

## NASS-RECOGNIZED INTERVENTIONAL SPINE & MUSCULOSKELETAL MEDICINE (ISMM) FELLOWSHIP DIRECTORY

### NASS ISMM FELLOWSHIPS

NASS is the world's largest spine society representing surgical and non-surgical specialties. There has been a growing demand for well-trained interventional spine and non-surgical musculoskeletal specialist. To address this, NASS developed criteria to officially recognize ISMM fellowship programs that meet a standard of academic and educational rigor agreed upon by the NASS ISMM Fellowship Committee. A **core curriculum** has been developed to provide high quality, consistent clinical and procedural education for all matriculating trainees. All NASS-recognized ISMM Fellowships have agreed to participate in a Match program starting in 2020 for the 2021 and future incoming classes. This will be via the San Francisco (SF) Match. For 2019, there is an optional common offer day on September 21.

### WHAT DISTINGUISHES NASS ISMM FELLOWSHIPS FROM PAIN FELLOWSHIPS?

The primary focus of NASS-recognized ISMM fellowships is the clinical assessment and treatment of patients with spine and musculoskeletal conditions. The fellowships are unique from ACGME Pain Medicine fellowships, which require training in inpatient acute pain management, palliative care, psychiatry, pediatric pain management, and intubation.

### PROVISIONAL STATUS

Programs that do not, yet, meet the criteria to be a NASS-recognized fellowship may apply for Provisional status and work toward Recognized status within a 2-year cycle. All provisional programs will follow the rules of the NASS-recognized programs and the 2 year clock begins upon approval of provisional status.

Following is the list and description of all fellowships, their location (alphabetical by state, city) and program directors. Interested applicants should contact the programs directly for further information/instruction. Detailed program information begins on page 4.

### ISMM FELLOWSHIP DIRECTORY/ NASS-recognized Fellowships

#### **ALABAMA**

Ortho Spine & Sports (Birmingham)

*Bradly S. Goodman, MD and Srinivas Mallempati, MD*

Contact: Brad Goodman, MD; [bsg@aossma.com](mailto:bsg@aossma.com)

#### **ARIZONA**

Barrow Brain & Spine (Phoenix)

*Scott Kreiner, MD*

Contact: Rebecca Kordys; [rebecca.kordys@barrowbrainandspine.com](mailto:rebecca.kordys@barrowbrainandspine.com)

Desert Spine & Sports Physicians (Phoenix)

*Brad Sorosky, MD and Susan Sorosky, MD*

Contact: Brad Sorosky MD; [bsorosky@cox.net](mailto:bsorosky@cox.net)

#### **CALIFORNIA**

Stanford PM&R Interventional Spine Fellowship (Palo Alto)

*Joshua H. Levin, MD and Matthew Smuck, MD*

Contact: Erin Nelligan; [erinnelligan@stanford.edu](mailto:erinnelligan@stanford.edu)

## **GEORGIA**

Emory Orthopaedics and Spine Center (Atlanta)

*Jaymin Patel, MD and W. Jeremy Beckworth, MD*

Contact: Miki DeJean, MA; [miki.dejean@emory.edu](mailto:miki.dejean@emory.edu)

## **MISSOURI**

Washington University (St. Louis)

*Heidi Prather, DO and Chi-Tsai Tang, MD*

Contact: Chi-Tsai Tang, MD; [ctang22@wustl.edu](mailto:ctang22@wustl.edu)

## **NEW YORK**

HSS Physiatry Interventional Spine and Sports Medicine Fellowship (New York)

*Jonathan S. Kirschner, MD*

Contact: Victoria Guerrero; [guerrerov@hss.edu](mailto:guerrerov@hss.edu)

## **OHIO**

Cleveland Clinic

*Russell C. DeMicco, DO*

Contact: Leslie Berdecia; [spinefellowship@ccf.org](mailto:spinefellowship@ccf.org)

## **PENNSYLVANIA**

NERA Spine & Sports Medicine (Bethlehem)

*Scott Naftulin, DO*

Contact: Meegan Dorsey; [snaftulin@gmail.com](mailto:snaftulin@gmail.com)

Spine Medicine Fellowship at the Hospital of the University of Pennsylvania (Philadelphia)

*Adrian Popescu, MD*

Contact: Nadia Miles; [nadia.miles@uphs.upenn.edu](mailto:nadia.miles@uphs.upenn.edu)

OSS Health Interventional Spine & Sports (York)

*Michael B. Furman, MD, MS and Brian D. Steinmetz, DO*

Contact: Luanne McDonald; [LMcdonald@osshealth.com](mailto:LMcdonald@osshealth.com)

## **SOUTH CAROLINA**

Medical University of South Carolina (Charleston)

*David R. O'Brien, Jr., MD*

Contact: Arleeta Burns; [burnsaf@musc.edu](mailto:burnsaf@musc.edu)

## **TENNESSEE**

Vanderbilt University (Nashville)

*Byron J. Schneider, MD, FAAPMR and DJ Kennedy, DO*

Contact: Kara Dyer; [kara.dyer@vumc.org](mailto:kara.dyer@vumc.org)

## **TEXAS**

Texas Spine & Scoliosis (Austin)

*E. Kano Mayer, MD and Enrique Pena, MD*

Contact: Ashely Duncan; [ADuncan@ascension.org](mailto:ADuncan@ascension.org)

The Spine and Sports Center (Houston)

*Benoy V. Benny, MD*

Contact: Benoy Benny, MD; [bbenny@thespineandsportscenter.com](mailto:bbenny@thespineandsportscenter.com)

## **UTAH**

University of Utah (Salt Lake City)

*Zachary McCormick, MD, FAAPMR*

Contact: Charis Wren; [Charis.Wren@hsc.utah.edu](mailto:Charis.Wren@hsc.utah.edu)

## **VIRGINIA**

Virginia iSpine (Richmond)

*Michael J. DePalma, MD*

Contact: Margaret Maples; [practice.manager@vaispine.com](mailto:practice.manager@vaispine.com)

## **WASHINGTON DC**

Spine & Pain Fellowship at International Spine, Pain & Performance Center/National Rehabilitation Hospital (Washington, DC)

*Mehul J. Desai, MD, MPH*

Contact: Melissa Falkowski; [mfalkowski@isppcenter.com](mailto:mfalkowski@isppcenter.com)

## **ISMM Fellowships/ Provisional Status**

### **MARYLAND**

Johns Hopkins (Baltimore)

*Akhil Chhatre, MD*

Contact: Akhil, Chhatre, MD; [acchatr1@jhmi.edu](mailto:acchatr1@jhmi.edu)

### **PENNSYLVANIA**

The Rothman Institute (Philadelphia)

*Jeffrey A. Gehret, DO*

Contact: Jeffrey Gehret; [j\\_gehret@yahoo.com](mailto:j_gehret@yahoo.com)

**Alabama Ortho Spine & Sports**  
**Fellowship positions available: 4**

**Brad Goodman, MD**  
**Srinivas Mallempati, MD**

1801 Gadsden Highway  
Birmingham, AL 35235  
Phone: (205) 228-7600

Contact: Brad Goodman, MD  
Email: [bsg@aossma.com](mailto:bsg@aossma.com)  
Website: [www.alabamaorthospineandsports.com](http://www.alabamaorthospineandsports.com)

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	20%
Thoracic:	10%
Lumbar:	70%

**Fellowship Overview**

Our fellowship offers hands-on experience with all aspects of minimally invasive musculoskeletal and spinal interventions. Fellows receive experience in the evaluation and management of MSK/sports and spinal injuries. Procedures performed include kyphoplasty, spinal cord stim, superior/mild, ultrasound guided injections, PRP Stem Cells and all spinal injections.

