

## **UBC Pain Medicine Residency Program: CanMEDS Goals and Objectives of the Longitudinal Multidisciplinary Clinic (MDC) Rotations**

### **Overview:**

The MDC component of the residency program takes place over 13 blocks or approximately 52 weeks. Core rotations of cancer pain, musculoskeletal, neurology, psychiatry, addictions medicine, sleep medicine, and pediatric pain will be scheduled in between blocks of the MDC rotation.

The MDC blocks are the emphasis in the first 9 blocks of year 1. The core rotations of MSK, neurology and psychiatry/addiction medicine/sleep medicine will complete the other blocks of year 1. Year 2 supports the weekly longitudinal MDC outpatient resident clinics at JPOCSC and GFS in addition to the core rotations in cancer pain and pediatric pain. The elective blocks have been clustered together to allow the resident to complete their year 2 back with the MDC teams at JPOCSC and GFS.

The multidisciplinary pain team 13 core blocks will consist of rotations through two key services.

1. The Jim Pattison Outpatient Care & Surgical Centre (JPOCSC) pain clinic in Surrey BC consisting of an outpatient multidisciplinary pain team: anesthesiologists, spine surgeon, nurse practitioner, nurses, social work, psychologist, pharmacist, occupational therapist and physiotherapist. The JPOCSC is the outpatient center affiliated with the nearby Surrey Memorial Hospital where the resident will also gain experience with the acute pain service.
2. The GF Strong (GFS) rehabilitation center in Vancouver BC led by physiatrists managing inpatient consultation and rehabilitation management of patients recovering in the subacute period after surgery, illness and trauma in addition to outpatient clinics providing experience of longitudinal management of pain patients. GFS is also affiliated with Vancouver General Hospital (VGH) where inpatient consults will also be done for patients preparing for rehabilitation. There are four key clinical units at GFS: Neuromuscular unit (NMS), spinal cord injury (SCI), Acquired brain injury (ABI) and Rheumatology.

### **SPECIFIC MDC ROTATIONS**

During year 1 in blocks 1 to 5 and year 2 in blocks 12 and 13, the resident will train at the JPOCSC unit and participate in outpatient consultations and procedures such as radio frequency lesioning, axial spine techniques and nerve blocks are done under fluoroscopy and ultrasound.

Also during these first 5 blocks of year 1, the resident will also take part in the Acute Pain Service rounds at the affiliated Surrey Memorial Hospital located approximately two km west of JPOCSC. These rounds will take place in the mornings with the Clinical Nurse Specialist who co-manages the acute pain management of epidurals, patient controlled analgesia, regional blocks and medical management along with the daily attending anesthesiologist before starting the JPOCSC clinic.

During year 1 from blocks 7 to 9 and year 2 blocks 10 to 11, the resident will be assigned to the NMS unit at GFS where inpatient pain consultation, management and transition to community care will be emphasized. Key patients from the other units will be assigned for their consultation and follow-up during their blocks at GFS.

The GFS consultants respond to inpatient consultation requests from Vancouver General Hospital (VGH) located approximately 2km north of GFS. During the GFS blocks, the resident will gain experience with the consults that are focused on patients stabilized after trauma, surgery and illness and anticipated to need multidisciplinary team pain and rehabilitation management in the subacute period up to 6 months.

To support competencies in longitudinal pain care, the resident will be attending a dedicated weekly resident clinic at JPOCSC on Mondays and GFS on Fridays starting at the end of year 1 and throughout year two in

blocks 3 to 9 during the resident's elective block rotations. New Consults and follow-ups will be scheduled. The supervising consultant will run a parallel outpatient follow-up clinic.

As noted, the resident will end year 2 with focused MDC rotations with GFS for two blocks and with JPOCSC unit for two blocks.

