

## Trauma Fellowship for Emergency Medicine Physicians

**Number of positions:** Maximum 4 per year

**Site:** Montreal General Hospital, McGill University Health Centre (MUHC):

<https://muhc.ca/mgh/dashboard>

**Type of Fellowship Program:** Clinical Fellowship

**Length of training:** 1 year

**Fellowship Program Director and Supervisor:**

Dr. Joe Nemeth

Associate Professor

Department of Emergency Medicine, McGill University

Emergency Medicine/Trauma Team Leader

Montreal General Hospital, Montreal Children's Hospital

Application/deadline information: <http://www.mcgill.ca/pgme/admissions/prospective-fellows>

**Feedback:** as per PGME rules, there will be formal feedback quarterly and after every shift informally by the Trauma Team Leader staff attending that day.

### Outline

The postgraduate fellowship in Trauma for Emergency Medicine Physicians is a one-year supervised training program open to qualified post-graduate trainees who have either completed:  
-a postgraduate Royal College specialty program in Emergency Medicine (FRCP EM) or equivalent

Or

-a postgraduate Canadian College of Family Physicians with extra year of Emergency Medicine competency (CCFP EM) program AND a proven track record in postgraduate trauma experience and expertise.

Fellows will acquire an understanding of trauma systems, including the role of the trauma team leader (TTL), the acute management of trauma, as well as having an in depth understanding of the pathophysiology of trauma. At the end of their training, the Fellow will have acquired the knowledge and skillset to function as a TTL in a trauma center and manage any type of trauma that presents to a level I trauma center/emergency department.

### Program Information

- Background

The Montreal General Hospital (MGH), a designated Level I trauma center since 1997, employs fully trained academic trauma/acute care surgery/critical care surgeons and delivers tertiary and quaternary trauma, emergency and critical care to a catchment area of over 2

million people (including the Montreal downtown core), in addition to serving as the major referral site for significant regions of Northern Quebec.

The MGH emergency medicine/trauma program along with more than 40 medical and paramedical disciplines manage over 10,000 trauma victims per year (approximately 10% referred from outside institutions), including more than 1,500 trauma related admissions and approximately 350 trauma team activations making it the busiest stand-alone trauma institution in Canada.

In 2005, a core group of trauma specialist in emergency medicine and trauma surgery created a Trauma Team Leader (TTL) paradigm of managing trauma patients. This TTL group, consisting of specialists in the areas of emergency medicine, trauma surgery and anesthesiology is responsible for providing a unique balance and perspective in trauma management.

*\*The Effect of a Multidisciplinary Trauma Team Leader Paradigm at a Tertiary Trauma Center: 10-Year Experience. Emerg Med Int. 2020 Aug 13;2020:8412179*

The TTL group is responsible for the acute management of all major trauma patients transported to the MGH. This TTL program is the first such program in Québec and one of the first such paradigms in North America.

Besides specializing in the care of the isolated trauma patient, the MGH TTL program has contributed in handling such mass casualty events (Dawson College mass shooting/Greyhound bus crash).

Because the emergency medicine physician is at the forefront of the care of injured patients, the fellowship was created to further enhance the training of physicians desiring to be experts and leaders in this highly specialized field.

### General Responsibilities, Goals and Objectives

Clinical responsibilities will involve leading resuscitations for the injured patient as the TTL and overseeing patient care on a dedicated trauma and acute care surgery service. In addition, the Fellow is expected to be involved in the care of critically ill trauma and acute care patients in an intensive care unit (trauma, acute care, neuro-critical care).

Fellows are expected to be involved in the teaching of medical students, residents, elective trainees and interdisciplinary staff, as well as presenting at trauma conferences, case teachings, rounds and at point of care. It is expected that Fellows will be involved in formal educational programs including ATLS, emergency medicine and general surgery rounds and trauma journal clubs. It is also expected that Fellows will complete at least one research project that is presented at an academic meeting during their fellowship and one administrative project.

### Specific Responsibilities, Goals and Objectives

At the completion of his/her training, the Fellow will be able to:

1. lead the trauma team through resuscitative measures and treatment at a consultant level using crisis resource management skills/techniques
2. prioritize the management of the severely injured in mass casualty incidents
3. identify situations where further or additional expertise is required
4. collaborate effectively with other consultants (including but not limited to trauma surgery, orthopedics, neurosurgery, critical care, radiology and interventional radiology).

In addition to the clinical management of trauma patients, the Fellow will demonstrate knowledge of:

1. trauma administration and trauma systems
2. pre-hospital trauma care
3. trauma research
4. trauma education

Emphasis will be placed on the initial resuscitation and stabilization of the poly-traumatized patient and the subsequent collaborative emergency management with the consulting teams.

