



June 24th, 2024

Acute and Chronic Pain Fellowship

The Department of Anesthesia and Pain Management at Thunder Bay Regional Health Sciences Centre (TBRHSC) and Northern Ontario School of Medicine (NOSM) will offer one-year fellowship in Acute and Chronic Pain. The fellowship program would include a comprehensive year including exposure to technical procedures such as regional anesthesia peripheral nerve blocks/ catheters, neuraxial procedures, postoperative pain management on the surgical floors, as well as outpatient chronic pain management, optimizing medical management and interventional pain procedures involving both ultrasound and fluoroscopy.

Clinical Curriculum:

TBRHSC is a busy tertiary-care Level 1 trauma centre with all major surgical specialties with the exception of high-risk pediatric surgery, cardiac surgery, complex hepatobiliary surgery, and transplant recipient surgery. The hospital carries out approximately 10,280 surgical procedures per year and provides obstetrical services for over 1,400 deliveries per year.

Fellows will spend on average one day per week in the block room and one day per week in the chronic pain doing subspecialty training under direct supervision by consultant physicians. Days will change on a weekly basis depending on operating room schedule to optimize training for fellows. Day distribution can be adjusted after 6 months into fellowship with after consultation with fellows, program director and chief of department. As fellows progress through their training, additional responsibilities will be added including supervision and teaching of residents, and medical students.

Fellows will spend 2 days per week performing anesthesia independently in the operating room according to their level of training. They will be assigned a clinical supervisor/advisor for these days.

Formal evaluation of fellows is carried out quarterly at approximately the 3, 6, 9, and 12-month marks of the fellowship year. The Program director carries this out after consultation with the Chief of the Department and Departmental staff. Fellows are entitled to four weeks of vacation and four weeks of elective. The Fellowship is salaried and the salary offered is competitive.



Regional Anesthesia:

Regional anesthesia at TBRHSC is provided through a block room model under the supervision of experienced regional anesthesiologists. Fellows will be able to master basic single-injection and continuous peripheral nerve block techniques for anesthesia and analgesia of the upper and lower limbs as well as the trunk. At our centre we perform over 1200 regional nerve block procedure including single injection nerve blocks and continuous nerve block catheters. Fellows will be trained in use of ultrasound-guidance and electrical stimulation, as well as advanced ultrasound-guided regional anesthesia and central neuraxial procedures for postoperative and obstetric pain management. Fellows will gain experience in managing continuous perineural infusions for inpatients and outpatients, as well gain a deep understanding of adjunct analgesic medications, learn to apply regional anesthesia techniques in a variety of surgical settings including trauma, elective outpatient and more invasive orthopedics, abdominal and pelvic procedures. Moreover, fellows will develop skills in managing operative room and block room flow. The Regional fellowship in TBRHSC is a unique program in its degree of exposure to catheter-based outpatient, inpatient regional techniques and labour epidural analgesia for normal vaginal delivery. In addition to the clinical experience, fellows will gain considerable experience in block room management, patient flow through the block area, and organization of anesthesia assistants and resident learners in a busy block room environment. Fellows will be involved in the evaluation and management of post procedure complications following regional anesthesia procedures.

Acute Pain Service:

Fellows will also participate in the Acute Pain Service (APS) at TBRHSC and non-regional anesthesia cases during the training year. The APS manages approximately 3,700 patients per year, including some referrals with challenging trauma patients, chronic and cancer pain.

Fellows will join the acute pain service (APS) a week at a time, longitudinally throughout their fellowship year. The number of APS weeks required varies according to the needs and past experience of each individual fellow, but all fellows are required to complete at least 2 to 4 weeks of APS. And also, during block room rotation fellows get to round the inpatient surgical patients for postoperative pain management and labour epidural analgesia patients.

Chronic Pain:

The Chronic Pain Clinic operates within the hospital premises. Chronic Pain Team involves two pain physicians and nurse practitioner. An emphasis is placed on teaching interventional pain medicine in an evidence-based manner. Candidates will get the



opportunity to learn various procedures like ultrasound guided nerve blocks and joint injections, Botox injections for migraines, multimodal care models, fluoroscopy guided procedures, intravenous lidocaine and ketamine infusions, platelet rich plasma injections, radiofrequency ablation and interventional cancer pain management. Currently the clinic runs on Monday, Wednesday and Friday with plans to extend 5 days in a week. Every Friday afternoon is allocated to Fluoroscopy procedures. We have total of 1800 various pain procedures performed last year which includes 600 ultrasound-guided procedure and 800 fluoroscopy-guided procedures annually. On Fellows also learn about psychology, pharmacology, and physical therapy in pain management while working as part of a multidisciplinary team that includes healthcare professionals from these specialties.

Research:

Fellows are expected to actively participate in academic, research, and educational activities related to area of subspecialty training. Fellows can involve in the design of new research projects, the conduct of ongoing clinical research, data analysis, and the writing of scientific paper. Fellows will spend one academic day per week for these purposes. Fellows participating in research are expected to present at a national/ international level conference, and produce at least one peer-reviewed publication. If fellows are not actively involved in research either after or in-between successful completion of research goals, the fellow will be assigned to an either subspecialty training or independent operating room assignment after discussion with program director.