**MDC INTEGRATION WITH CORE BLOCKS: MSK and neurology**

During year 1 in block 6, the resident will complete their core musculoskeletal rotation. This will consist of various outpatient PMR clinics at GFS and in the community. In the latter two weeks, the resident will attend various outpatient rheumatology clinics. (See the MSK goals and objectives for more details)

During year 1 block 8, the resident will complete the Neurology rotation. This will consist of two weeks of inpatient management of patients on the ABI and SCI units followed by two weeks of outpatient neurology clinics (See the neurology rotation goals and objectives for more details)

## Educational Objectives

The MDC core rotation will provide the following experiences:

1. To learn to assess adult inpatients with complex pain and to co-ordinate pain treatments with medical care.

The trainee will be rotated through GFS Rehabilitation Center during their MDC blocks as well as Inpatient Complex Pain & Addition Service at VGH in their psychiatry block 10 in year 1. The resident will assess all new ward consultations in both services and review with supervising consultant on the following:

Multidisciplinary assessment and management of patients with acquired disability will cover patients with neuropathic pain (Brain Injury, Stroke, Neuromuscular, Spinal Cord, post concussive headaches, and cancer) and musculoskeletal (soft tissue, fibromyalgia, arthritic, phantom pain, cancer, post trauma and fractures).

Cross sectionally at least a third of our patients will have a pain condition as a secondary disability to their primary disorder or injury (e.g. neuropathic pain in addition to metastatic or traumatic spinal cord injury). There are also training experiences available with addictions counselling on-site integrated with the Vancouver General Hospital Complex Pain and Addiction service (CPAS). See the Psychiatry rotation goals and objectives.

The trainee will also gain experience with longitudinal management from acute care to rehabilitation discharge and outpatient management of all these conditions, including return to school (Young Adolescents program) and Work (Vocational Services). Exposure can be both longitudinal (e.g. one client in all three phases) or cross sectional (three clients in each of the phases).

Treatment objectives overlap with the musculoskeletal and neurology core objectives and also include Ultrasound anatomy and muscle injections, pharmaceutical management, cognitive behavioural therapy and prescription of adaptive aids and therapeutic exercise.

Also, the trainee will gain access to extensive expertise in medicolegal medicine, with almost all consultants doing med legal work related to their clients and Independent medicolegal consultations.

Minimum Pain Consultations per block of MDC rotation = 5-10

2. To learn to assess various presentations of adults with complex pain in the outpatient settings of the Pain clinics located at JPOCSC Pain Clinic and GFS Rehabilitation Center. Where scheduled, the resident will attend complex case interdisciplinary rounds. Residents will participate in new consultations and follow-ups during the dedicated MDC blocks and also during their longitudinal clinics scheduled on Monday with JPOCSC and on Friday at GFS.

Minimum Pain Consultations per block of MDC rotation = 30

3. To become exposed to some of the technical skills regarding interventional procedures at JPOCSC. Residents will be assigned days in the procedure room, which will be booked along with an attending Pain Clinician.

Both Nanaimo Regional General Hospital (NRGH) Pain Services and St Paul's Hospital Pain services provides spinal cord stimulation and intrathecal pump trials and implantation services. Pain management procedures for cancer pain management are available at all three sites. Exposure to the neuromodulation interventions will be done at St. Paul's hospital during the cancer block rotation in

Year 2. This clinic takes place every Monday.

Residents are expected to have knowledge of these interventions (anatomy, indications, contraindications, and complications), but are not expected to become competent with the technical skills for these interventions. Competency with the technical skills could be acquired with further elective time during the residency program and would also be dependent on baseline familiarity with some of the associated technical skills.

Upon completion of the UBC MDC rotation, the pain resident will fulfill the following goals under CANMEDS roles:

**Medical Expert Role:**

Competencies: the pain physician must acquire the knowledge, skills, and attitudes necessary to assess and provide a management plan for patients with chronic non-malignant pain. The core skill of the Pain Medicine physician is to synthesize available information in a manner, which places the patients' predicament in a bio-psycho-social framework, and to then advise as to the best method of pain management for that individual. This also implies the awareness of and ability to effectively utilize a broad range of therapies aimed at modifying the physical and psychological impacts of acute/chronic pain.

