UBC Pain Medicine Residency Program:
CanMEDS Goals and Objectives of the 4 week UBC Interventional Pain Management Elective: Goals & Objectives

Overview

Further Interventional Pain training over 4 weeks will take place at one of the three tertiary pain clinics located at Nanaimo Regional General Hospital (Nanaimo), St. Paul's Hospital (Vancouver) and Jim Pattison Outpatient Care & Surgical Centre (JPOCSC in Surrey). For longer electives between 2 months to 6 months, the training may involve up to all three centres. This program would be individualized to the needs of the resident.

Site Supervisors:
JPOCSC (Surrey): Dr. Aron MacInnes
Nanaimo: Dr. Alan Berkman
SPH (Vancouver): Dr. Bill Macdonald/Dr. Jill Osborn

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

1. **Medical Expert Role:**
    a. Understand Equipment principles for interventions
        i. Understand and apply the basic principles and safety associated with the use of fluoroscopy
        ii. Understand and apply the basic principles of ultrasonography
        iii. Understand and apply the principles of radiofrequency and pulsed radiofrequency lesioning.
    b. Understand and apply the anatomy of peripheral and central nervous system regions as it relates to diagnostic and therapeutic interventional procedures
        i. Spine: Bony vertebral column, spinal cord, meninges, nerve roots, dorsal root ganglion.
        ii. Peripheral nervous system: Brachial plexus, femoral plexus, sacral plexus, cranial nerves and applicable peripheral nerves of spinal origin (for example; occipital nerves, intercostal nerve, ilioinguinal nerve, iliohypogastric nerve, lateral femoral cutaneous nerve)
        iii. Autonomic nervous system: Sympathetic nervous system (cells or origin in the spinal cord, rami communicantes, sympathetic chain, postganglionics), visceral afferent system (innervation of visceral structures, sympathetic chain afferents from somatic structures)

    c. Be familiar with and apply the general principles of pharmacology for the drugs used in interventional pain procedures.
        i. Local anesthetics: Neuro-blocking mechanisms, systemic effects (CNS toxic effects, non-convulsant effects, cardiotoxic effects), pharmacokinetics of peripheral, subarachnoid and epidural blocks.

ii. Apply the pharmacology of opioids as it relates to regional analgesia: receptive types and function, spinal and brain effects, pharmacokinetics of spinal intrathecal and epidural application.
iii. Know the commonly used neurolytic agents (alcohol, phenol, botulinum toxin), pathological (neurotoxic) effects to blood vessels and spinal cord, complications of neurolytic therapy (denervation dysesthesia and peripheral neuralgia)
iv. Understanding the use of locally injected corticosteroids including effects on nerve roots and peripheral nerves, systemic effects and pharmacokinetics of soluble and particulate preparations.
v. Know how nerve blocks are used in pain management for diagnostic and therapeutic purposes

d. Understand the associated indications, benefits and risks associated with the use of specific interventional pain procedures.

e. Understand the presentation, symptoms, diagnosis and management of side effects and complications associated with interventional pain procedures.

f. Be able to apply the above principles, indications, imaging modalities (fluoroscopy and/ or ultrasound), risks and benefits to the following interventional procedures:

i. Myofascial Trigger Points
ii. Ligament, Tendon, Muscle, Joint and Bursa Injections
iii. Peripheral Nerve Blocks
iv. Sympathetic Nerve Blockade, Neurolysis and Pulsed/Radiofrequency Lesioning (stellate, lumbar, hypogastric plexus, ganglion Impar, Splanchnic nerve, Celiac ganglion)
v. Epidural Steroid Injections (Cervical, Thoracic, Lumbar and Caudal - both interlaminar and transforaminal)
vi. Intraspinal Opioids: techniques for catheter placement and administration techniques (internal and external) as well as trouble-shooting for complications or malfunction
vii. Intrathecal and epidural neurolytic blocks
viii. Diagnostic Medial Branch Blocks, Intra-articular Facet Joint Injections and Radiofrequency Lesioning (Cervical, Thoracic and Lumbar)
ix. Cranial Nerve: Diagnostic and Pulsed Radiofrequency Lesioning
x. Paravertebral Blocks
xi. Sacroiliac joint diagnostic injections and radiofrequency lesioning
xii. Sphenopalatine Ganglion Diagnostic Blockade and Pulsed Radiofrequency Lesioning
xiii. Neuromodulation Techniques: Spinal Cord Stimulation and Peripheral nerve stimulation

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.
5. Be able to communicate to the patient a clear understanding of the reasons for the procedure, the likely benefit derived and the potential associated risks.

6. Understand that in all instances there may not be sufficient evidence base to indicate the likely benefit of the procedure. Develop a framework to have this discussion with the patient and obtain informed consent.

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, physiatrist, 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

Manager 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. To be able to conduct a scholarly project, including quality assurance audits or research.
4. The resident will be expected to participate in journal clubs, to critically appraise the literature, and to be able integrate new learning into practice
5. 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