

**The UM/JMH Department of Anesthesiology, Perioperative Medicine, and Pain Management
Pain Medicine Fellowship Training Program
Curriculum**

I. Program Description

The UM/JMH Pain Medicine Fellowship training program takes place within 4 institutions. They are: the University of Miami/Jackson Memorial Hospital, the UMHC/Sylvester Comprehensive Cancer Center, the Comprehensive Pain and Rehabilitation Center at the Miami Veterans Administration Medical Center and The UHealth Institute for Advanced Pain Management.

**II. Institute for Advanced Pain Management/Jackson Memorial Medical Center
(CHIEF FELLOW ROTATION)**

The Pain Management Center at JMH is a high-volume chronic pain clinic which emphasizes the medical and interventional management of chronic and cancer pain. Jackson Memorial Hospital provides a full spectrum of physician and ancillary consultative services, which are frequently employed on a referral basis by the pain management trainees. The fellow has the opportunity to participate in the scheduling of patients; initial consultation, diagnosis, and treatment plan development. Patients suffering from a large variety of pain problems are seen daily in the PMC. Fellows are expected to seek appropriate consultations from other services. All new patients and follow-ups are presented to and discussed with the attending physicians. (PC, MK, PBLI, ICS, PF, SBP).

Rotating Anesthesiology residents learn from the fellows. The fellow is expected to actively instruct residents in proper history taking, examination, and evaluation of patients with chronic pain. (PC, MK, PBLI, ICS, PF, SBP).

A wide variety of pharmacologic therapies and invasive techniques are utilized on a daily basis. A high quality fluoroscopic imaging system is available on a full-time basis. Some of the diagnostic procedures include epidural steroid injections, facet injections, SI joint injections, transforaminal injections, both cervical and lumbar sympathetic blocks, caudal catheter insertions (modified Racz procedures), nucleoplasty, discography, IDET procedure, intrathecal pump placement, spinal cord stimulator placement, intercostal nerve blocks, and other peripheral nerve blocks. Frequent consultations are received for various cancer related pain syndromes as well as neurolysis performed for various cancer pain i.e. Fluoroscopic or CT-guided celiac-plexus neurolysis. (PC, MK, PBLI, ICS, PF, SBP).

Many other pain management techniques (TENS, interferential stimulation, etc.) are also utilized in collaboration with the physical therapy department. (PC, MK, PBLI, ICS, PF, SBP).

***Chief Fellow Duties (4 months):**

1. The fellow has the duty of carrying the chronic pain consult pager at all times. Response to consults are expected within 24 hrs. In addition, a follow up sheet will be made and follow up of every consult will be made every 48 hrs from the initial visit until resolution or discharge. The patients will be documented on a spread sheet and saved in the shared drive. The consults will be initially presented to the faculty members that are covering consult service and the patient will be evaluated by both the fellow and the attending to determine plan of

treatment. A (predetermined) plan should be made by the fellow beforehand and presented to the attending physician.

2. The chief fellow is in charge of arranging and organizing a monthly journal club. He/She will choose a topic, present it to the Program Director for approval and choose the journal article for review. He/She will be responsible to distribute the article to the faculty, fellows, and residents as well as setting the date and location for the journal club. It should be reported to Ms. Vivian Prats for posting on the Division calendar on the Department website.

3. He/She will be notified of any absences in advance along with the fellowship director, coordinator and the site attending via email. In combination with Ms. Vivian Prats, He/She will coordinate call coverage between fellows during absences. The fellow at each site should notify Ms. Vivian Prats of any resident absences to be recorded with the residency office.

4. This fellow is in charge of the orientation for the incoming residents every month.

III. UMHC/Sylvester Comprehensive Cancer Center Pain Management Clinic (SCCC)

The Sylvester Comprehensive Cancer Center is a nationally recognized center for the treatment of cancer. As a result, the Pain Management Clinic has an extraordinary selection of patients with cancer pain. Under direct supervision, the fellow receives extensive experience in the management of patients with cancer pain. Other patients with non-cancer chronic pain are referred to the center as well. The full range of diagnostic and therapeutic options are available to the fellow in training at SCCC. (PC, MK, PBLI, ICS, PF, SBP).

The University of Miami Hospital and Clinics/Sylvester Comprehensive Cancer Center UMHC/SCCC is considered an integrated participating institution enriching the anesthesiology resident and pain fellow education programs of the University of Miami Miller School of Medicine. The rotation in the UMHC/SCCC is considered an integral part of the fellowship training and exposes the trainee to a variety of acute, chronic and cancer pain patients.