Drs. Goodman and Mallempati teach these procedures on a national level for NASS and other organizations.

**Procedures Taught**

PRP/Regenerative Medicine  
Ultrasound-guided interventions  
EMG/NCS  
Kyphoplasty/Vertebroplasty  
Spine Cord Stimulation Trials  
Spinal Cord Stimulation Implantation  
Sports Team Coverage  
Shoulder Arthrography  
Hip Arthrography  
Elbow/Wrist Arthrography  
Foot/Ankle Arthrography

## **Barrow Brain and Spine**

**Academic Affiliation: University of Arizona College of Medicine - Phoenix**

**Fellowship positions available: 1**

**D. Scott Kreiner, MD, Fellowship Director**

4530 E Muirwood Drive, Suite 110

Phoenix, AZ 85044

Phone: (480) 765-5808

Contact: Rebecca Kordys

Email: [rebecca.kordys@barrowbrainandspine.com](mailto:rebecca.kordys@barrowbrainandspine.com)

### **Approximate percentage of training of interventional spine procedures by region:**

Cervical:	20%
Thoracic:	1%-2%
Lumbar:	79%

### **Fellowship Overview**

Barrow Brain and Spine offers a 13-month fellowship in musculoskeletal medicine and interventional spine. We are currently working with our 12th fellow. Our practice is in a Phoenix suburb of young professionals and we have about 50-60% private insurance, 5% Workers Comp, and the rest (about 40%) Medicare. Our focus is acute and subacute injuries and pain with about 70-80% spine, the rest is other musculoskeletal injuries. Interventional spine training includes all traditional spine procedures with the exception of intrathecal pumps. As a matter of course, we do not do chronic narcotic management, so we haven't had the need for pumps. We also utilize basic diagnostic musculoskeletal ultrasound examinations and use ultrasound-guidance for peripheral joint injections. The 13-month fellowship begins on July 15th of each year.

### **Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided interventions

EMG/NCS

Kyphoplasty/Vertebroplasty

Spine Cord Stimulation Trials

Hip Arthrography

**Desert Spine and Sports Physicians**  
**Fellowship positions available: 1-2**

**Susan Sorosky, MD; Brad Sorosky, MD, Fellowship Directors**

3700 N. 24<sup>th</sup> Street, Suite 201  
Phoenix, AZ 85016  
Phone: (602) 840-0681

Contact: Kathryn Meloy, DSSP Practice Administrator  
Email: [kmeloy@dsspaz.com](mailto:kmeloy@dsspaz.com)

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	25%
Thoracic:	10%
Lumbar:	65%

**Fellowship Overview**

Desert Spine and Sports (DSSP) fellowship is a PM&R based program that strives to provide comprehensive interventional spine, sports, and musculoskeletal education in a private practice setting emphasizing ethical and evidence-based medicine. We have five board-certified PM&R physicians on staff who practice out of two offices in Phoenix and Mesa, both of which include fluoroscopic procedure suites and on-site physical therapy clinics. Education includes 1) Outpatient clinic - acute and chronic spine and musculoskeletal diagnoses, comprehensive neuromusculoskeletal exam, ordering and interpreting of diagnostic images - plain films, MRI and CT; 2) Fluoroscopically-guided spine and joint procedures - lumbar, cervical, and thoracic epidural injections/selective nerve root blocks and medial branch blocks and radiofrequency ablations, sacroiliac joint injections, intra-articular joint injections, sympathetic blocks, kyphoplasty, spinal cord stimulation trials; 3) Electrodiagnostic studies; 4) Musculoskeletal ultrasound-guided peripheral injections; 5) Platelet rich plasma joint and tendon injections; 5) Prolotherapy; 5) Coding and billing; and 6) Business skills and Practice Management. We also encourage/support fellows to participate in academy meetings, procedural workshops and other educational meetings throughout the year.

We select one to two fellows each year who work directly under the supervision of a DSSP physician. A typical week consists of time in the fluoroscopic suite as well as the outpatient clinic which includes electrodiagnostic studies, ultrasound guided injections, and regenerative therapies. The fellow(s) are also responsible for presenting a total of 3 articles at our monthly journal club which includes community physical therapists and medical professionals and delivering a monthly didactic to the practice on a spine or musculoskeletal medicine topic. Physical exam and ultrasound guided injection didactics are also included throughout the year.

Requirements for application to the DSSP fellowship include 1) Completion of an ACGME-accredited residency program in PM&R, 2) ABPMR board-certified or eligible, 3) Personal Statement, 4) Curriculum Vitae, and 5) Three letters of recommendation. Applications will be accepted until September 1<sup>st</sup> and should be emailed to Kathryn Meloy, DSSP Practice Administrator at [kmeloy@dsspaz.com](mailto:kmeloy@dsspaz.com). After completed application materials are received, we

will review the material and contact selected applications for a two-day interview with the attending and current fellow physicians in both offices. Thank you for your interest.

**Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided Interventions

EMG/NCV

Kyphoplasty/vertebroplasty

Spinal Cord Stimulation Trials

Sports team coverage (if requested)

Shoulder arthrography

Hip arthrography

Elbow/wrist arthrography (limited)

Foot/ankle arthrography (limited)

## **Stanford University PM&R Interventional Spine Fellowship**

**Fellowship positions available: 1**

**Josh Levin, MD, Fellowship Director**  
**Matthew Smuck, MD**

450 Broadway St., M/C 6342  
Redwood City, CA 94063  
Phone: (650) 721-7627

Contact: Maria Anagnostou  
Email: [managnostou@stanford.edu](mailto:managnostou@stanford.edu)

Website:  
<http://ortho.stanford.edu/education/fellowship/InterventionalSpineFellowship.html>

**Research/Publication Obligation:** Yes

### **Approximate percentage of training of interventional spine procedures by region:**

Cervical:	35%
Thoracic:	5%
Lumbar:	60%

### **Fellowship Overview**

The goal of the Stanford University PM&R Interventional Spine Fellowship is to train a dedicated physiatrist in advanced diagnosis and comprehensive management of acute and chronic spine disease. The fellow will encounter a wide spectrum of conditions affecting the spine including those treated by medical, interventional, and surgical measures. The Stanford Spine Center is a world-class multidisciplinary facility with on-site clinics, imaging (ultrasound, x-ray, CT and MRI), electrodiagnostics lab, therapy gym, and surgery center. The fellow will work and learn in this dynamic environment under the guidance of the program director and its many faculty. Faculty include fellowship-trained spine and musculoskeletal specialists from PM&R, Orthopaedic Surgery, Neurosurgery and Radiology. The fellow is exposed to a broad range of procedures including ultrasound and fluoroscopic-guided percutaneous interventions (mix is approximately 30% cervical, 5% thoracic, 50% lumbar and 15% appendicular) and electrodiagnostic studies.