The Fellow will also be required to have knowledge of post-Emergency Department (ED) care. The Fellow must be cognizant of the clinical course at the post-operative/post radiological intervention level, in the ICU and in the subsequent post-discharge trauma clinic follow-up. Most of the training will occur as a member of the ED of the Montreal General Hospital. The fellow will be under the direct supervision of the core TTL group and occasionally selected emergency medicine physicians. The fellow will be exposed to trauma as part of the Trauma Service, the TTL team, and as well during Emergency Medicine shifts.

The Fellow will be expected to follow his/her patient longitudinally through admission, ICU, ward to discharge. To complement and enhance the training and exposure, the fellow will be encouraged to explore other trauma systems (either nationally or internationally). The Fellow will be expected to carry out scholarly activities in the form of a research and administrative project, participation in trauma rounds, journal club and grand rounds presentation at emergency medicine academic rounds.

The Fellow will be expected to be up to date on current trauma related literature, be able to critically appraise the literature and have an understanding of evidence based medicine as it applies to the trauma literature. Finally, the fellow will be expected to learn the functioning and components of both the hospital and provincial Trauma Registries.

### Curriculum

based on 13 four-week periods

- \* 12 as TTL
- \* 1 in Surgical-ICU Or
- \* 11 as TTL
- \* 1 elective in area of interest
- \* 1 external TTL

During the year, the fellow will also be instructed on and have access to: advanced ultra sound (focusing on critical care POCUS)

radiology (focusing on developing an approach to interpreting trauma CTs)

pediatric trauma (including regular pediatric trauma simulation initiatives)

advanced/surgical airway

trauma administration (focusing on Trauma Registries, Trauma Systems (provincial and world-wide) and Pre-hospital care)

Additional academic/scholarly activities:

- Core interactive text review
- Weekly trauma rounds

- Journal club
- Presentations at:
  - Emergency academic rounds
  - Emergency journal club
  - Trauma Service Academic Rounds

\* The academic activities associated with the rotations such as SICU, daily rounds on admitted patients to the trauma team

## **SPECIFIC OBJECTIVES**

### **Medical expert and clinical decision-maker**

The fellow must be able to

- Obtain a history that is accurate, pertinent and concise for the nature of the problem
- Perform physical examination (primary and secondary surveys) and appropriate resuscitative procedures and interventions.
- Perform appropriate post-resuscitative care and timely tertiary and quaternary surveys.
- Understand the mechanisms of injury and the associated injuries that must be excluded.
- Perform the following procedures including indications, contraindications, complications:
  - extended-FAST
  - Central line access
  - Venous cut-down
  - IO (Intra-osseous)
  - RSI rapid sequence induction
- \* Must also demonstrate an understanding of the resuscitation medications used, indications, contra indications and complications.
- \* Must also demonstrate proficiency and understanding of interventional techniques and devices, including - Fiber-optics
  - Cricothyroidotomy
  - Chest tube insertion
  - Resuscitative ED thoracotomy
  - DPL or DPA
  - Pelvis stabilization
  - Cervical spine immobilization
  - Long bone reduction and immobilization
  - Resuscitative endovascular occlusion of the aorta (REBOA)
- The fellow must demonstrate an approach to interpreting the following radiologic interventions:
  - C-spine x-ray
  - CXR
  - Pelvis
  - CT head
  - CT C-spine
  - CT chest
  - CT abdo/pelvis
  - Long bone and thoraco-lumbar x-rays.

- The Fellow must understand when to appropriately involve interventional radiology
- The Fellow must demonstrate the ability to interpret accurately the results of common diagnostics tests.
- The Fellow must understand and be able to apply the difference in trauma epidemiology and management for adult and pediatric and geriatric populations.
- Demonstrate knowledge in:
  - Resuscitative fluid management and massive transfusion protocols
  - Indications for emergent operative management of various types of injuries, including but not limited to severe intracranial injuries/TBI, penetrating neck, airway trauma, abdominal trauma, peripheral/extremity vascular trauma.

### **Communicator**

The Fellow must demonstrate effective communication skills by his/her ability to utilize all aspects of proper Crisis Resource Management including:

- work harmoniously within the team
- extract necessary information from transferring physicians, provide guidance in patient stabilization and management by telephone, and subsequently provide clear pre-transfer instructions.
- communicate effectively to the ED personnel information about patients being transferred from outside institutions.
- formulate a clear plan of action and convey information to other colleagues
- deliver information to patient and families in a sensitive manner using the appropriate vocabulary for their understanding of the situation
- liaise effectively with the other TTLs and transfer of information and summarize the evidence to allow for better consultation and follow-up on the cases
- document legible and pertinent documentation enabling another professional to access the information pertaining to the case.
- provide clear and constructive written feedback to the referring MDs.