A variety of acute, chronic, and cancer patients are evaluated and treated in both the inpatient and outpatient settings. Approximately half of the clinical volume of patients represents those with low back pain and related disorders. The remainder is divided between those with various chronic pain syndromes and those patients with cancer pain. (PC, MK, PBLI, ICS, PF, SBP).

The fellow receives instruction and experience in the comprehensive assessment of the pain patient with emphasis on multidisciplinary and multimodal treatment. A variety of affiliated faculty are available for consultation in the fields of psychology, psychiatry, orthopedic surgery, neurosurgery, neurology, surgery, medical oncology, radiation oncology, nuclear medicine, and diagnostic/interventional radiology. Treatment modalities offered range from acupuncture to neuroablation and from pharmacologic management to interventional procedures when indicated. The fellow is exposed to a rational decision-making and an algorithmic approach. (PC, MK, PBLI, ICS, PF, SBP).

Major support facilities and equipment include CT and MRI scanners, diagnostic radiology and laboratories, a pain evaluation and consultation room, a procedure room complete with C arm fluoroscope, radiofrequency generator, nerve stimulators, monitoring equipment and computerized charting. Staff includes a department secretary, pain OR nurse and a Nurse Practitioner. (PC, MK, PBLI, ICS, PF, SBP).

The fellow on rotation attends joint educational conferences with Jackson Memorial Hospital and VA fellows and is evaluated throughout, with continuous one on one supervision and feedback. (PC, MK, PBLI, ICS, PF, SBP).

IV. Miami Veterans Administration Medical Center (VA)

The Miami Veterans Administration Medical Center is considered an integrated participating institution enriching the anesthesiology residency and pain fellow education program of the University of Miami Miller School of Medicine-Jackson Memorial Medical Center. As such, it supports the program core educational goals and objectives. The rotation at the VAMC Department of Anesthesiology and Pain Management is considered an integral part of the fellowship training and exposes the trainee to a variety of acute, chronic and cancer pain patients. (PC, MK, PBLI, ICS, PF, SBP).

The comprehensive pain clinic has an on-site fully staffed procedure room with an OR nurse, patient transporter and radiology technician. There is a designated C-arm and RFA machine in the room at all times. The clinic has a pain pharmacologist, a pain psychologist an acupuncturist and a dietician. Other staff includes clerks, RNs and an ARNP specifically supporting the pain management clinic. There is also allotted OR time for more complicated procedures and CT and MRI facilities for therapeutic and diagnostic purposes. (PC, MK, PBLI, ICS, PF, SBP).

Patients are evaluated and treated in both an inpatient and outpatient setting. In conjunction with the above day-to-day activities at JMH and SCC that are mirrored at the VAMC, the fellow is exposed to chronic complex pain syndromes that develop after trauma during active duty. It is a unique opportunity for fellows to learn how to evaluate and manage PTSD (Post traumatic stress disorder) and other psychiatric co-morbidities alongside the treatment of chronic pain. Fellows will also learn how to manage the pain and spasticity aspect of spinal cord injury patients. The VAMC provides unique exposure to a pain patient population with comorbidities that a trainee would not normally be exposed to in such volume. (PC, MK, PBLI, ICS, PF, SBP).

V. UM/JMH, SCCC, & VAMC Competencies

At the rotations listed in the preceding sections (UM/JMH, SCCC, VAMC), the fellow will be supervised on a pain team responsible for the assessment and management of inpatients with chronic pain including cancer pain.

- The fellow must document involvement with a minimum of 15 new patients in the setting of chronic cancer and non-cancer pain in inpatients.
- The fellow must document involvement with a minimum of 50 new patients in the setting of acute pain in inpatients.
- The fellow must document involvement with a minimum of 25 patients who undergo interventional procedures.
- The fellow must document longitudinal involvement with a minimum of 20 cancer pain patients.
- The fellow must document longitudinal involvement with a minimum of 10 patients who require palliative care.
- The fellow is strongly encouraged to document experience with the assessment and treatment of pain in children.
- The fellow must document the following interventional pain medicine experience as a minimum:
 - image-guided spinal injection techniques cervical spine (15 procedures)