This is a strongly academic program. The fellow will have an integral role in education through interactions with residents and medical students, and by contributing to and organizing aspects of the regular didactic program, spine indications conference, and cadaver lab sessions. The fellowship fosters clinical research and the fellow is expected to publish in a peer reviewed journal. Basic science research opportunities are available through interdisciplinary efforts for those interested.

This one-year fellowship begins each year on August 1 and is not ACGME-accredited. There is a stipend. Fellows must have a California Medical License and be Board Certified or Board eligible in PM&R before beginning the Fellowship.



**Emory Spine Center of Emory University**  
**Fellowship positions available: 1**

**Jaymin Patel, MD, Fellowship Director**

**W. Jeremy Beckworth, MD, Assistant Fellowship Director**

59 Executive Park S.

Atlanta, GA 30329

Phone: (216) 445-9234; Fax: (216) 636-2607

Contact: Miki DeJean, MA

Email: [miki.dejean@emory.edu](mailto:miki.dejean@emory.edu)

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	30%
Thoracic:	10%
Lumbar:	60%

**Fellowship Overview**

Emory Orthopaedics is proud to offer an Interventional Spine Fellowship for PM&R residency graduates interested in furthering their practical and academic interventional spine career. We will be participating in the North American Spine Society (NASS) Consortium of Fellowships. This is a 12-month fellowship, with one position available per year (August 1 – July 31).

Fellows will have the opportunity to work with one of the largest academic spine physiatry groups in the country. With over 29,000 outpatient visits and 7,000 procedures performed among all of our spine physiatrists, there is a great mix of degenerative, trauma, and deformity conditions as well as intermittent tumor and infection cases. Outpatient experience will include EMG/NCS, evaluation and treatment in the continuum of acute to chronic spine conditions to develop physical exam skills, imaging interpretation, treatment regimens and overall spine wellness.

An opportunity will also be available to participate in surgical clinics to understand the depth of a complete, interdisciplinary spine center. Procedural experience will include fluoroscopically guided spine interventions including epidural steroid injections, radiofrequency ablation, spinal cord stimulation trials and implantation, vertebral augmentation and ultrasound exposure. Experience with our neurosurgical faculty and orthopedic surgery faculty is readily available and encouraged.

The fellow will be expected to have an independent EMG/NCS clinic as a part of the fellowship and is expected to meet requirements to be eligible for Electrodiagnostic Board Certification.

Clinical research will be expected in addition to participating in resident education.

**Procedures Taught**

Cervical-thoracic-lumbar epidural steroid injections

Cervical-thoracic-lumbar facet joint interventions

Ultrasound-guided Interventions

EMG/NCS

Kyphoplasty/Vertebroplasty

Spinal Cord Stimulation Trials

Spinal Cord Stimulation Implantation

## **PM&R Sports Medicine and Interventional Spine Fellowship at Washington University**

**Chi-Tsai Tang, MD, Fellowship Program Director**

**Heidi Prather, DO, Fellowship Program Associate Director**

Washington University Orthopedics  
14532 South Outer Forty Drive, Suite 200  
Chesterfield, MO 63017  
Phone: (314) 514-3901

Contact: Christi Martine  
Email: [c.martine@wustl.edu](mailto:c.martine@wustl.edu)  
Email: [ctang22@wustl.edu](mailto:ctang22@wustl.edu)

Website: under construction

**Research/Publication Obligation:** Yes

### **Approximate breakdown of exposure to specific patient populations:**

Spine: 60%  
Peripheral Joints: 20%  
Acute Injuries: 20%

### **Fellowship Overview**

Washington University's PM&R Sports and Interventional Spine fellowship offers the unique opportunity to train at a tertiary academic center and learn the gamut of musculoskeletal medicine from experts in the field PM&R, orthopedics, and neurosurgery. The fellowship allows exposure to a wide variety of patients including those with acute sports injuries as well as those with chronic low back and neck pain. You will learn to evaluate and conservatively treat all different types of musculoskeletal complaints, and learn the indications for surgical referral. You will work in a variety of different clinical settings, including a neurosurgery specialty clinic, a multidisciplinary clinic for underserved individuals, and an orthopedic injury clinic where fractures are routinely seen and managed. You will be in an attending physician's clinic most times, but will also have the opportunity to independently manage patients with attending oversight. You will be taught by leaders in the field of PM&R, all with board certifications in sports medicine, pain medicine, or both. You will learn to perform various fluoroscopic guided injections, as well as ultrasound guided injections, and have the opportunity to continue performing EMGs.

Washington University also has an ACGME accredited PM&R Sports Medicine fellowship, and you will work closely with this fellow throughout the year. Many of the didactics will be shared, and include weekly physiatry didactics/journal clubs, weekly sports medicine didactics, quarterly gatherings with physical therapists, and monthly conferences with neurosurgery spine. There will also be opportunities to spend time with specialists in orthopedic surgery, neurosurgery, radiology, emergency medicine, and pediatrics.

There are also several Washington University sponsored courses throughout the year that the fellow can attend. This includes an annual *introduction to musculoskeletal* ultrasound course, biannual *movement systems impairment* physical therapy course, and an annual *sports medicine*

*update* course that the fellows can attend. The fellow will also have the opportunity to travel for an injection course during the year.

### **Objectives of the Fellowship**

The goal of the fellowship is to train a well-rounded musculoskeletal physician, who is comfortable with seeing acute or chronic issues. The fellow should leave the fellowship competent in basic fluoroscopic spine and peripheral joint injections, as well as basic ultrasound guided injections. Depending on interest, the fellow has the opportunity to learn more advanced pain procedures as well.

Scholarly activity is highly encouraged and there are ample opportunities to undertake a research project. Teaching is part of the fellowship and the fellow will have the opportunity to teach the PM&R residents during the year.

### **Procedures Taught**

#### Fluoroscopic guided procedures:

- TFESI (C-T-L)
- Facet (C-T-L)
- MBB (C-T-L)
- RFA (C-T-L, knee, hip)
- SIJ
- Hip, shoulder, ankle, elbow, other peripheral joints

#### Ultrasound guided procedures:

- Shoulder (subdeltoid bursa, biceps tendon, glenohumeral joint, acromioclavicular joint)
- Hip (hip joint, piriformis, greater trochanteric bursa)
- Knee (knee joint)

**HSS Physiatry Interventional Spine and Sports Medicine Fellowship Program**  
**Academic Affiliation: Hospital for Special Surgery/Weill Cornell Medicine**  
**Fellowship positions available: 2**

**Jonathan S. Kirschner, MD, Fellowship Director**

Hospital for Special Surgery  
535 East 70<sup>th</sup> Street  
New York, NY 10021  
Phone: (646) 714-6327

Contact: Victoria Guerrero  
Email: [guerrerov@hss.edu](mailto:guerrerov@hss.edu)

Website: <https://www.hss.edu/physiatry-spine-and-sport-medicine-fellowship.asp>

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	15%
Thoracic:	2%
Lumbar:	83%

**Fellowship Overview**

The fellowship focuses on a comprehensive, non-surgical approach to conditions and diseases that affect the musculoskeletal system with a focus on spine and sports medicine. We are looking to train future Academic Physiatry leaders and strong communication, interpersonal and leadership qualities are desired.