### **Collaborator**

The Fellow must be able to:

- act as a leader of a multidisciplinary (trauma) team
- effectively collaborate with all the consulting services required for the management of the poly-traumatized patient in the Emergency Department. Manager

The Fellow should understand and be able to apply in their practice:

- principles of mass casualty triage
- management of a mass casualty incident
- mass casualty institutional “protocols”
- make timely management, follow-up and disposition decisions.
- provide effective consultation to a referring physician and provide appropriate information when a patient is returned to the sending hospital.
- understand and use resources (labs, radiologic) in an evidenced and cost effective fashion.
- understand information systems as applied to trauma (eg. Trauma registry)

### **Health Advocate**

The Fellow should be able to recognize and advise patients and their families regarding the general epidemiology and prevention of trauma, more specifically:

- fall prevention
- domestic violence/spousal abuse
  
- self-protection (helmets, eye wear, seat belts etc.)
- participation in activities while under the influence of drugs or alcohol (driving, cycling, work). In addition, the Fellow must:
- identify the high risk suicidal patient and institute appropriate precautions and management
- identify patients that are potential organ or tissue donors and understand the role of the organ and tissue donation teams
- identify the potentially volatile situations that endanger the entire ED, and institute proper security measures

## **Scholar**

Fellows should be able to demonstrate an intellectual approach to medical practice in the following areas during participation on patient rounds, teaching sessions, journal clubs and interdisciplinary meetings.

- continuing medical education;
  - show interest in self-education skills by demonstrating knowledge in the evolving concepts and the management of trauma patients and new management developments
- critical Appraisal of the Medical Literature;
  - demonstrate the ability to research the medical literature and identify the best available evidence for any patient related question. - identify limitations in current trauma research
- scientific interest
  - show interest in other scientific areas closely related to clinical trauma, such as but not limited to basic pharmacology, radiology, by recognizing potential implication of these fields into clinical practice
  - demonstrate ability in identifying areas in trauma where gaps in knowledge or expertise exists by retrieving the essentials of the literature, summarizing the evidence to date and develop research ideas to fill these gaps while being able to demonstrate the clinical relevance of finding answers to the question at hand.
- teaching skills:
  - Fellows should be able to explain the management of all aspects of a poly-traumatized patient.
  - Fellows should be able to instruct residents all procedural skills required for the emergency management of the patient with poly-trauma.
  - should be available to answer and/or discuss the current literature and controversies about the management of the poly-traumatized patient.
- ATLS instruction: The fellow will participate as an instructor of the ATLS courses with the goal of becoming an ATLS instructor
- McGill Simulation Centre: the fellow will participate in trauma simulations organized by the Emergency Medicine or other programs.

## **Professional**

The fellow should be familiar with medical, legal, psychiatric and social aspects of trauma. The Fellow should always approach situations with the highest level of integrity and honesty. The Fellow must demonstrate awareness of his/her own limitations and seek advice when appropriate. More specifically the Fellow should demonstrate professionalism in the following issues:

- obtaining consent (when appropriate) for therapeutic modality or research study inclusion by the patient or the next of kin.
- respect patients' rights to confidentiality and neutrality in the face of official authority's involvement whilst fulfilling social and legal obligations as per the medical ethics code and the local regulations.
- approach and involve families/next of kin respectfully when bringing up the issue of organ or tissue donation as well as other end of life issues.
- recognize the limitation of medical practice in the face of threat or aggression and decide when appropriate to involve legal authorities.
- recognize the limitations of informed consent (capacity and competence) in trauma care. Seek appropriate advice from consultants to achieve the best therapeutic or management plan for these patients.

### **Other Duties and Responsibilities**

The Emergency Trauma Fellow must demonstrate flexibility in scheduling to allow maximal exposure as per the epidemiology of trauma. As such, the fellow must expect to work a good proportion of evening, night and weekends. During the TTL rotations, the Trauma Fellow will be paired with the physicians from the core TTL group while being on-call. TTL on-calls consist of 24 hour periods and done from home. The fellow will be expected to do a minimum of 7 on-calls per period during their TTL rotations. A minimum of 3 week-end calls per period will be in effect, to maximize exposure according to certain types of trauma epidemiology (penetrating). During the TTL rotations, the Fellow will also work clinically in the ED with the emergency medicine physician TTLs and occasionally selected emergency physicians to allow exposure of all the spectrum of trauma patients. On average, 8 ED shifts will be required per period during these months.

The Fellow is expected to attend regular Trauma Service outpatient follow-up clinics on a weekly basis (usually half a day per week), unless this conflicts with other teaching/ clinical activities. During these clinics, the Fellow will be supervised directly by the Trauma Surgeons and will be dedicated to trauma related issues (i.e specifically excluding other general surgical issues). The Emergency Trauma Fellow is also expected to help coordinate, in conjunction with the Surgical Trauma Fellow, and participate in the Trauma Service's weekly rounds and presentations. The Fellow is expected to give at least two formal presentations per year at the Trauma Rounds and/ or at the Emergency Medicine Rounds.

