Plasma}]} \quad \text{Clearance of PAH} = [ERPF] \quad ERPF: \text{Eff renal plasma flow}$$

$$\text{Renal Blood Flow} = \frac{ERPF}{1 - Hct} \quad \text{Free Water Clearance} = \text{Vel}_{\text{Urine}} - \frac{\text{Urine}(\text{osm}) \times \text{Vel}(\text{urine})}{P(\text{osm})}$$

### CARDIO:

$$CO = HR \times SV \quad CO = \frac{O_2(\text{consumed})}{\text{Pulmonary } A - VO_2 \text{ difference}} \quad \text{Pulse Pressure} = \text{Systolic} - \text{Diastolic}$$

$$MAP = \text{Diastolic} + 1/3 \text{ Pulse Pressure} \quad CO = \frac{MAP}{TPR} \quad MAP = TPR \times CO \quad F = \frac{P_1 - P_2}{R}$$

### LUNGS:

$$P_{A}O_2 = (760 - 47) FO_2 - \frac{P_{A}CO_2}{R}$$

Where:

$$FO_2 = [O_2] \quad P_{A}CO_2 = \text{Alv. Press. Of } CO_2 \quad R = \text{Resp. Exchange Ratio} \quad \frac{CO_2 \text{ produced}}{O_2 \text{ consumed}} \cong .8 \text{ or } 1$$

$$\text{Flow} = \frac{O_2 \text{ consumed}}{A \text{ to } VO_2 \text{ difference}} \quad \text{Vel}_{\text{gas}} \text{ Diffusion} = \frac{\text{Area}}{\text{Thickness}} \times \text{Gas Diffusion Constant} \times \text{Difference of Partial Press}$$

$$\text{Vent}_{\text{Tot}} = \text{Vent}_{\text{Tidal}} \times \# \text{ of Respirations} \quad \text{Vent}_{\text{Alv}} = (\text{Vent}_{\text{Tidal}} - \text{Vent}_{\text{Dead}}) \times \# \text{ of Respirations}$$

$$\text{Compliance} = \frac{\text{Vol}}{\text{Press}} \quad P = \frac{\text{Tension}}{\text{Radius}} \quad 1.0 = V_a/Q \quad \text{Diffusing Capacity} = \frac{CO_{\text{uptake}}}{P_{ACO_2}}$$

Resp Doubles: 150mmHg & 40mmHg      New PCO<sub>2</sub> = 20      New PO<sub>2</sub> = 170