Each fellow will learn to integrate the history, physical examination, and radiographic findings into a comprehensive rehabilitation plan. Our fellows build skills and knowledge of the indications and techniques for advanced physiatric care of musculoskeletal and sports injuries and work closely with orthopedic surgeons to better understand surgical options, indications and complications. They will be exposed to both common and uncommon peripheral nerve and brachial plexus disorders/injuries and participate in high-level electrodiagnostic studies. In addition they will learn to perform a wide array of interventional fluoroscopic procedures, including cervical and lumbar epidural injections (interlaminar, transforaminal and caudal) , facet injections, facet cyst aspirations and ruptures, medial branch blocks, radiofrequency ablation (cervical and lumbar), intra-articular hip and shoulder injections.

Comprehensive ultrasound skills are acquired through an introductory ultrasound course with didactics and hands-on scanning, hip cadaver lab and daily clinical exposure. Fellows will be competent in most major joint, bursa, tendon, and PRP injections with ultrasound guidance and many sit for the RMSK exam.

All fellows cover High School and Division I athletic events at Saint Peter's University. Marathon coverage, adaptive sports and mass cardiac screenings round out the Sports Medicine exposure, along with an extremely robust year-long didactic curriculum shared by Primary Care Sports Medicine and Orthopedic Sports fellows and attendings. Fellows will

become competent in concussion evaluation and primary management under the direction of a board certified TBI fellowship trained physiatrist.

In the course of fellowship training, there will be optional rotations with musculoskeletal radiologists and surgeons. Fellows attend weekly Sports Medicine and Spine lecture series. In addition, there are weekly Physiatry Grand Rounds and the option to attend additional weekly conferences in sports, spine, arthroplasty, radiology, foot & ankle and hand with some of the world's experts. We have a robust research program and all fellows are required to perform research. Protected time and research support staff are provided.

HSS is an equal opportunity employer and does not discriminate with regard to sex, color, creed, religion, sexual preference or disability.

**Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided interventions

EMG/NCS

Sports Team Coverage

Shoulder Arthrography

Hip Arthrography

Elbow/Wrist Arthrography

Foot/Ankle Arthrography

## **Spine Medicine Fellowship at the Cleveland Clinic**

**Russell DeMicco, DO, Fellowship Director**

**Santhosh Thomas, DO, MBA Co-Fellowship Director**

**Adrian Zachary, DO, MPH Co-Fellowship Director**

Cleveland Clinic Center for Spine Health  
9500 Euclid Avenue  
Cleveland, OH 44195  
Phone: (216) 445-9234; Fax: (216) 636-2607

Contact: Leslie Berdecia

Email: [spinefellowship@ccf.org](mailto:spinefellowship@ccf.org)

Email: [demiccr@ccf.org](mailto:demiccr@ccf.org)

Website: [http://my.clevelandclinic.org/neurological\\_institute/spine/medical-professionals/fellowships.aspx](http://my.clevelandclinic.org/neurological_institute/spine/medical-professionals/fellowships.aspx)

**Research/Publication Obligation:** Yes

### **Approximate percentage of exposure to the Spine by region:**

Cervical:	35%
Thoracic:	5%
Lumbar:	60%

### **Approximate percentage of Fellowship exposure to the Spine by diagnostic category:**

Degenerative:	60%
Trauma:	5%
Deformity:	10%
Tumor:	5%
Pediatric:	5%
Other	20%

## **Fellowship Overview**

Cleveland Clinic's Center for Spine Health offers a unique opportunity to receive spine medicine graduate training through our fellowship program. At Cleveland Clinic, you will have the chance to work with some of the country's best Spine Medicine Physicians, Physiatrists, Rheumatologists, Neurologists, Neurosurgeons, and Orthopaedists.

Our Orthopaedic Surgery, Rheumatology and Neuroscience programs are consistently ranked among the top 10 in the nation and No. 1 in Ohio by U.S. News & World Report's Annual "America's Best Hospitals" survey. Cleveland Clinic itself is ranked one of America's top hospitals.

Our fellows are trained comprehensively - we focus not only on procedural techniques, but also on spine wellness, surgical evaluations, image interpretation, pharmacologic therapies and more. Fellows have opportunities to work with sports medicine, radiology, metabolic bone disease, chronic pain rehabilitation program, and integrative medicine.

## **Objectives of the Fellowship**

The goal of the Cleveland Clinic Spine Medicine Fellowship is to train broadly competent, non-operative specialists in the evaluation and management of the full spectrum of spine disorders. The unique integration of non-operative and surgical specialists within the Center for Spine Health, provides fellows the opportunity to develop outstanding clinical skills grounded in an evidence based framework.

Scholarly activity is encouraged and expected. Fellows are active participants in clinical research and writing.

Fellows participate in weekly grand rounds and joint surgical/medical conferences as well as tumor board, Cleveland Spine Review, spine research meetings, and cadaver workshops. Fellows are also involved with resident and medical student education. The Cleveland Clinic does have a PM&R Residency.

## **Procedures Taught**

Fluoroscopically-Guided Procedures Include:

Facet Joint Injections (Cervical, Thoracic, and Lumbar (C-T-L))

Medial Branch Blocks (C-T-L)

Radiofrequency Ablation of the Medial Branch Nerves

Epidural Steroid Injections (Caudal, C-T-L Interlaminar, and C-T-L Transforaminal)

Sacroiliac Joint Injections

Intra-Articular Hip Joint Injections

Piriformis Injections

There is exposure to Ultrasound-guided Interventions, EMG/NCS, Vertebral Augmentation (Vertebroplasty/Kyphoplasty), and Spinal Cord Stimulation as well.

## **NERA Spine & Sports Medicine**

**Academic Affiliation: Philadelphia College of Osteopathic Medicine**

**Fellowship positions available: 1**

**Scott Naftulin, DO, Fellowship Director**

3400 Bath Pike, Suite 400

Bethlehem, PA 18017

Phone: (610) 954-9400

Contact: Meegan Dorsey

Email: [snaftulin@gmail.com](mailto:snaftulin@gmail.com)

Website: [nerehab.com](http://nerehab.com)

### **Approximate percentage of training of interventional spine procedures by region:**

Cervical: 30%

Thoracic: 10%

Lumbar: 60%

### **Fellowship Overview**

Northeastern Rehabilitation Associates, PC (NERA) was founded in 1991. NERA is the region's premier physician group specializing in Physical Medicine and Rehabilitation. In addition to providing comprehensive nonsurgical treatment for back and neck pain, our board certified physicians provide services for many other disabling conditions in both inpatient and outpatient settings. Our physicians subspecialize in Pain Management, Electrodiagnostic Medicine (EMG/Nerve Conduction Studies), Spinal Cord Injury, Stroke, Brain Injury/Concussion Management, Independent Medical Evaluations, and Sports Medicine.