- image-guided spinal injection techniques lumbar spine (25 procedures)
- injection of major joint or bursa procedures (10 procedures)
- trigger point injection (20 procedures)
- sympathetic blockade (10 procedures);
- neurolytic, techniques including chemical and radiofrequency treatment for pain (five procedures)
- intradiscal procedures, including discography (10 procedures)
- spinal cord stimulation (three procedures)
- placement of permanent spinal drug delivery system (three procedures)
- obtaining intravenous access in a minimum of 15 patients;
- basic airway management, including a minimum of mask ventilation in 15 patients and endotracheal intubation in 15 patients
- provider course in basic life support and advanced cardiac life support
- management of sedation, including direct administration of sedation to a minimum of 15 patients
- administration of neuraxial analgesia, including placement of a minimum of 15 thoracic or lumbar epidural injections using an interlaminar technique.

VI. Neurology

This multidisciplinary rotation is coordinated with qualified and experienced practitioners from the Department of Neurology. The experience involves supervised performance of neurological history and physical examination, interpretation of neuroimaging and electrodiagnostic studies.

On this rotation, the fellow will gain experience in and demonstrate the ability to:

- Perform a directed neurological history
- Perform a detailed neurological exam including mental status, cranial nerve exam, motor and sensory exam, cerebellar exam, gait and reflexes.
- Review and identify significant findings on magnetic resonance (MR) and computerized tomography (CT) of the brain and spine.
- Know the indications for and interpretation of electrodiagnostic studies.

On this rotation, the fellow will demonstrate the ability to:

A minimum of 15 histories and physical examinations will be done and documented in log books. Faculty will verify this by direct observation in a minimum of 5 patients.

A minimum of 15 radiological exams will be read under supervision and direct observation. (PC, MK, PBLI, ICS, PF, SBP).

VI. Physical Medicine and Rehabilitation

This multidisciplinary rotation is coordinated with qualified and experienced practitioners from the Department of Physical Medicine and Rehabilitation. The experience involves supervised performance of neuromusculoskeletal history and physical examination, developing rehabilitation programs, and performance and interpretation of electrodiagnostic studies.

On this rotation, the fellow will demonstrate the ability to:

- Perform a comprehensive musculoskeletal and neuromuscular history
- Perform an appropriate musculoskeletal and neuromuscular physical examination (including for peripheral joint, spinal and soft tissue pain conditions) to include:
 - Assessments of static and dynamic flexibility
 - Strength

o Coordination and agility

- Recognize how structural and functional findings on history and physical apply to diagnosing acute and chronic pain problems and designing individualized rehabilitation programs
- Know the natural history of musculoskeletal pain disorders
- Know the algorithm for therapeutic modalities, to include therapeutic modalities and surgical intervention

A minimum of 15 histories and physical examinations will be done and documented in case logs. Faculty will verify this by direct observation in a minimum of 5 patients. Fellows will demonstrate abilities by doing a comprehensive clinical evaluation and developing a rehabilitation plan in a minimum of 5 patients. (PC, MK, PBLI, ICS, PF, SBP)

VIII. Psychiatry

This multidisciplinary rotation is coordinated with qualified and experienced practitioners from the Department of Physical Medicine and Rehabilitation. The experience involves supervised performance of a complete psychiatric history, mental status examination, diagnosis of psychiatric disease, and development of a plan of care including psychosocial therapies and cognitive behavioral therapy.

On this rotation, the fellow will demonstrate the ability to:

- Carry out a complete psychiatric history with emphasis on psychiatric and pain co-morbidities
- Carry out a complete mental status exam
- A minimum of 15 histories and mental status examinations will be done and documented in case logs. This will be verified by the faculty specialist responsible for the rotation.

The fellow will gain knowledge in the following areas, either through didactics, or directed reading of the following:

- Effects of pain medications on mental status
- Common pain co-morbidities-
 - o Substance abuse
 - o Mood disorders
 - o Anxiety disorders
 - o Somatoform disorders
 - o Factitious disorders
 - o Personality disorders
- Principles and techniques of psychosocial therapy including cognitive behavioral and supportive therapy
- When to make a referral to a psychiatrist/psychologist

Fellows will obtain this experience with psychiatry or clinical psychology faculty with documented chronic pain management and substance abuse clinical experience. (PC, MK, PBLI, ICS, PF, SBP)

IX. Acute Pain Control Service

The management of acute pain includes postoperative pain management at JMH and the Ryder Trauma Center, and responding to consultation from other medical services for the control of acute pain for both outpatients and inpatients. (PC, MK, PBLI, ICS, PF, SBP) Examples include perioperative pain control, acute low back and radicular pain, sickle cell crises, and herpes zoster.