## **Previous TTL Fellows**

**2012-2013**

**Mohamed Azzam MD FRCPC (EM)  
FCCM**

Consultant - Trauma, Critical Care &  
Emergency Medicine  
Chair - Saudi Extracorporeal Life Support  
Chapter, SCCS  
Director - Min. of Health ECMO Program  
Jeddah, Saudi Arabia



**2013-2014**

**Christian Malo MD, FRCP (EM)**

Emergency Medicine Physician/TTL  
Trauma Medical Director - CHU de  
Québec- Université Laval  
Hôpital Enfant-Jésus  
Clinical Professor, Dept of Emergency  
Medicine  
CHU de Québec-Université Laval  
Québec, Canada



**2014-2016**

**Nisreen Maghraby MD**

MBBS, FRCPC (EM), MM (Health  
Leadership), MA (Educational  
Psychology-Health Profession)  
Assistant Professor - EM/Trauma & Disaster  
Management Consultant  
Chairperson, Simulation & CBDE Lead, Post  
Grad Programs  
Vice-Dean Research & Innovation  
College of Medicine IAU  
KFHU-Alkhubar  
Kingdom of Saudi Arabia





**2019-2020**

**Mathieu Toulouse LLB MD FRCPC (EM)**

TTL/Emergency Medicine Physician  
Associate Professor – Dept of Emergency  
Medicine University de Montreal  
Hopital Sacre  
Coeur Montréal,  
Canada



**Khalifa Alqaydi BSc, MBChB, FRCPC (EM)**

Consultant, Emergency Medicine  
Director, Emergency Medicine Residency  
Program  
Head of Emergency department  
Zayed Military Hospital, Abu Dhabi  
Ministry of Defense



**Basem Al Ghamdi MD SBEM**

Consultant Trauma Emergency Medicine  
Deputy Chairman Emergency  
Department- King Abdulaziz Medical  
City Western region, Ministry of  
National Guard.  
Assistant Professor Emergency  
Medicine- College of applied sciences  
(joint appointments)  
King Saud bin Abdulaziz for health  
sciences. Kingdom of Saudi Arabia



**2020-2021**

**Abdalla Alzaabi MD MB BAO FRCP**

(EM) Dip Sport Med  
Consultant – Emergency  
Medicine/Trauma/Sports Medicine  
Zayed Military Hospital  
United Arab Emirates



**Julien Blais-L'Écuyer MD MSc FRCPC**

(EM) Emergency medicine/TTL  
Assistant Professor, Dept of Emergency  
Medicine, Université de Laval  
Hôpital Enfant-Jésus  
Québec, Canada



**2021-2022**

**Michel J. Estephan, MD**

Emergency Medicine  
Trauma Specialist  
Sport Medicine Specialist



**Yasser S. Armaghan,**  
MD, MBBS, ArBEM, PEM

Trauma Specialist, Pediatric Emergency  
Medicine Specialist  
Dubai Health, United Arab of Emirates



**Amr Ibrahim, MD**

Family medicine, emergency medicine and  
ICU  
Trauma specialist  
Intensivist at Centre hospitalier universitaire  
de Martinique



**2022-2023**

**Khurram Sarfaraz MD, ArBEM, SQIL**

Emergency and trauma consultant  
Head of quality and safety of ED.  
Trauma board member.  
Accident & Emergency department.  
Government hospitals.  
Salmaniya Medical Complex.  
Kingdom of Bahrain



**Maryam Bahreini, MD**

Associate Professor of  
Emergency Medicine,  
Tehran University of Medical Sciences,  
Tehran, Iran  
Emergency Trauma Team Leader,  
Emergency Physician,  
Cape Breton Regional Hospital, Sydney,  
NS, Canada



**Audrey Marcotte MD FRCP EM**

Assistant Professor  
McGill University  
Emergency Medicine Physician-Trauma  
Team Leader  
Montreal General Hospital  
Montreal Children's Hospital



**2023-2024**

**Badr N. Alhamadi**

MD, MBBS, CPHIN, TTL.

Emergency Medicine Consultant, King Abdulaziz Medical City (KAMC).  
Emergency Medicine Assistant Professor, King Saud Bin Abdulaziz University for Health Sciences (KSAU-HS).  
Riyadh, Saudi Arabia.



**Natalie Chew MD (UKM), M.Med**  
Emergency (Malaya)

Emergency Physician, Trauma Team Leader  
Sungai Buloh Hospital  
Selangor, Malaysia



**Nurul Azlean Norzan MD MBBS (IIUM)**  
M. Med Emergency Medicine (Malaya)

Emergency Physician, Trauma Team Leader  
Sungai Buloh Hospital  
Selangor, Malaysia