### **Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided interventions

EMG/NCS

Kyphoplasty/Vertebroplasty

Spine Cord Stimulation Trials

Shoulder Arthrography

Hip Arthrography



## **Spine Medicine Fellowship at the Hospital of the University of Pennsylvania- Penn Spine Center**

**Adrian Popescu, MD, Fellowship Director**

**SIS instructor**

**Ilya Igolnikov, MD Assistant Fellowship Director**

Penn Spine Center

Department of Physical Medicine and Rehabilitation

1800 Lombard Street

Philadelphia, PA 19146

Phone: 215-893-2668

Fax: 215-893-2686

Contact: Nadia Miles, Administrative Assistant

Email: [nadia.miles@uphs.upenn.edu](mailto:nadia.miles@uphs.upenn.edu)

Website: <https://www.pennmedicine.org/departments-and-centers/physical-medicine-and-rehabilitation/education-and-training/physical-medicine-and-rehabilitation-fellowship-program>

**Research/Publication Expectations: Yes**

### **Approximate percentage of exposure to the Spine by region:**

Cervical: 25%

Thoracic: 5%

Lumbar: 70%

### **Approximate percentage of Fellowship exposure to the Spine by diagnostic category:**

Degenerative: 60%

Trauma: 5%

Deformity: 10%

Tumor: <4%

Pediatric: <1%

Other: 20%

### **Fellowship Overview**

Penn Spine Center at the Hospital of the University of Pennsylvania offers a unique opportunity to receive spine medicine graduate training through our fellowship program. Penn Spine Center has a long track record of outstanding successful spine specialists.

As a graduate of the fellowship program, you will have control of comprehensive evaluation of patients with complex spine disorders including understanding advanced imaging studies, evidence based and ethical interventional treatments, and decision making process to provide expert spine care.

Penn Medicine is ranked annually as one of America's top academic institutions. This is reflected in the educational experience for our trainees, opportunities for collaboration within the academic institution and the job placement post fellowship.

Our fellows have numerous opportunities to present for weekly spine rounds with top Penn spine surgeons, non-operative physicians and physical therapy colleagues. Occasionally, we have international visiting professors that give grand rounds. Our fellows are exposed to the most comprehensive spine care for a very diverse disease group patient population.

### **Objectives of the Fellowship**

The goal of the Penn Medicine Spine Fellowship is to train top non-operative specialists in the evaluation and management of the full spectrum of spine disorders. The unique integration of non-operative and surgical specialists within the Penn Spine Center, provides fellows the opportunity to develop outstanding diagnostic clinical skills and procedural skills.

Scholarly activity is encouraged and expected.

Fellows are expected to participate in resident and medical student education.

### **Procedures Taught**

#### **ALL fluoroscopically guided procedures described in SIS Guidelines**

Fluoroscopically-Guided Procedures Include:

Facet Joint Injections (Cervical, Thoracic, and Lumbar (C-T-L))

Medial Branch Blocks (C-T-L)

Radiofrequency Ablation of the Medial Branch Nerves (C-T-L)

Epidural Steroid Injections (Caudal, C-T-L Interlaminar, and C-T-L Transforaminal)

Lumbar Discography

Sacroiliac Joint Injections

Intra-Articular peripheral joint injections

Tendon Sheath Injections

Ultrasound guided procedures and exposure to diagnostic ultrasound

There is exposure to Ultrasound-guided Interventions in clinic with AIUM certified instructor

There is bi-monthly experience in Electrodiagnostics with AANEM board certified expert

There is exposure to Vertebral Augmentation (Vertebroplasty/Kyphoplasty) in Neuro

Interventional Radiology suite and exposure to BI-planar C-arm procedures with master

instructor -Neuro IR Faculty (unique opportunity for better understanding anatomy, planning of the spine procedure using imaging, and safety of complex procedures)

Thank you for your kind consideration.

**OSS Health Interventional Spine and Sports Fellowship**  
**Academic Affiliation: Sinai Baltimore, Temple University**  
**Fellowship positions available: 6 (3 starting January 1; 3 starting July 1)**

**Michael B. Furman, MD, MS, Fellowship Director**  
**Brian D. Steinmetz, DO**  
**James J. Gilhoo, DO**

OSS Health  
1855 Powder Mill Road  
York, PA 17403  
Phone: (717) 848-4800 ext. 4245  
Academic Affiliation : Sinai Baltimore, Temple University

Contact: Luanne McDonald

Email: [LMcdonald@osshealth.com](mailto:LMcdonald@osshealth.com)

Website: <https://osshealth.com/for-physicians/interventional-spine-sports-medicine-fellowship/>

**Research/Publication Obligation:** Yes

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	35%
Thoracic:	10%
Lumbar:	55%

**Fellowship Overview**

**Please see our website for more information:**

Our twelve-month physiatric-based program has an optimal combination of academics within a private practice multi-specialty setting. We have trained over 70 graduates over the last 20 years. This program is ideally suited for those of you who seek training in the following:

- Basic and Advanced Interventional Spine Care
- Sports Medicine
- Advanced Electrodiagnostics
- Musculoskeletal Diagnostic and Therapeutic Ultrasound
- Musculoskeletal Medicine
- Business skills, billing and coding
- Practice Management/Building

**Procedures Taught**

PRP/Regenerative Medicine  
Ultrasound-guided interventions  
EMG/NCS  
Kyphoplasty/Vertebroplasty  
Spine Cord Stimulation Trials  
Spinal Cord Stimulation Implantation  
Intrathecal Pump Placement  
Sports Team Coverage

Shoulder Arthrography  
Hip Arthrography  
Elbow/Wrist Arthrography  
Foot/Ankle Arthrography  
Other: Intradiscal Procedures, Urgent Care

We train six fellows annually. Three (3) fellows begin their one-year training in July and three (3) begin their one-year training in January. The next open fellowship positions will be for those starting July 1 and January 1

### **Requirements**

Requirements for consideration for the OSS Health Interventional Spine and Sports Medicine Fellowships include the following:

- Completion of an accredited North American Physical Medicine & Rehabilitation residency or other residency with a **minimum of three months of electrodiagnostic experience.**
- Current Pennsylvania Allopathic/Osteopathic medical and DEA licensures. These need to be current prior to your fellowship start date.
- Confirmation of successful completion of the U.S. Medical Licensing Examination (USMLE) and/or the Comprehensive Osteopathic Medical Licensing Examination (COMLEX) prior to program acceptance
- Personal Statement
- Curriculum Vitae
- Three letters of recommendation, including one from your residency program director
- Our application
- Cover letter
- A picture in jpeg format to attach to your file

**We are not offering ACGME accredited positions.** We are a member of the NASS Interventional Spine Fellowship Consortium and will be abiding by the September, 2018 Common Offer Date. You may contact our Fellowship Coordinator, Luanne McDonald, at [lmcdonald@osshealth.com](mailto:lmcdonald@osshealth.com) or (717) 718-2000, extension 2048 with additional questions.