1 The resident will become an expert in the neurophysiology of pain transmission and pathophysiology of pain syndromes.

Specific competencies – The resident will be able to:

- 1.1 Outline the anatomy and neurophysiology of nociception
- 1.2 Explain the pathophysiology of chronic pain including origins, mechanisms, modulation, and associated physiologic consequences
- 1.3 Describe the features of neuropathic pain including peripheral and central sensitization
- 1.4 Demonstrate knowledge of diagnosis and management of common spine pathologies causing pain, including mechanical back pain, intervertebral disc herniation with radiculopathy, spinal stenosis and whiplash-associated disorders.
- 1.5 Demonstrate knowledge of diagnosis, appropriate investigations and management of common musculoskeletal conditions such as bursitis, tendonopathies, arthritis, and myofascial pain syndromes
- 1.6 Demonstrate knowledge of diagnosis, appropriate investigations and management of common painful peripheral nervous system disorders including compression and entrapment syndromes, ischemic nerve injuries, infectious lesions including herpes zoster and post-herpetic neuralgia, and painful diabetic neuropathy. Demonstrate knowledge of diagnosis, appropriate investigations and management of common painful central nervous system disorders including post-stroke pain and multiple sclerosis.

2 The resident will become skilled in performing and communicating a chronic pain consultation:

Specific competencies – The resident will be able to:

- 2.1 Perform a comprehensive assessment of the patient with chronic pain (including history, physical examination, relevant investigations, functional and psychosocial impacts)
- 2.2 Describe a comprehensive management plan (including pharmacologic, non-pharmacologic approaches, appropriate collaboration with members of the multidisciplinary team such as physiotherapy, psychology, psychiatry, sleep medicine, etc., and interventional techniques).
- 2.3 Perform a directed musculoskeletal and/or neurological physical examination in order to differentiate painful processes arising from bones, joints, soft tissues, peripheral or central nervous system, or other tissues.
- 2.4 Select medically appropriate investigative methods in a resource effective and ethical manner
- 2.5 Demonstrate effective clinical problem solving and judgment to address patient problems, including evidence-based examination techniques, interpreting available data and integrating information to generate differential diagnoses.
- 2.6 Formulate an appropriate treatment plan for managing musculoskeletal pain
- 2.7 Engage patients, families, and relevant health professionals in shared decision- making to develop an individualized plan of care.
- 2.8 Identify functional domains as outcome measures for pain.

- 3 The resident will become skilled in the use of tools to diagnose and guide therapy for pain patients  
Specific competencies – The resident will be able to:
  - 3.1 Describe the indications and limitations of imaging, nerve conduction studies, electromyography and quantitative sensory testing in the diagnosis of neuropathic pain
  - 3.2 Describe the indications for diagnostic imaging (plain films, CT, bone scan, MRI, Ultrasound, PET); identify expected imaging abnormalities for common pain diagnoses; explain the relationship between imaging findings and pain
  - 3.3 List common validated tools that have been developed to assess chronic pain syndromes; identify their purpose, scoring, interpretation and limitations
  - 3.4 Describe and use at least one validated outcome measure available to assess each of pain, mood, function, sleep, quality of life and health care utilization; explain their administration, scoring, interpretation, limitations, and clinical utility.
  
- 4 The resident will be able to demonstrate advanced knowledge, skills, and attitudes, in managing pain in medically complex patients.  
Specific competencies – The resident will be able to:
  - 4.1 List ‘red flag’ conditions for patients presenting with back pain indicative of conditions such as tumor, fracture, myelopathy, and infection
  - 4.2 Describe the nature of analgesics interactions with other medications being used to treat comorbid illnesses
  - 4.3 Alter pharmacotherapeutic plans or interventional plans for pain control as required considering changes in physiology imposed by concurrent illness (e.g. renal failure, congestive heart disease, chronic obstructive lung disease, etc.)
  - 4.4 Demonstrate clear communication between treating physicians and other health care professionals whilst managing painful conditions
  - 4.5 Formulate plans for continuing, long term pain management strategies
  
