PROGRAM DIRECTORS INTERESTED IN AN ISMM FELLOWSHIP

Thank you for your interest in the NASS-recognized Interventional Spine and Musculoskeletal Medicine (ISMM) Fellowship.

In order to be a NASS-recognized fellowship, the program will need to meet the points criteria as outlined on the ISMM Fellowship Points Qualification System (pages 7-8). It is not required to be NASS-recognized to have the fellowship listed on the website, however, the program will need to meet the points criteria to be part of the Match process. Programs and Program Directors that do not meet the points criteria to be a NASS-Recognized fellowship may apply for Provisional Status and work toward Recognized Status within a 2-year cycle (details on page 10).

The Fellowship Curriculum Standards Document on pages 2-6 is informational.

Please fill out the necessary documents on the following pages and return to Colleen O’Brien at cobrien@spine.org. (Applications are reviewed twice per year with deadlines of January 31st and July 31st to submit all materials).

Fill out and return:
- Points Qualification System* (pages 7-8)
- Program Template to have your program listed in the online directory (page 9)
- Fellowship Participation Agreement
- ISMM Fellowship Provisional Status (page 10)
- The application also requires current CVs for the Program Director(s)/Associate/Co-director.

*Points Qualification System
- 1st NASS-recognition term = 2 years. If the program re-qualities for "recognition" status, terms are 5 years thereafter.
- 250+ points required for NASS-recognition if the program is run by a fellowship director within 5 years post-training. Provisional Status is granted for 200-249 points in this scenario.
- 350+ points required for NASS-recognition if the program is run by a fellowship director with >5 years of experience post-training. Provisional Status is granted for 300-349 points in this scenario.
- Associate PD points are worth 1/2 of total.
- Provisional status qualification: 150 points. Must meet 350 points within 2 years to become recognized. If this standard is not met, the program loses provisional status.
- Points must be reviewed independently by two NASS ISMM Fellowship Committee members, who will make a recommendation to the committee as a whole for a vote.
- Applications for NASS-recognition will be reviewed twice per year with deadlines of July 31st and January 31st to submit all materials.
Fellowship in Interventional Spine and Musculoskeletal Medicine (ISMM)

Curriculum Template

I. MEDICAL ASSESSMENT AND MANAGEMENT

Unit Objectives: Demonstrate an understanding of the functional anatomy, biomechanics, physiology, and pathophysiology of the spine, related supporting muscles and ligaments, and neural elements. Demonstrate knowledge of the clinical presentation of the disorders affecting the spine, neural elements, and supporting structures. Demonstrate the ability to perform an appropriate history and physical examination, select appropriate diagnostic studies and implement a treatment plan incorporating the indicated pharmacologic, nonpharmacologic, and complementary modalities.

A. Clinical Skills

1. Describe the practical anatomy of the cervical spine, thoracic spine, lumbar spine, pelvis, and sacrum. Review the fundamental biomechanics of the spinal column, including the discs, facet joints, and supporting myofascial tissues. Describe the clinical neuroanatomy of the spinal cord, spinal roots, and cauda equina.

2. Perform a comprehensive spinal evaluation including history and physical examination, including neuromuscular assessment. Identify nonorganic physical signs. Assess proximal joints (shoulders and hips). Perform physical examination testing for the sacroiliac joint.

3. Demonstrate an understanding of radiologic imaging studies and interventions as they specifically relate to spine patients:
   a. Describe the indications for plain radiography in spinal disorders. Outline the indications for special views, e.g. oblique views, flexion/extension, scoliosis series.
   b. Identify normal and abnormal anatomy as visualized on spinal CT and MR imaging. Describe the degenerative cascade as seen on MR imaging, including type 1, 2, and 3 endplate changes.
   c. Describe the most appropriate imaging strategy for specific spinal disorders including: acute vertebral compression fracture, discitis, osteomyelitis, pars fractures, arachnoiditis, tumors, chiari malformations, “instability”, spondyloarthropathy, malignancy, and spinal hardware loosening or compromise.
   d. Discuss the indications for spinal myelography.
   e. List the indications for CT and MR guided biopsies.
   f. List the contraindications to MR imaging and myelography.
   g. Describe the limitations of spinal imaging, including “false positive” findings in asymptomatic populations.