**Medical University of South Carolina**  
**Fellowship positions available: 2**

**David R. O'Brien, Jr., MD, Fellowship Director**

96 Jonathan Lucas Street  
Suite 708A, MSC 623  
Charleston, SC 29425

Phone: (843) 876-0111

Contact: Arleeta Burns  
Email: [burnsaf@musc.edu](mailto:burnsaf@musc.edu)

**Research/Publication Obligation:** Yes

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	35%
Thoracic:	5%
Lumbar:	60%

**Fellowship Overview**

Since 2001, Dr. O'Brien has been the Director of the first and only previously PASSOR-Recognized Interventional Spine and MSK fellowship in North Carolina with over 25 graduates. This program was successfully relocated to MUSC in Charleston SC in 2018. We have two openings for the 2019-2020 academic year. Our program is geared towards training Physiatrists in the diagnosis and treatment of spine and musculoskeletal disorders. Fellows receive hands-on training in a variety of fluoroscopically guided procedures, such as: lumbar, cervical, and thoracic epidurals, nerve blocks and facet injections, facet cyst rupture, discography, peripheral joint injections and arthrography of the hip, shoulders, sacroiliac joint, elbow, wrist, ankle, subtalar and knee, radiofrequency ablations, ultrasound-guided procedures, regenerative medicine and electrodiagnostic studies. Fellows are exposed to evidence based medicine, weekly lecture series, interventional spine didactic and lecture series and have the opportunity to participate in research projects. Fellows get significant training in health policy, medical coding and other business aspects of medicine.

David O'Brien Jr., MD is an Associate Professor, Fellowship Director and Chief of Physiatry at MUSC. He has 4 Board Certifications in Physiatry, Pain Medicine, Sports Medicine and Electrodiagnostic Medicine. He is on the Board of Directors for the North American Spine Society (NASS) and serves as Health Policy Director. He is a past Board Member for the Spine Intervention Society and still serves on the SIS health policy council. He has numerous publications and has given over 100 national/international presentations in at least 8 countries and continues serve as course Director and/or faculty for numerous national and international cadaver courses.

**Benefits Include**

Competitive salary with Health and Dental insurance.

NASS-Recognized Fellowship.

Charleston is a world-class destination with nearby beaches, ocean-oriented activities, golf, restaurants, and colleges with numerous activities available.

Physicians who are in good standing in a clinical American Board of Medical Specialties (ABMS) residency in Physical Medicine and Rehabilitation are eligible to apply. Start dates are typically mid-summer. Applicants should send c/v and 2 letters of reference to:

[obrienspine@gmail.com](mailto:obrienspine@gmail.com)

### **Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided Interventions

EMG/NCS

Kyphoplasty/Vertebroplasty

Spinal Cord Stimulation Trials (optional)

Sports Team Coverage (optional)

Shoulder Arthrography

Hip Arthrography

Elbow/Wrist Arthrography

Foot/Ankle Arthrography

Radiofrequency Facet Denervation

**Vanderbilt University PM&R Spine and Musculoskeletal Rehabilitation Medicine**  
**Academic Affiliation: Vanderbilt University Medical Center**  
**Fellowship positions available: 2**

**Bryon J. Schneider, MD, Fellowship Director**  
**David J. Kennedy, MD, Associate Fellowship Director**

Vanderbilt University Medical Center  
2201 Children's Way, Suite 1318  
Nashville, TN 37212  
Phone: (615) 936-5502

Contact: Kara Dyer  
Email: [kara.dyer@vumc.org](mailto:kara.dyer@vumc.org)  
Website: <https://www.vumc.org/pmr/>

**Research/Publication Obligation:** Yes

**Approximate percentage of exposure to the Spine by region:**

Cervical:	30%
Thoracic:	10%
Lumbar:	60%

**Approximate percentage of Fellowship exposure to the Spine by diagnostic category:**

Degenerative:	45%
Trauma:	10%
Deformity:	15%
Tumor:	5%
Pediatric:	5%
Other	20%

**Fellowship Overview**

Vanderbilt University Medical Center (VUMC) offers a unique opportunity to receive spine medicine graduate training through our North American Spine Society recognized (NASS) fellowship program. At Vanderbilt University Medical Center, you will have the chance to work with some of the country's best Spine Medicine Physiatrists, Neurosurgeons, Orthopaedic Spine Surgeons, Anesthesiologists, and therapists. VUMC is a U.S News & Report Honor Hospital, an honor which only the nation's top 20 hospitals receive. VUMC offers experiences in a top tier academic facility with diverse patient populations, state-of-the-art technology, cutting edge research, and outstanding faculty.

Our comprehensive training focuses on evaluation and treatment throughout the disease continuum, including physical examination, imaging interpretation, therapy and medicine prescriptions, surgical evaluations, spine wellness, and extensive training in interventional spine procedures including the cervical, thoracic and lumbar regions all taught in accordance with Spine Intervention Society principles. Opportunities also exist at the Osher Center for Integrative health and the Dayani Center for Health and Wellness.

**Objectives of the Fellowship**

The goal of the Vanderbilt University Medical Center PM&R Spine and Musculoskeletal Rehabilitation Medicine Fellowship is to train the future thought leaders in the field. To do so we offer an in-depth training in spine medicine, with a focus on interventional procedures and the research behind them. Scholarly activity is expected and supported. Fellows are active participants in clinical research and writing.

Fellows participate in resident teaching to the Vanderbilt University Medical Center PM&R residency, weekly rounds, joint surgical/medical conferences, and spine research meetings.

**Procedures Taught**

Fluoroscopically-Guided Procedures Include:

Epidural Steroid Injections (Transforaminal and interlaminar in the cervical, thoracic, and lumbar regions)

Sacroiliac Joint Injections

Medial Branch Blocks and facet joint injections (in all spine regions, including advanced procedures such as AA joint injections)

Radiofrequency Ablation of the Medial Branch Nerves

Intra-Articular Hip Joint Injections

EMGs/NCS

There is exposure to Ultrasound-guided Interventions, Vertebral Augmentation (Vertebroplasty/Kyphoplasty), and Spinal Cord Simulation as well.



## **Texas Spine and Scoliosis**

**E. Kano Mayer, MD, Fellowship Director**  
**Enrique Pena, MD, Co-Fellowship Director**

Seton Spine & Scoliosis  
1600 West 38<sup>th</sup> Street, Suite 200  
Austin, TX 78731  
Phone: (512) 342-3580

Contact: Ashley Duncan  
Email: [ADuncan@ascension.org](mailto:ADuncan@ascension.org)  
Email: [kanomayer@gmail.com](mailto:kanomayer@gmail.com)

Website: [www.texasspineandscoliosis.com](http://www.texasspineandscoliosis.com)

**Research/Publication Obligation:** No

### **Approximate percentage of exposure to the Spine by region:**

Cervical:	25%
Thoracic:	5-10% (Scoliosis heavy)
Lumbar:	65%

### **Fellowship Overview**

Seton Spine and Scoliosis Center at the University of Texas Dell Medical Center is an interdisciplinary center that prides itself on a team-based approach to spine care combining surgeons and interventionists committed to all levels of spine care. It is a regional center of excellence for deformity, tumor care and research with robust research output and a national profile in medical efficacy, outcomes, research, and socio-economic and medical policy issues.

The fellowship uses a sports-based rehabilitation approach combined with cutting-edge surgical techniques and facilities that emphasize functional return in the highly active Austin community. We are excited to offer both surgical and medical fellowship positions in our practice, giving us the opportunity to demonstrate the interdisciplinary methods we advocate.