- 5 The resident will demonstrate appropriate knowledge, skills and attitudes in managing the psychiatric/psychosocial aspects of chronic pain.  
Specific competencies – The resident will be able to:
  - 5.1 List important psychological mechanisms involved in pain and suffering
  - 5.2 Identify characteristics of patients who would most benefit from a formal psychological assessment.
  - 5.3 For the following psychiatric disorders, list diagnostic criteria, provide examples of appropriate screening questionnaires, outline the fundamentals of treatment strategies (and contraindications for other treatments), and state the indications for psychiatric or psychological referral:
    - 5.3.1 Major depressive disorder □ Bipolar mood disorders □ Post-Traumatic Stress Disorder, Panic Disorder, Substance use Disorders Attention Deficit Disorder Somatoform
    - 5.3.2 Disorder Personality Disorders
    - 5.3.3 Social Anxiety Disorder, Generalized Anxiety Disorder
    - 5.3.4 Explain the interaction between pain, sleep, medications, non-prescribed substances, anxiety and mood disorders
  - 5.4 List common assessment procedures used in the diagnosis of sleep disorders
  - 5.5 Identify characteristics of those patients who would most benefit from a referral to a Sleep Clinic
  - 5.6 Accurately elicit and synthesize relevant information and perspectives of patients and families, colleagues, and other professionals.

- 5.7 Gather information about a patient's beliefs, concerns, expectations and the impact of pain on their life.
  - 5.8 Respect diversity and difference, including but not limited to the impact of gender, religion and cultural beliefs on decision-making
  - 5.9 Describe appropriate documentation and strategies to deal with behaviors possibly associated with opioid misuse, abuse, diversion or addiction
- 6 The resident will demonstrate advanced knowledge and attitudes in the use of interventional strategies for chronic non-malignant and malignant pain.  
Specific competencies – The resident will be able to:
- 6.1 Demonstrate familiarity with sympathetic blocks (cervical, lumbar, impar ganglion), epidural steroid injections (cervical, lumbar, and caudal), facet and sacroiliac joint interventions (steroid injection, medial/lateral branch blocks, and radiofrequency ablation), nerve root blocks (cervical, lumbar, and sacral), musculoskeletal/soft tissue injections, and plexus/peripheral nerve blocks
  - 6.2 Identify procedures that require the use of appropriate image guidance including ultrasound, fluoroscopy, CT-guidance and endoscopic guidance and plan referrals accordingly
  - 6.3 Document and communicate information related to procedures performed, including obtaining informed consent, and their outcomes and complications
  - 6.4 Outline injection formulations which are used for analgesia
  - 6.5 Ensure adequate follow-up is arranged for procedures
  - 6.6 Identify functional domains as outcome measures for pain. Summarize the principles of functional restoration in individuals with pain.
- 7 The resident will be able to demonstrate advanced knowledge of the use of pharmacotherapeutic principles for managing painful syndromes.  
Specific competencies – The resident will be able to:
- 7.1 Describe current concepts of the placebo response and their implications for assessment and therapy
  - 7.2 Cite known genetic influences on pain and pharmacotherapy for pain; describe the role of genetic techniques in investigating pain physiology
  - 7.3 Demonstrate pharmacologic knowledge (pharmacodynamics including mechanism of action, pharmacokinetics including dosing and effect of organ insufficiency such as renal or liver, drug interactions, and complications) of agents used in the management of chronic pain (local anesthetics, opioids, co-analgesic medications (NSAID's, NMDA antagonists, serotonin/norepinephrine reuptake inhibitors, calcium channel blockers, sodium channel blockers, anticonvulsants, cannabinoids, corticosteroids, and neurolytic agents).
  - 7.4 Utilize the Universal Precautions risk stratification and in accordance with National Opioid Use Guideline Group (NOUGG) guidelines, develop and implement an appropriate management and follow up plan for a patient who requires opioids.
  - 7.5 Ensure appropriate informed consent is obtained for off label therapies
  - 7.6 Use lidocaine and ketamine infusions safely and competently, including knowledge of indications, contraindications, and complications.
  - 7.7 Formulate a step-wise approach to pharmacotherapeutic interventions for a patient with neuropathic pain, applying published consensus guidelines, and taking into consideration the patient's individual requirements.
- 8 The resident will be able to demonstrate advanced knowledge of the use of non-pharmacological treatment strategies for painful syndromes.  
Specific competencies – The resident will be able to:

- 8.1 Describe the principles, indications and limitations of physical treatments (exercise based treatment, passive physical therapies such as ultrasound, transcutaneous electrical stimulation (TENS), manual therapies, manipulation and massage) in the management of musculoskeletal pain
  - 8.2 Describe the principles, indications and limitations of occupational therapy management (pacing, ergonomics and work/daily activity modification) in the management of musculoskeletal pain
  - 8.3 Cite current evidence for the potential role of complementary and alternative medicine, commonly used in managing musculoskeletal pain.
- 9 The resident will acquire knowledge of the fundamentals of psychologic strategies in managing pain and understand how and when they should be employed:  
Specific competencies: - The resident will be able to:
- 9.1 Understand the importance of coping strategies for the control of pain
  - 9.2 Understand that coping strategies may differ among individuals and may be affected by age and gender
  - 9.3 Understand the important contribution that catastrophizing and fear avoidance beliefs make to pain and disability
  - 9.4 Be able to introduce suitable cognitive and behavioral pain management measures or recognize when it is appropriate to refer for the patient for special evaluation and therapy
  - 9.5 Understand relaxation strategies: progressive muscle relaxation, autogenic training, guided therapy, cue controlling and other strategies
  - 9.6 Know the cognitive-behavioral treatments of pain: cognitive therapy, cognitive restructuring, problem solving, and communication skills training
  - 9.7 Assess patients for the likely efficacy of group therapy approaches
  - 9.8 Recognize the need to treat comorbid psychological problems that may accompany pain
  - 9.9 Demonstrate how the various separate approaches can be integrated including different cognitive-behavioral treatments and combined behavioral and drug treatments, and describe the economic benefit of integrating cognitive-behavioral and drug treatments

### **Communicator Role**

**Competencies:** The pain physician is expected to be able to inform patients (and their families) with pain about their diagnosis and their management plan. They are expected to be able to establish positive therapeutic relationships with patients and their families that are characterized by understanding, trust, respect, honesty and empathy. Communication with patients is expected to be appropriate to the patients' individual preferences and limitations including common emerging parameters of cultural differences. Communication with other members of the healthcare team is fundamental to effective interdisciplinary team management.

1. Be able to write effective chart notes for patients with chronic pain, and write or dictate complete yet succinct consultations for patients with chronic pain.
2. Be able to verbally present medical information succinctly and accurately to attending staff
3. Be able to communicate effectively with other members of the health care team.
4. To be aware of the advantages, disadvantages, limitations of written communication, verbal (both telephone and in person) communication, and non-verbal communication when communicating with patients, family members, or other members of the health care team. To be able to address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, and addressing anger, confusion and misunderstandings.

### **Collaborator Role**

**Competencies:** The pain resident shall demonstrate an effective practice of Pain Medicine in the context of a multi-disciplinary pain clinic setting:

1. Be able to function effectively in the health care team, including an understanding of the roles of the various members (other physicians such as family physician, neurologist, neurosurgeon, psychiatrist, orthopedic surgeon, rheumatologist, palliative care physician, psychiatrist, addiction medicine physician; other members of the team such as nurse, clinical nurse specialist, psychologist, anesthesiology assistant, radiology technician, physiotherapist, pharmacist, clerical/secretarial staff), and how to prevent or to resolve conflict should they arise
2. Demonstrate effective, appropriate, and timely consultation of another health professional as needed for optimal patient care and specifically in situations where:
  - a. An emergency referral to another specialist is required.
  - b. Consultation with another medical specialist would be beneficial (including for diagnostic or treatment- related interventional procedures)
  - c. Consultation with an allied health practitioner (i.e. Occupational or Physical Therapist) would be beneficial Adapt the referral request to individual situations and consider, where possible, telephone or video consultation
3. Arrange appropriate follow-up care services for a patient and their family after consultation with others with the most responsible physician to facilitate longitudinal coordinated care
4. Offer patients the services of patient support groups when indicated

### **Leader Role**

**Competencies:** The pain resident must be cognizant of the financial impact, both positive and negative, of acute and chronic pain management strategies. He/she must also possess an awareness of the logistical constraints of delivery of health care and be able to propose useful and creative solutions.