4. Review the indications for electrodiagnostic testing in spinal patients, and understand how to properly interpret an electrodiagnostic study.
Spinal Segment/ System-specific Modules (A-E)

For each spinal segment, system, or special population-specific section below (A-E), the following should be discussed:

1. For “axial”/non-radicular pain within the segmental region
   a. Differential Diagnosis
   b. Clinical Presentation, relevant physical examination
   c. Indications for spinal imaging and considerations
   d. Indications for interventional diagnostic testing
   e. Management of acute, subacute, and chronic pain within the segmental region; prognosis.
   f. Indications for surgical evaluation

2. For radicular pain within the segmental region
   a. Differential Diagnosis
   b. Clinical Presentation, relevant physical examination
   c. Indications for spinal imaging and considerations
   d. Indications for interventional diagnostic testing
   e. Medical and Interventional management of acute, subacute, and chronic pain within the segmental region; prognosis
   f. Indications for surgical evaluation

Spinal Segment-specific considerations that should be discussed:

**B. Cervical Spine**
5. Cervical facet joint syndrome, cervicogenic headache, and whiplash
6. Cervical central canal stenosis with and without myelopathy
7. Cervical Disc herniation with and without radiculopathy
8. Cervical spondylosis with and without radiculopathy
9. Cervical region myofascial pain

**C. Thoracic Spine**
10. Thoracic facet joint syndrome
11. Costovertebral and costo-transverse joint pathology
12. Thoracic central canal stenosis with and without myelopathy
13. Thoracic Disc herniation with and without radiculopathy
14. Thoracic spondylosis with and without radiculopathy
15. Thoracic region myofascial pain
16. Thoracic vertebral body compression fracture; review medical work-up and management of low bone mineral density; spinal orthoses.

**D. Lumbar sacral Spine**
1. Lumbosacral facet joint syndrome
2. Lumbar central canal stenosis with and without cauda equina compromise, neurogenic claudication
3. Lumbar disc herniation with and without radiculopathy, cauda equina syndrome
4. Lumbar spondylosis with and without radiculopathy
5. Spondylolisthesis  
6. Degenerative Scoliosis  
7. Lumbar disc pain, internal disc disruption  
8. Vertebrogenic low back pain  
9. Lumbar region myofascial pain  
10. Lumbar vertebral body compression fracture  
11. Piriformis syndrome  
12. Sacroiliac joint region pain  
13. Coccydynia  

E. Inflammatory/Infectious/Visceral  
14. Inflammatory Spondyloarthropathies; non-spinal manifestations of these disorders.  
15. Discitis and vertebral osteomyelitis.  
16. Non-spinal causes of back and neck pain including mediastinal, gastrointestinal, gynecologic, genitourinary, vascular, and rheumatologic.  

F. Pediatric Spinal Disorders  
17. List common causes of back and neck pain in the pediatric population, including pars fracture and myofascial syndromes. Describe diagnosis and management of acute pars fracture.  
18. Review the evaluation and management of adolescent scoliosis, including indications for bracing and surgery.  

G. Non-Interventional Therapeutics  
19. Review the pertinent clinical pharmacology of nonsteroidal anti-inflammatory drugs and their role in the management of spinal pain. Discuss contraindications to NSAIDs, potential drug interactions, and appropriate monitoring for toxicity.  
20. Review the pertinent clinical pharmacology of antidepressants, anticonvulsants and muscle relaxants and their role in the management of spinal pain. Discuss contraindications to these agents, potential drug interactions, and appropriate monitoring for toxicity.  
21. Review the pertinent clinical pharmacology of nonopioid and opioid analgesics and their role in the management of spinal pain. Discuss contraindications to opioids, potential drug interactions and appropriate monitoring for toxicity. Review the issues of tolerance, diversion and abuse as they relate to the use of opioid agents in spinal pain.  
22. Review the pertinent clinical pharmacology of commonly used herbal products and nutritional supplements and their role in the management of spinal pain. Discuss contraindications to these agents, potential drug interactions, and appropriate monitoring for toxicity.  
23. Review the evidence for efficacy of alternative/complementary therapy including TENS, acupuncture, massotherapy, prolotherapy, spinal distraction and manipulation in spinal disorders. Outline potential adverse effects.  
24. Describe the indications for physical therapy in the management of acute, subacute and chronic back pain. Review the role of active exercise in treatment of spinal conditions. Describe the elements of and rationale for different therapy approaches.
including McKenzie, stabilization, flexion, and others. Describe the indications for the use of modalities such as ultrasound and electrical stimulation.

25. Describe the unique clinical issues in evaluation and management of spinal pain in geriatric patients.

26. Describe the significance of psychosocial issues as they relate to spinal pain management. Demonstrate competence in evaluating patients for the presence of significant psychosocial issues. Outline the concepts of central and peripheral sensitization, including the neurophysiologic basis for psychosocial impact on pain perception. Describe the role of consultants in psychiatry or psychology in the comprehensive multidisciplinary management of complex pain disorders.

27. Understand the appropriate role, limitations, and indications for functional capacity evaluation. Describe the concept of an independent medical evaluation, as well as the reporting and confidentiality limitations of such an exam. Describe the concepts of impairment and disability. Outline the differences between current disability systems including social security and workers’ compensation.