### **Procedures Taught**

PRP/Regenerative Medicine  
Ultrasound-guided interventions  
EMG/NCS (Elective)  
Kyphoplasty/Vertebroplasty  
Spinal Cord Stimulation Trials  
Spinal Cord Stimulation Implantation (Elective)  
Sports Team Coverage  
Shoulder Arthrography (Elective)  
Hip Arthrography (Elective)  
Intracorporeal Procedure

## **The Spine and Sports Center**

**Number of fellowship positions: 1**

**Benoy Benny, MD, Fellowship Director**

2100 West Loop South  
Suite 150  
Houston, TX 77027  
Phone: (713) 590-2700

Contact: Benoy Benny, MD  
Email: [bbenny@thespineandsportscenter.com](mailto:bbenny@thespineandsportscenter.com)

Website:  
<https://www.thespineandsportscenter.com/fellowship-benoy-v-benny.html>

**Research/Publication Obligation:** Yes

### **Approximate percentage of training of interventional spine procedures by region:**

Cervical:	20%
Thoracic:	5%
Lumbar:	75%

### **Fellowship Overview**

The Spine and Sports Center (TSASC) is a dynamic outpatient physiatry group based in Houston, Texas. TSASC is committed to excellence in clinical and interventional training of Spine and Musculoskeletal medicine. Our fellows learn clinical evaluation and decision-making skills in Spine and general Musculoskeletal disorders, as well as acquire competence in fluoroscopy-guided spine interventions (lumbar, sacral, cervical and thoracic). Key elements of the fellowship training include radiographic assessment, musculoskeletal ultrasound (for injection guidance and diagnostics), and business of outpatient practice. Our case mix is generally 70% spine, 30% general musculoskeletal/sports medicine.

In addition to spine procedures, there is physical examination skills, EMG's and ultrasound-guided joint and soft tissue injections (including platelet-rich plasma therapies [PRP], Bone marrow stem cell injections as well as other regenerative injections).

This program is ideally suited for those of you who seek training in the following:

- Basic and Advanced Interventional Spine Care
- Physical exam and Diagnostic methods for identifying musculoskeletal and spine pain pathologies
- Musculoskeletal and Sports Medicine
- Musculoskeletal Ultrasound
- Business skills, billing and coding

The fellowship provides training in all aspects of Musculoskeletal Medicine and Interventional Spine Care including, but not limited to, fluoroscopically guided spine procedures,

electrodiagnostics, musculoskeletal ultrasound, and the management of general musculoskeletal/pain disorders.

The fellow will feel very comfortable in the care of the spine, shoulder, knee and hip. The fellowships include high school football coverage, team physicals as well as coverage of local sports like the Houston Marathon. The fellowship training emphasizes the use of diagnostic and therapeutic cervical, thoracic and lumbosacral spine procedures. These include diagnostic and therapeutic epidural steroid injections, sacroiliac injections, facet procedures (including radiofrequency denervation), provocation discography, percutaneous intradiscal procedures. Training also includes regenerative medicine and the interpretation of MRI, CT and plain films. Emphasis is placed on selection of appropriate patients based on a comprehensive neuromusculoskeletal evaluation including history, physical examination and diagnostic image interpretation. When appropriate, therapeutic image guided procedures are incorporated into a comprehensive rehabilitation program.

Training also includes a thorough understanding of practical issues such as business skills, billing and coding to prepare physicians for private or academic practice. The practice also includes time spent in physical therapy to see how that is an integral part of a comprehensive conservative spine and musculoskeletal practice.

Research will be a part of the Fellowship where they will be expected to be involved in at least one research project to be submitted for publishing. Teaching and journal clubs will also be part of the fellowship curriculum.

Each fellow will also be expected to participate in outpatient clinics both independently and directly supervised by their attending physicians.

Their exposure in addition to PM&R will also be with exposure and an understanding of what spine orthopedists, sports orthopedists and neurosurgeons do, that will help them tremendously when they finish their fellowship.

### **Procedures Trained In**

- Cervical, thoracic, lumbar epidural injections
- Cervical, thoracic, lumbar selective nerve injections
- Cervical, thoracic, lumbar facet joint injections
- Cervical, thoracic, lumbar medial branch blocks
- Sacroiliac joint injections
- Intraarticular hip, knee, and shoulder injections
- Facet procedures (including radiofrequency neurotomy)
- Lumbar discography and intradiscal therapeutic procedures
- Tenotomies
- Percutaneous Disc Decompression
- Vertebral augmentation
- Arthrograms
- Interpretation of MRI, CT and plain films
- Musculoskeletal ultrasound
- Opportunity to learn ultrasound guided injections
- Electrodiagnostic skills

- Opportunity for conference time (i.e. spinal procedure didactic conference such as AAPM&R, NASS, SIS, etc.)
- Management of general musculoskeletal/pain disorders and pain conditions.
- Joint / bursa / trigger point injections
- Platelet-rich plasma (PRP) therapy
- Regenerative injections
- Bone Marrow stem cell injections
- Sports Teams coverage include high school football, team physicals and the Houston Marathon

## **University of Utah Interventional Spine and Musculoskeletal Medicine Fellowship Fellowship positions available: 1**

**Zachary McCormick, MD, Fellowship Director**

590 Wakara Way  
Salt Lake City, UT 84108  
Phone: (801) 587-5458

Contact: Charis Wren  
Email: [Charis.Wren@hsc.utah.edu](mailto:Charis.Wren@hsc.utah.edu)

Website: <https://medicine.utah.edu/pmr/fellowships/interventional-spine/>

**Research/Publication Obligation:** Yes

**Approximate percentage of exposure to the Spine by region:**

Cervical:	35%
Thoracic:	5%
Lumbar:	60%

### **Fellowship Overview**

The Interventional Spine Fellowship at the University of Utah is a non-ACGME fellowship program that emphasizes the recruitment and training of the next generation of academic and clinical leaders in the field of Spine Medicine. Very strong faculty mentorship distinguishes this program from many others.

This fellowship is a specialized post-graduate training program designed to provide focused knowledge and skills in the management of persons with spine and musculoskeletal disorders. This is a 12-month program that offers clinical and interventional care, teaching, research experiences, and leadership development. The academic environment emphasizes an approach to clinical problem solving, encouraging self-directed study, the development of analytic skills, and sound procedural judgment.

The mission of the program is to provide spine and musculoskeletal medicine education to academically inclined physiatrists who have completed an accredited residency training program, and who wish to bring excellence to the field of Physical Medicine & Rehabilitation.

### **Clinical Education**

- Exposure to acute, sub-acute and chronic spine and musculoskeletal pathology
- University of Utah outpatient spine clinics both independently and with direct attending supervision
- Opportunity to learn fluoroscopically guided spinal injections and ultrasound-guided injections under direct attending supervision. The mix is approximately 35% cervical, 5% thoracic, 55% lumbar and 5% appendicular. Experience includes spinal injections from upper cervical to sacral levels, radiofrequency neurotomy, and neuromodulation. Exposure to cadaver courses is available and encouraged.