Under the supervision of the attending physician and other pain and regional anesthesia faculty, the fellow leads a team of residents rotating on the Acute Pain Management Service. The fellow is responsible for organizing daily rounds that includes the evaluation and treatment of in-house patients on the acute pain service. Techniques include PCA, single-shot epidural and intra-thecal opioids, continuous epidural infusion of local anesthetic/opioid combinations and PCEA, continuous interpleural analgesia, and regional nerve blocks with palpatory and ultrasound guidance. The fellow is responsible for ongoing monitoring of the effectiveness of various modalities and identification of any administrative or clinical problems that arise. (PC, MK, PBLI, ICS, PF, SBP).

The Ryder Trauma Center offers a unique opportunity for the fellow to participate in the management of severe post-traumatic and post-operative pain in critically ill patients. The fellow also responds to consultation from other services for acute pain problems and, under faculty supervision, determines a management program for both in- and outpatients. (PC, MK, PBLI, ICS, PF, SBP).

X. Competency Based Curriculum Goals and objectives

Goals

The goal of the training program is to train the pain fellow in the comprehensive assessment and management of pain, utilizing a multimodal, interdisciplinary approach. Physicians from the primary specialties of anesthesiology, physical medicine and rehabilitation, neurology, and psychiatry may be admitted to the fellowship, bringing with them their specialty specific knowledge in pain management. Regardless of primary knowledge, skills, and experience, each fellow receives interdisciplinary training with required exposure to knowledge and skill sets traditionally found in the other primary specialties that practice pain management.

Objectives

Competency based learning objectives are in place, which reflect the six ACGME general competencies of:

- Patient care
- Medical Knowledge
- Practice-based learning and improvement
- Interpersonal and Communication Skills
- Professionalism
- Systems-based practice

Patient care (PC)

The pain fellow must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Fellows are expected to:

Communicate effectively and demonstrate caring and respectful behaviors when interacting with patients and their families.

Gather essential and accurate information about their patients.

Make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.

Develop and carry out patient management plans.

Counsel and educate patients and their families.

Use information technology to support patient care decisions and patient education.

Perform competently all medical and invasive procedures considered essential for pain management practice.

Work with other health care professionals to provide patient-focused care.

Medical Knowledge (MK)

Fellows must demonstrate knowledge about established and evolving biomedical, clinical, and cognate sciences and the application of this knowledge to patient care. Fellows are expected to:

Demonstrate an investigatory and analytic thinking approach to clinical situations.

Know and apply the basic and clinically supportive sciences which are appropriate to pain management.

Practice Based Learning and Improvement (PBLI)

Fellows must be able to investigate and evaluate their patient care practices, appraise and assimilate scientific evidence, and improve their patient care practices. Fellows are expected to:

Analyze practice experience and perform practice-based improvement activities using a systematic methodology.

Locate, appraise, and assimilate evidence from scientific studies related to their patient's health problems.

Obtain and use information about their own population of patients and the larger population from which their patient are drawn.

Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.

Use information technology to manage information, assess on-line medical information, and support their own education.

Facilitate the learning of students and other health care professionals.

Interpersonal and Communication Skills (ICS)

Fellows must be able to demonstrate interpersonal and communication skills that result in effective information exchange and collaboration with patients, their families, and other health professionals. Fellows are expected to:

Create and sustain a therapeutic and ethically sound relationship with patients

Use effective listening skills and elicit and provide information using effective non-verbal, explanatory, questioning, and writing skills

Work effectively with others as a member or leader of a health care team or other professional group.

Professionalism (PF)

Fellows must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population. Fellows are expected to:

Demonstrate respect, compassion, integrity: a responsiveness to the needs of patients and society that supersedes self-interest: accountability to society and to the profession: and a commitment to excellence and on-going professional development.

Demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

Demonstrate sensitivity and responsiveness to patient's culture, age, gender, and disabilities.

Systems Based Practice (SBP)

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care at the ability to effectively call on system resources to provide care that is of optimal value. Fellows are expected to:

Understand how their patient care and other professional practices affect other health care professionals, the health care organization, and the larger society and how these elements of the system affect their own practice.

Know how types of medical practice and delivery systems differ from one another, including methods of controlling health care costs and allocating resources.