Education:

Fellows are expected to present at departmental rounds and lead a regional anesthesia focused journal club discussion during their fellowship. There are expected to attend educational rounds from University of Toronto Anesthesia Fellowship Program, Toronto Academic Pain Medicine Institute (TAPMI), and the University of Toronto Centre for Study of Pain (UTCSP) to gain experience in presentation and teaching. There are various educational programs, including the weekly rounds for the Regional Anesthesia and Pain Medicine residents. Fellows are also expected to take an active role in resident education in Regional Anesthesia and Pain Medicine. Funding to attend a major regional anesthesia and pain medicine meeting will be provided only if they are presenting work from TBRHSC.



Acute Pain Service Staff

Yuvaraj Kotteeswaran
Natalie Melton
Maria Hudecova
Sudhakar Subramaniam
Shikha Bansal
Basavaraj Ankalagi

Each attending staffs the acute pain service one week at time. They will be directly supervising the fellow on service for the week.

Regional Anesthesia Staff

Natalie Melton
Yuvaraj Kotteeswaran
Sudhakar Subramaniam
Shikha Bansal
Basavaraj Ankalagi
Maria Hudecova

Each attending staffs a regional location per hospital site. On assigned daily assignment, they will be directly supervising the rotating fellow's regional anesthesia procedures.

Chronic Pain Staff

Yuvaraj Kotteeswaran
Virginia McEwen
Basavaraj Ankalagi

The fellow will be assigned to work with either one of these attending from chronic pain clinic. The focus will be new patient assessment and optimization of medications, weaning and performing appropriate interventional pain procedures.



Competencies For APS, Regional Anesthesia, and Chronic Pain Fellowship

Below is a list of competencies topic to be covered over the course of the year:

1. Spine anatomy - midline vs. paramedian, evidence and evaluation for location of placement
2. Epidural management – block assessment (pin prick vs. ice), hypotension, test dose, infusions, epidural opioids
3. Intrathecal opioids - indications, postoperative monitoring, agents/dosages
4. Surgery-specific indications, postoperative surgical management, diet advancement and G-tubes
5. Opioid management - PCAs, calculation of morphine equivalents, basal rates, rescue doses, opioid reversal agents
6. Non-opioid management - IV and PO medication options (ketamine, lidocaine, gabapentinoids, NSAIDs, APAP, etc.)
7. Surgical and epidural-related adverse events - infections, hematomas, nausea, urinary retention, pruritus, referred pain, oversedation
8. Guidelines for anticoagulation and monitoring of neuraxial opioids
9. Data for multimodal analgesia/ERAS and postoperative outcomes
10. Acute-on-chronic pain, opioid tolerance, perioperative implications of partial mu agonists/antagonists (buprenorphine/naltrexone)
11. Opioid Epidemic & Opioid Risk Assessment and Screening
12. Chronic pain drug treatment: opioids versus non-opioid analgesics in chronic pain.
13. Inpatient Pain Guidelines and Policies
14. Lidocaine and Ketamine Infusion in Chronic Pain
15. Integrating Pain Management Into the treatment model I: The Difficult Patient & Barriers to Pharmacologic Management
16. Integrating Pain Management Into the treatment model II: Chronic Opioid Therapy: Strategies for Success
18. Complementary and alternative treatments in pain management
19. Approach to Headache and Chronic Migraine Management
20. Upper Extremity Blocks, Part I: Brachial Plexus Anatomy, Cervical Plexus Blocks, Interscalene Block, Supraclavicular Block.
21. Upper Extremity Blocks, Part II: Infraclavicular, Axillary, Metacarpal, Ulnar, Median, Radial Nerve Blocks
22. Lower Extremity Blocks, Part I: Lumbar Plexus Anatomy, Femoral, Adductor Canal Blocks, Saphenous Nerve Blocks
23. Lower Extremity Blocks, Part II: Anatomy, Subgluteal Sciatic, Pop/sciatic, iPACK Blocks, and Ankle Block
24. Truncal Blocks, Part I: Paravertebral, PECS I and II, Erector Spinae Plane Block, Serratus Anterior Plane Block



25. Truncal Blocks, Part II: Transversus Abdominus Plane and Quadratus Lumborum Blocks
26. Prolonging Peripheral Nerve Blocks: Continuous Perineural Infusions vs. Liposomal Bupivacaine
27. Ultrasound guided Chronic Pain and Musculoskeletal Pain Intervention.
28. History and physical examination of common pain conditions and appropriate block selection
29. Advanced spinal procedures to treat back and leg pain: introduction to radiofrequency ablation and spinal cord stimulation
30. Regenerative Pain Medicine and Other newer modalities of treatment in Chronic Pain.

Application:

One spot for 1-year fellowship positions are currently offered, beginning in July.

The required documents and information to complete the initial application include:

1. An updated Curriculum Vitae
2. A letter of intent stating the applicant's goals and objectives for undertaking the fellowship, your educational goals, research aims (if any) and future plans.
3. Names and contact details of 3 referees
4. A copy of completed Medical Degree, a certificate of successful completion of a residency in Anesthesiology.

For International Medical Graduates:

To be eligible for a clinical fellowship, candidates must have completed all their anesthesia training (minimum 30 months of clinical anesthesia) and passed all specialty certification exams from their country of origin before beginning the fellowship. Evidence of English proficiency is required if medical training did not occur in English.

Preference will be given to applicants who:

Are within 5 years of completing their anesthetic training
Demonstrate a keen interest in their fellowship area