II. INTERVENTIONAL SPINE CARE

Unit objective: Demonstrate understanding of the pertinent regional anatomy and innervation of the spine including facet joints, medial branch nerves, and sacroiliac joints. Understand the clinical pharmacology of local anesthetics and corticosteroids used in interventional spine procedures, including contraindications and adverse effects. Demonstrate a knowledge of the clinical indications for the full range of diagnostic and therapeutic spine procedures. Demonstrate a knowledge of the complications, difficulties, and contraindications to these procedures. Demonstrate prevention and management strategies for complications arising from interventional spine procedures. Demonstrate the ability to perform a facet (zygapophysial or z-joint) arthrogram and intra-articular facet (zygapophysial or z-joint) joint injections, medial branch blocks, transforaminal epidural injections, interlaminar epidural injections, caudal epidural injections, sacroiliac joint injections, and intra-articular hip joint injections.

For all below subsections (A-G), the following should be reviewed/conducted:

1. Identification of appropriate candidates for the procedure
2. List the potential complications, difficulties, and contraindications to the procedure.
3. List necessary supplies, solutions, and needles required to perform the injection.
4. Identification of all structures traversed along the path to the intended final needle position, as well as the regional neurovascular anatomic correlations with bony landmarks as viewed by fluoroscopy; identification of the appropriate orientation of approach and fluoroscopic projections for procedural safety and effectiveness.
5. Under fluoroscopic guidance and staff supervision, correctly position needle(s) for the safe and effective completion of the procedure.
6. Understand post procedure management, including assessment of diagnostic response using a post procedure pain diary (when relevant).
Procedure-specific considerations that should be discussed:

A. **Facet Joint Injections (cervical, thoracic, and lumbar (C-T-L))**

B. **Medial/lateral Branch Blocks (C-T-L-S)**
   7. Describe the function and course of the medial and lateral branch nerves, identifying the location on spine model, anatomic drawing, and imaging. Include discussion of the “exceptions” (i.e. third occipital nerve L5 dorsal ramus).
   8. Describe why steroids are not indicated for medial or lateral branch blocks.

C. **Radiofrequency Ablation Procedures**
   9. Describe the appropriate settings in the importance of impedance in radiofrequency ablation.
   10. Describe considerations of grounding pad location.

D. **Epidural Steroid Injections (caudal, C-T-L interlaminar, and C-T-L transforaminal)**

E. **Intra-articular Sacroiliac Joint Injections**

F. **Intra-articular Hip Joint Injections**
   11. Describe the indications for doing an intra-articular hip injection and when/why it may be appropriate to do the injection with local anesthetic only. Describe which local anesthetics are most chondrotoxic.

G. **Clinical Pharmacology for Interventional Procedures**
   12. Discuss the pertinent clinical pharmacology of different corticosteroid used for interventional procedures, including duration and mechanism of action. Describe why dexamethasone is recommended as the first line steroid choice in TFESIs. Understand the no steroids are FDA approved for epidural use.
   13. Discuss risks and contraindications to corticosteroid therapy.
   14. Describe the various anesthetics used to perform diagnostic and therapeutic interventional procedures, including duration of action, adverse effects, and contraindications to use.
# NASS Recognized Interventional Spine & Musculoskeletal Medicine Fellowship*

350+ points required to be NASS Recognized Industry funded/sponsored activities should not be included

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*1st NASS-recognition term = 2 years. If the program re-qualifies for "recognition status," terms are 5 years thereafter

## NAME OF INSTITUTION/FELLOWSHIP:

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<tr>
<th>My Points (last 10 years only)</th>
<th>POINT GUIDE</th>
<th>Research/Publications</th>
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<tr>
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<td>Book Editor</td>
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<td>4</td>
<td>Book Chapters (first or last author only)</td>
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<tr>
<td>6</td>
<td>Peer Reviewed Research Papers&lt;br&gt;250+ points required for NASS-recognition if the program is run by a fellowship director within 5 years post-training. Provisional Status is granted for 200-249 points in this scenario.</td>
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<td>4</td>
<td>Review Articles&lt;br&gt;350+ points required for NASS-recognition if the program is run by a fellowship director with &gt;5 years of experience post-training. Provisional Status is granted for 300-349 points in this scenario.</td>
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<td>Peer-reviewed case reports, letters to editor, editorials&lt;br&gt;Associate PD points are work 1/2 of total.</td>
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### Clinical Trials/Grants

| 2-4              | Clinical Investigator - Investigator Initiated Trial (maximum of 4 points per trial)<br>4 points (max, not per year) if overall PI of the study; otherwise 2 points (max, not per year) | |
| 1-2              | Clinical Investigator - Industry Sponsored Trial (maximum of 2 points per trial)<br>2 points (max, not per year) if overall PI of the study; otherwise 1 point (max, not per year) | |
| 6-12             | Federal Grant (R01, R21, etc.; maximum of 36 points per trial)<br>12 points per year if overall PI of the study; otherwise 6 points per year.<br>Points must be reviewed independently by two NASS ISMM Fellowship Committee members who will make a recommendation to the committee as a whole for a vote. | |
| 4-8              | Foundation or Society Grant (maximum of 16 points per trial)<br>8 points per year if overall PI of the study; otherwise 4 points per year. | |