Practice cost-effective health care and resource allocation that does not compromise quality of care.

Advocate for quality patient care and assist patients in dealing with system complexities.

Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.

XI. Objectives

Administrative: the pain management fellow shall experience and learn how to:

Effectively direct and manage allied health staff and other support personnel. (PC, ICS, SBP)

Determine appropriate monitoring, life-support equipment, and sedation requirements for interventional procedures. (PC, MK)

Determine the appropriate utilization of laboratory and radiological imaging services. (PC, MK, PBLI, SBP)

Utilize psychiatric/psychological services, including behavioral modification. (PC, MK, PBLI, SBP)

Utilize physical/occupational therapy. (PC, MK, PBLI, SBP)

Refer to and utilize available social services and other ancillary services (vocational, nursing, pharmacy, dietary, etc.) (PC, MK, PBLI, SBP)

Refer to and utilize electrodiagnostic services. (PC, MK, PBLI, SBP)

Didactic objectives: the pain management fellow will be able to understand and discuss:

Anatomy and physiology of the pain nociception system. (MK)

Epidemiology, economic impact, and sociology of pain. (MK, PBLI, PF, SBP)

Pharmacology of opiates, non-narcotic analgesics, and non-steroidal anti-inflammatory agents. (MK)

Pharmacology of centrally acting drugs used in pain management. (MK)

Measurement and assessment of pain and function. (PC, MK, ICS, PF)

Principles of neural stimulation. (PC, MK, SBP)

Principles of and indication for diagnostic testing. (PC, MK, PBLI, SBP)

Role of nerve blocks in pain management. (PC, MK, SBP)

Role of neuroablative procedures. (PC, MK, SBP)

Behavioral, cognitive, and supportive psychotherapeutic treatment principles, including rehabilitation and the role of team management. (PC, MK, ICS, PF, SBP)

Principles and techniques of acute pain management. (PC, MK, SBP)

Principles and techniques of cancer pain management, including death and dying, and the ethical principles involved. (PC, MK, ICS, PF, SBP)

Principles and techniques of management of other chronic pain problems. (PC, MK, SBP)

Principles of physical therapy, occupational therapy, and rehabilitation of the chronic pain patient. (PC, MK, SBP)

Principles of the multidisciplinary approach to pain management. (PC, MK, ICS, PF, SBP)

Management of pain in children. (PC, MK, ICS, SBP)

Principles and ethics of pain research in humans and animals. (PC, MK, SBP)

Organization and management of a pain management center. (PC, MK, PBLI, ICS, PF, SBP)

Continuing quality improvement, utilization review, and program evaluation. (PC, PBLI, SBP)

Disability assessment and rehabilitation procedures. (PC, MK, SBP)

Skill objectives

The pain management fellow shall become familiar with the theory, benefits, indications, and practical applications of the following procedures and techniques:

A broad range of peripheral nerve block procedures. (PC, MK)

Epidural and subarachnoid injections. (PC, MK)

Joint and bursal sac injections. (PC, MK)

Cryotherapeutic techniques. (PC, MK)

Epidural, subarachnoid, and peripheral neurolysis. (PC, MK)

Electrical stimulation techniques. (PC, MK)

Implanted epidural and intrathecal catheters, ports, and infusion pumps. (PC, MK)

Behavioral modification. (PC, MK)

Isokinetic testing. (PC, MK)

Modality therapy and physical therapy. (PC, MK)

Hypnosis, stress management, and relaxation techniques. (PC, MK)

Chemonucleolysis. (PC, MK)

Trigeminal ganglionectomy. (PC, MK)

Open and percutaneous cordotomy. (PC, MK)

Rhizotomy. (PC, MK)

Dorsal root entry zone lesions. (PC, MK)

Peripheral neurectomy and neurolysis. (PC, MK)
Sympathectomy techniques. (PC, MK)
Ablative neurosurgery. (PC, MK)
Thalatomy, medullary tractotomy, cingulotomy. (PC, MK)
Central neuroaugmentative procedures. (PC, MK)
Hypophysectomy. (PC, MK)

Miscellaneous objectives:

Optional design, initiation, or participation in a research project, evaluation and interpretation of published data, and assessment of new therapies. (PC, MK, PBLI, SBP)
Pain clinic management: contribution to the development or improvement of pain center policies and procedures. (PBLI, ICS, PF, SBP)
Consultation: provide consultation on pain management whenever requested. (PC, PF)
Conferences: actively participate in the planning and presentation of conferences on pain topics, patient presentations, and journal reviews, as well as morbidity and quality improvement. (PC, MK, PBLI, ICS, SBP)
Teaching: direct teaching and supervision of resident physicians in the techniques of pain management. (PC, MK, PBLI, ICS)
Quality improvement: participation in quality improvement, utilization review, and evaluation. (PBLI, SBP)
Scholarly activities. (PBLI, ICS, SBP)

XII. Evaluation

The evaluative process in the pain management fellowship involves the evaluation of the fellow, evaluation of the rotation, evaluation of the faculty, and evaluation of the program. These processes ensure the attainment and compliance with the ACGME general competencies and pain specific competencies.

The pain fellow performance measurements include, but are not limited to:

Daily direct clinical observation and feedback.
End of rotation evaluations.
Presentation at weekly conferences and journal clubs.
Multi-source (360 degree) evaluations.
Nurses, patients, attendings evaluations of fellows.
Case and procedure logs.
Performance of procedures.
Evaluation of diagnostic test interpretation.

XIII. ACGME Requirements

None of the above information is intended to exclude any of the below competencies, goals, or experiences. The above document is intended to clarify, encompass, and/or expand the competencies, goals, and experiences as stated below.

Competencies

Patient Care

- obtaining intravenous access in a minimum of 15 patients;
- basic airway management, including a minimum of mask ventilation in 15 patients and endotracheal intubation in 15 patients
- provider course in basic life support and advanced cardiac life support
- management of sedation, including direct administration of sedation to a minimum of 15 patients
- administration of neuraxial analgesia, including placement of a minimum of 15 thoracic or lumbar epidural injections using an interlaminar technique.

Neurology

The fellow shall be able to elicit a directed neurological history, perform a detailed neurological examination to include at least mental status, cranial nerves, motor, sensory reflex, cerebellum examinations, and gait in fifteen patients. Faculty shall verify this experience in a minimum of five observed patient examinations. The fellow shall also become familiar with basic neuro-imaging, and identify significant findings, to include at least MR and CT of the spine and brain on a minimum of 15 CT and/or MRI studies drawn from the examples within the following areas: brain, cervical, thoracic, and lumbar spine. The fellow shall have an understanding of the indicators and interpretation of electrodiagnostic studies.

Physical Medicine & Rehabilitation

The curriculum should be designed to emphasize the performance of a comprehensive musculoskeletal and appropriate neuromuscular history and examination with emphasis on both structure and function as it applies to diagnosing acute and chronic pain problems and developing rehabilitation programs for them. This should include assessments of static and dynamic flexibility, strength, coordination and agility for peripheral joint, spinal, and soft tissue pain conditions. Fellows should gain an understanding of the natural history of various musculoskeletal pain disorders and be able to appropriately integrate therapeutic modalities and surgical intervention in the treatment algorithm. The fellow shall have an understanding of the indicators and interpretation of electrodiagnostic studies. Fellows must gain significant hands-on experience in the musculoskeletal and neuromuscular assessment of 15 patients, and demonstrate proficiency in the clinical evaluation and rehabilitation plan development of a minimum of five patients.

Psychiatry

The fellow must carry out a complete psychiatric history with special attention to psychiatric and pain comorbidities, must conduct a complete mental status examination on a minimum of 15 patients, and must demonstrate this ability in five patients to a faculty observer. The program should provide educational experience in frequent psychiatric and pain co-morbidities, which include substance-related, mood, anxiety, somatoform, factitious, and personality disorders. The program should also provide educational experience in the effects of pain medications on mental status. The fellow must understand the principles and techniques of the psychosocial therapies, with special attention to supportive and cognitive behavioral therapies, sufficient to explain to a patient and make a referral when indicated. Faculty must be psychiatrists or clinical psychologists who have documented experience in the evaluation and treatment of patients with chronic pain.

Inpatient Chronic Pain Experience

Inpatient chronic pain experience must be supervised on a pain team responsible for the assessment and management of inpatients with chronic pain including cancer pain. Patients may be

seen through either a consultation team or while on a designated inpatient pain medicine service. To establish this experience, the fellow must document involvement with a minimum of 15 new patients assessed in this setting.

Acute Pain Inpatient Experience

Acute pain inpatient experience must be supervised in the assessment and management of inpatients with acute pain. To establish this experience, the fellow must document involvement with a minimum of 50 new patients.