1. Outline the structure of the pain service, and how it fits in the administrative structure of the care setting
2. Discuss the advantages and disadvantages of alternative models
3. explain the costs incurred by pain management strategies
4. Discuss the potential savings in health care expenditure offered by acute pain management, with a realistic description of the nature and quality of the arguments.

### **Health Advocate Role**

**Competencies:** The pain resident must understand the potential benefits of the individual and to society of organized pain management services and be able to provide realistic and scientifically supportable argument in favor of such services. He/she must also be aware of the deficiencies in the system which impede the ideal delivery of these services, and able to contribute to the attempt to eliminate these deficiencies.

1. Describe the components of a safe, effective and efficient chronic non- cancer pain service; describe its impact on health resource utilization
2. Be able to advocate for patients with chronic pain to assess appropriate treatment and in the prevention or treatment of complications
3. Be able to advocate *for individual patients* with chronic pain with special needs for further investigation or assessment/ management by other consultants or members of the health care team
4. Be able to understand the limitations and barriers in the health care system facing the *population of patients* with chronic pain, and to verbalize current proposals in how to address these limitations and barriers.
5. Participate in systemic quality process evaluation and improvement, including patient safety initiatives, organization of delivery of new therapies/ services/programs and evaluation of these new therapies

### **Scholar Role**

**Competencies:** The pain resident must be able to assess the ongoing developments in the literature regarding pain management and be able to appropriately incorporate them into practice. He/she must also be able to utilize a variety of sources in order to answer questions as they arise. She/he must show an appreciation of the conduct of pain research.

1. Throughout the rotation, the resident should be demonstrating acquisition of medical knowledge as it relates to pain by reading, including the literature provided at the beginning of the rotation
2. The pain resident will be expected to participate in monthly multidisciplinary rounds either in person or by videoconference.
3. The pain resident will reflect on learning issues for all 7 CanMEDS roles from their SPH MDC rotation, with regular entries into the resident Portfolio Project to be reviewed in a face-to-face meeting with a faculty member during the MDC rotation at SPH.
4. To be able to conduct a scholarly project, including quality assurance audits or research.
5. The resident will be expected to participate in journal clubs, to critically appraise the literature, and to be able integrate new learning into practice
6. The pain resident will be effective teacher of chronic pain topics to residents from other programs (anesthesiology, psychiatry, internal medicine, neurology, physiatry, etc) and medical students. The pain resident will be expected to reflect on a teaching encounter in their Portfolio, to be reviewed with faculty at SPH.
7. The pain resident will be able to provide effective feedback to more junior trainees regarding clinical performance (part of clinical teaching)

### **Professional Role**

**Competencies:** The pain resident must exemplify the professional behaviour and attitudes inherent in the practice of medicine.

1. Throughout the rotation the resident shall demonstrate professional behaviour in all interactions with patients, their family members, and other members of the health care team. This includes the establishment of an effective therapeutic relationship with patients
2. Throughout the rotation, the resident will attend all scheduled educational activities
3. Be able to obtain informed consent for patients with chronic pain undergoing interventional procedures
4. Throughout the rotation, the resident shall round on inpatients, and see outpatients after any interventional procedure. This includes regular on-call duties for any in-patients, and selected outpatients (e.g. Neuromodulation and intrathecal pump outpatients).
5. Throughout the rotation, the resident shall understand his/her own limitations and seek assistance appropriately
6. Throughout the rotation, the resident shall be receptive to constructive feedback
7. By the end of the rotation, be able to demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising hospital/regional health authority administration and governments, as needed
8. Throughout the rotation, the resident shall adapt appropriate professional, legal and ethical codes of practice
9. Throughout the rotation, the resident shall fulfill the regulatory and legal obligations required of current practice
10. Throughout the rotation, the resident shall respond to others' unprofessional behaviors in practice