### Education/Teaching

| 2 per course | Instructor for Qualified CME Cadaver Course |
| 2 per lecture| Qualified CME (non-industry) or National/International Presentations |
| 8 per year   | Year-round Clinical Teaching of Trainees (structured, year-long didactic required)<br>Maximum of 8 points per year for all teaching of trainees. |

### Service/Appointments

<p>| 2 per year | University Academic Appointment (Adjunct, Clinical Instructor, Professor, Assistant/Associate Professor)&lt;br&gt;Maximum of 2 points per year |</p>
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<td>2 per year</td>
<td>Maximum of 8 points per year</td>
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<td>Committee/Division Chair of a National/International Medical Society</td>
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<td>Board of Directors for a National/International Medical Society</td>
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<td>4</td>
<td>Society CPT, RUC or AMA Representative</td>
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<td>National/International Medical Society Representative on Workgroup/Task Force</td>
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<th>TOTAL POINTS</th>
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Interventional Spine & Musculoskeletal Medicine Fellowship Directory Program Listing

Program Director: ________________________________________________________________

☐ Please check to acknowledge if you are applying for a NASS recognized fellowship. If Yes, please fill out and submit the attachment along with your CV.

Name of Fellowship: ____________________________________________________________

Number of fellowship positions available: _________________________________________

Address: _____________________________________________________________________

City, State, Zip / Province, Postal Code___________________________________________

Phone number: ___________________________  Fax Number: _________________________

Contact Name: ___________________________  Contact Email: _________________________

Program Website: _________________________

Does your program involve:

Percent of Fellowship devoted to operative care: ________________________

Percent of Fellowship devoted to non-operative care: ________________________

(Outpatient office of clinic care, inpatient hospital care, etc.)

Research/Publication obligation? ________________________

Cervical: _____ percentage

Thoracic: _____ percentage

Lumbar: _____ percentage

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

Degenerative: _____ percentage

Trauma: _____ percentage

Deformity: _____ percentage

Tumor: _____ percentage

Pediatric: _____ percentage

Other: _____ percentage

Please provide a brief narrative description of your Fellowship, so that a prospective applicant may be able to decide whether your Fellowship offers the qualities he/she is seeking, and can thus better limit the number of programs considered for an interview. Please include a brief description of the Fellow’s responsibilities, academic expectations, and the anticipated approximate stipend.

Return to:
Colleen O’Brien, North American Spine Society
Phone: (630) 230-3664; FAX: (630) 230-3764; Email: cobrien@spine.org
NASS-Recognized Interventional Spine and Musculoskeletal Medicine Fellowships (ISMM) Provisional Status

I. Programs and Program Directors that do not meet the PD or points criteria to be a NASS-Recognized fellowship may apply for Provisional status and work toward Recognized status within a 2-year cycle.

II. All Provisional programs will follow the rules of the NASS-Recognized programs

III. To achieve Provisional status:

   a. PD and program faculty will work to achieve ‘point-criteria’ within a 2-years to move from Provisional status to ‘NASS-Recognized status. The 2-year clock begins upon approval of Provisional status.

   b. Program and Program Director (PD) agree to adhere to all components of the NASS-sponsored fellowship match. This includes, exclusion on offering fellowship spots outside the match unless left ‘unmatched.’ All reported actions to circumvent the match will be adjudicated by NASS educational committee and Ethics committee with commensurate penalties.

   c. PD and faculty will be board certified in a relevant sub-specialty and approved by the NASS ISSM-fellowship work-group

   d. Demonstrate a commitment to develop an internal didactic program that meets or exceeds the NASS-ISSM program curriculum.

   e. Program and PD are responsible for ensuring >90% fellow attendance to NASS ISSM-fellowship online group didactics during the program’s Provisional status.

   f. PD must volunteer and teach one ISSM-fellowship online group didactics ‘segment’ each year of Provisional status that will be rated by other fellows nationally and considered during application to move to Recognized status.

   g. PD and faculty of Provisional programs agree to maintain a consistent commitment to local and national activities necessary to qualify for Recognized status, and continue sufficient activities to maintain this status after achieving NASS Recognized status.

   h. Programs that move from Provisional status to NASS Recognized status agree to a prospective 2-year 360° review of the PD, faculty and fellows to ensure consistent maintenance of program standards.