Interventional Experience

To establish this experience, the fellow must document involvement with a minimum of 25 patients who undergo interventional procedures.

Cancer Pain

The fellow must document longitudinal involvement with a minimum of 20 patients.

Palliative Care Experience

To establish this experience, the fellow must document longitudinal involvement with a minimum of 10 patients who require palliative care.

Pediatric Experience

Experience with the assessment and treatment of pain in children is strongly encouraged

Interventional Pain Medicine

- image-guided spinal injection techniques cervical spine (15 procedures)
- image-guided spinal injection techniques lumbar spine (25 procedures)
- injection of major joint or bursa procedures (10 procedures)
- trigger point injection (20 procedures)
- sympathetic blockade (10 procedures);
- neurolytic, techniques including chemical and radiofrequency treatment for pain (five procedures)
- intradiscal procedures, including discography (10 procedures)
- spinal cord stimulation (three procedures)
- placement of permanent spinal drug delivery system (three procedures)

Medical Knowledge

Assessment of Pain:

- anatomy, physiology and pharmacology of pain transmission and modulation
- general principles of pain evaluation and management including neurological exam, musculoskeletal exam, psychological assessment
- diagnostic studies: X-Rays, MRI, CT and clinical nerve function studies
- pain measurement in humans: experimental and clinical
- psychosocial aspects of pain, including cultural and cross-cultural considerations
- taxonomy of pain syndromes;
- pain of spinal origin including radicular pain, zygapophysial joint disease, discogenic pain
- neuropathic pain;
- headache and orofacial pain;

- rheumatological aspects of pain;
- complex regional pain syndromes;
- visceral pain;
- urogenital pain;
- cancer pain, including palliative and hospice care

Acute pain:

- assessment of pain in special populations: patients with ongoing substance abuse, the elderly, pediatric patients, pregnant women the physically disabled, and the cognitively impaired
- functional and disability assessment.

Treatment of Pain

- Drug Treatment I: opioids
- Drug Treatment II: antipyretic analgesics
- Drug Treatment III: antidepressants, anticonvulsants and miscellaneous drugs;
- psychological and psychiatric approaches to treatment, including cognitive-behavioral therapy and treatment of psychiatric illness;
- prescription drug detoxification concepts;
- functional and vocational rehabilitation;
- surgical approaches;
- complementary and alternative treatments in pain management
- hospice and palliative care;
- treatment of pain in pediatric patients.

General Topics, Research, and Ethics

- epidemiology of pain;
- gender issues in pain;
- placebo response;
- multidisciplinary pain medicine;
- organization and management of a pain center;
- Continuing Quality Improvement, Utilization Review and Program Evaluation
- patient and provider safety;
- designing, reporting, and interpreting clinical trials of treatment for pain
- ethical standards in pain management and research
- animal models of pain, ethics of animal experimentation

Interventional Pain Treatment

- airway management skills;
- sedation/analgesia
- fluoroscopic imaging and radiation safety;
- pharmacology of local anesthetics and other injectable medications, including radiographic contrast agents and steroid preparations. This must include treatment of local anesthetic systemic toxicity
- trigger point injections;
- peripheral and cranial nerve blocks and ablation
- spinal injections including epidural injections: interlaminar, transforaminal, nerve root sheath

- injections, and zygapophysial joint injections
- discography and intradiscal/percutaneous disc treatments
- joint and bursal injections, including sacroiliac, hip, knee and shoulder joint injections
- sympathetic ganglion blocks;
- epidural and intrathecal medication management
- spinal cord stimulation;
- intrathecal drug administration systems.

Practice-based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning.

Interpersonal and Communication Skills

Fellow must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Systems-based Practice

Fellows must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resource in the system to provide optimal healthcare.

Fellow Of The Year Award

This award will be given to the fellow that achieves the highest performance based on Attending consensus evaluations after the end of every rotation.

Strict Vacation Rules

1. **NO** vacation is allowed the first and last month of the fellowship year.
2. Only **ONE** fellow is allowed to be on vacation at a time.
3. **All** vacation days for the entire year should be submitted to Vivian Prats **NO** later than August 31. (Any future changes should be requested at least two weeks prior of the original date unless it is a justified emergency.)
4. **All** absences, planned or unplanned, should be reported to Ms.Prats, the Chief Fellow and the Program Director via email in order to ensure coverage and prevent any compromise in patient care.