- Opportunity to rotate with radiologists, orthopaedic surgeons, and neurosurgeons, and immediate access to these specialists for consultation/education
- Exposure to shadowing spine-specialized physical therapists
- Progress to independence through continuity clinic
- Maintain and sharpen electrodiagnostic skills (optional)

#### **Didactic Education**

- Core Fellowship Didactic Lecture Series: Spinal anatomy, kinesiology, diagnostics, therapeutics.
- Spinal procedure case conference
- Journal club
- Ultrasound Bootcamp
- Department of PM&R Grand Rounds

#### **Teaching Opportunities**

- Organize journal club conference
- Deliver lectures during didactic conferences
- Facilitate spinal procedure case conference
- Supervise medical students and PM&R residents during their clinical rotations

#### **Research Opportunities**

- Adopt and work on impactful spine/musculoskeletal research projects, supported by strong faculty mentorship
- Prepare and give grand rounds style presentations
- Publish peer-reviewed journal articles and research abstracts, supported by strong faculty mentorship
- Publishable textbook chapters
- Present at National/International meetings

#### **Procedures Taught**

PRP/Regenerative Medicine

Ultrasound-guided interventions

Kyphoplasty/Vertebroplasty (optional)

Spinal Cord Stimulation Trails

Spinal Cord Stimulation Implantation

Shoulder Arthrography

Hip Arthrography

Elbow/Wrist Arthrography

Foot/Ankle Arthrography

**Virginia iSpine Physicians, PC**  
**Fellowship positions available: 1-2**

**Michael J. DePalma, MD, Fellowship Director**

9020 Stony Point Parkway  
Suite 140  
Richmond, VA 23235  
Phone: (804) 330-0303

Contact: Margaret Maples  
Email: [practice.manager@va spine.com](mailto:practice.manager@va spine.com)  
Website: [www.va spine.com](http://www.va spine.com)

**Approximate percentage of training of interventional spine procedures by region:**

Cervical:	20%
Thoracic:	15%
Lumbar:	65%

**Fellowship Overview**

The Virginia iSpine Physicians Interventional Spine Care fellowship program is a rigorous training program that teaches physiatrists an evidence based, algorithmic approach to diagnosing and treating painful spinal disorders. Fellows learn how to critically evaluate and interpret historical features, physical exam findings, diagnostic imaging features, and electrodiagnostic evaluations to formulate a comprehensive differential diagnosis. Inherent in this process is the judicious use of fluoroscopically guided precision spinal procedures to accurately diagnose and optimally treat symptoms.

Fellows contribute to original research, grant writing, abstract and manuscript preparation, and student, resident, and patient education. These research and community outreach activities are orchestrated through the Virginia Spine Research Institute, Inc.

Fellows trained in this curriculum will learn how to operate an efficient iSpine practice, practice evidence based spine medicine, and conduct meaningful spine research. A minimum 2 day interview visit is required after application submission and invitation to visit. Two positions are offered starting in July and September of each academic year. Interviews are conducted starting in May and run through mid August of the preceding calendar year.

Interested applicants should submit a letter of intent, personal statement, current CV, 3 letters of recommendation, USMLE (or equivalent) and SAE scores to Dr. Michael J. DePalma by email.

**Procedures Taught**

Ultrasound-guided interventions

EMG/NCS

Kyphoplasty/Vertebroplasty

Spine Cord Stimulation Trials

Other: Medial Branch Blocks; Radiofrequency Ablation; TFESI's; Intradiscal Procedures

**Spine & Pain Fellowship at International Spine, Pain & Performance  
Center/National Rehabilitation Hospital  
Fellowship positions available: 1**

**Mehul J. Desai MD, MPH, Program Director**  
**Faculty: Puneet Sayal, MD, MPH**

International Spine, Pain & Performance Center  
2141 K Street NW Suite 600  
Washington, DC 20037  
202.808.8295 | 202.808.8296 fax

Contact: Melissa Falkowski  
Email: [education@isppcenter.com](mailto:education@isppcenter.com)  
Email: [mfalkowski@isppcenter.com](mailto:mfalkowski@isppcenter.com)

Website: [www.isppcenter.com](http://www.isppcenter.com)

**Research/Publication Obligation: Yes**

Approximate percentage of exposure to the Spine by region:

Cervical:	40%
Thoracic:	10%
Lumbar:	50%

Approximate percentage of Fellowship exposure to the Spine by diagnostic category:

Degenerative:	60%
Trauma:	5%
Deformity:	10%
Tumor:	5%
Pediatric:	5%
Other	20%

**Fellowship Overview**

International Spine, Pain & Performance Center/National Rehabilitation Hospital provides a unique opportunity to receive spine, pain medicine and musculoskeletal medicine graduate training through our fellowship program.

The International Spine, Pain & Performance Center (ISPPC) is an integrated, interdisciplinary practice including Physiatrists, Anesthesiologists, Physical Therapists, Nutritionists and Behavioral Health providers.

The National Rehabilitation Hospital (NRH) is ranked as one of the top Rehabilitation Hospitals in the United States. NRH hosts a number of additional fellowship training programs including traumatic brain injury, cancer rehabilitation and sports medicine.

Our fellows are trained comprehensively - we focus not only on procedural techniques including fluoroscopically and ultrasound-guided, but also on diagnostics, physical



examination, spine and overall wellness, radiographic interpretation, pharmacologic therapies and more. Fellows have opportunities to work with sports medicine, radiology, metabolic bone disease, physical therapy and integrative medicine.

The goals of the fellowship are:

- To train the next generation of musculoskeletal pain and spine specialists.
- To educate fellows in the full spectrum of care.
- To contribute to the continued development of clinical research in these areas.

Scholarly activity is required. Fellows are active participants in clinical research and writing. Fellows participate in weekly grand rounds and salient lectures at NRH, pain and spine research meetings, and cadaver workshops. Fellows are also involved with resident and medical student education.

Medical Students from George Washington University and physical medicine & rehabilitation residents from NRH rotate at the ISPPC. NRH sponsors a PM&R residency-training program.

Procedures:

Fluoroscopically Guided Procedures Include:

- Intra-articular Facet Joint Injections (Cervical, Thoracic, and Lumbar (C-T-L))
- Medial Branch Blocks (C-T-L)
- Radiofrequency Ablation of the Medial Branch Nerves (C-T-L and SI)
- Radiofrequency Ablation of the Knee and Hip
- Epidural Steroid Injections (Caudal, C-T-L Interlaminar, and C-T-L Transforaminal)
- Sacroiliac Joint Injections
- Intra-Articular Hip Joint Injections
- Piriformis Injections
- Trigeminal Nerve Blocks and Ablation
- Vertebral Body Augmentation (Vertebroplasty/Kyphoplasty/Sacroplasty)
- Peripheral Nerve Stimulation
- Spinal Cord Stimulation (Trial & Implant)
- Intrathecal Drug Delivery (Trial & Implant)
- Interspinous Spacers
- Prolotherapy
- Platelet-Rich Plasma
- Bone Marrow Concentrate

Ultrasound-guided Interventions Include:

- Peripheral Joint Injections
- Peripheral Nerve Blocks
- Prolotherapy
- Platelet-Rich Plasma
- Bone Marrow Concentrate
- Peripheral Nerve Stimulation
- Tendon/Ligament Injections