Orthopaedic Trauma Fellowship

Name of Institution: MUHC
Location: Trauma Division (Orthopedics)
Montreal General Hospital
Type of Fellowship: Trauma Orthopedics
Number of fellowship positions requested: 1
Length: 1 year
Academic affiliation: McGill University
Name of hospitals involved in training: McGill University Health Center
Montreal General

• Background

Clinical: The trauma division is a discrete entity with protected operating time and clinic space. Currently there are 6 trauma days per week at the Montreal General Hospital. The trauma faculty also have a subspecialty practice for which they have 1-2 extra operating days per week. Many of these cases are tertiary care level trauma-related reconstructions.

Research: The trauma division has access and relationships with several laboratories on campus and in the MUHC research institute.

• Publications
See Appendix 1 - previous 5 years output

• Mission of the Center
Deliver world-class trauma care to the RUIS of the McGill University Health Center
Objectives for the Fellowship

The education offered by the orthopaedic trauma fellowship should allow the trainee to acquire an advanced level of skill in the management of this population. This may be obtained from faculty-guided experience in:

1. The surgical as well as non-surgical management of musculoskeletal injuries.
2. Algorithmic decision making with respect to timing and sequencing of multiple injury management.
3. Postoperative and outpatient care, including the directing of rehabilitation.
4. Understanding the prophylaxis and/or treatment of the complications and sequelae of musculoskeletal injuries.
5. Injury management decision making, based on age and/or co-morbid medical problems, as seen either in the pediatric or the geriatric population.
6. Developing familiarity with and understanding the historical evolution of the methods available to treat musculoskeletal injuries.
7. The use of advanced technology and instrumentation.
8. Activities that foster the development of skills in teaching as well as laboratory and clinical research related to orthopaedic trauma.
9. Ethical, economic, and legal issues as they pertain to orthopaedic trauma care.

Furthermore, it is expected that individuals completing fellowship training in orthopaedic trauma care will be able to:

1. Organize and administer an orthopaedic trauma service, and coordinate the activities of the service with other administrative units.
2. Establish policies and procedures for the management of orthopaedic trauma patients.
3. Appoint, train, and supervise specialized personnel.
4. Teach the specialized body of knowledge required for the comprehensive management of the orthopaedic trauma patients.
5. Develop and pursue research in various areas of orthopaedic trauma care.

• How intended fellowship will enhance residency training
Refer to Appendix 2 for details on each level of training and the responsibilities of the residents and the fellow. The fellow will aid in the administrative duties of the trauma service of the Montreal General Hospital and greatly decrease the needed time for administration by the residents. This will free them for surgical, clinical or other learning activities.

The fellow –
Will assist senior residents and junior with trauma care on the team
Will act as chief resident when he is not present.
Will supervise elective admission urgent care for all trauma staff.
Be present at all teaching conferences
Organize and present teaching and working conferences for the residents.
To supervise more junior residents education process.
Manage the trauma list.

Name of the Fellowship Program Director
   EJ Harvey MD MSc

Names of the Teaching Faculty

Dr GK Berry
   Fellowship training: Trauma / Foot and Ankle

Dr Rudy Reindl
   Fellowship training: Trauma / Spine

Dr EJ Harvey
   Fellowship training: Trauma / Upper Extremity

Dr Max Talbot
   Fellowship training: Trauma / Military

Affiliated Trauma Faculty

Dr J Ouellet   Spine
Dr P Jarzem   Spine
Dr P Martineau Upper Extremity/Sports

Current Research Staff

Dr J Henderson
   JTN Wong Labs for Bone Engineering
Dr Letitia Lim- PhD candidate
Dr Shan Gao- PhD candidate

Academic Facilities and Resources

Clinical: The trauma division is a discrete entity with protected operating time and clinic space. Currently there are 6 trauma days per week at the Montreal General Hospital. 1200-1500 trauma acute cases are operated on per year. The trauma faculty also have a second subspecialty practice for which they have 1-2 extra operating days per week. This represents another 1000 cases per year within the trauma division. Many of these cases are tertiary care level trauma-related reconstructions.

Basic Science: The trauma division has access and relationships with several laboratories on campus and in the MUHC research institute. Thomas Steffen operates the Orthopaedic Research Lab that has an interest in biomechanical
work (spine and trauma) and has technical support and engineering expertise that facilitates biomechanical research.

"Proximal Humerus Fixation- Biomechanical Comparison of Techniques"
Submitted to Clinical Biomechanics, 2005.

Drs Harvey and Henderson have a laboratory (JTN Wong Labs for Bone Engineering) on campus in the McGill Genomics center. This research is centered on fracture healing and augmentation. A multidisciplinary team from nanoengineering, cell biologists and mechanical engineers allows a comprehensive approach to fracture healing, implant design and cell modification in order to identify and market novel orthopaedic technology. Access to Instron mechano-hydraulic testing apparatus and micro CT as well as other tools facilitates the research process.

Examples-
“A System To Generate Transverse, Oblique, Butterfly And Comminuted Fractures Of Large Animal Long Bones In Vitro”
“Ideal Cell Culture Lines for Orthopedic Research”
“Novel Animal Models in Fracture Healing”
“Stem Cells and Biologics for Bone Repair”

Clinical outcomes research is performed with a transdisciplinary group.

McGill Skeletal Health Outcomes Group-

Researchers
Suzanne Morin MD
Marie Hudson MD
Ed Harvey MD MSc
Rudy Reindl MD
Greg Berry MD
Thomas Steffen MD PhD MBA

Affiliated group
Richard Kremer MD PhD
Elham Ramie MD
Janet Henderson PhD
Jean Ouellet MD

Projects
Pure Basic Research
Osteoporotic fracture healing models
Osteoporosis ongoing studies
Bench to the Bedside Research
Bone microarchitecture relationship to hip fractures
Endothelial cell involvement in bone disease

Clinical Research
Comparison of Hip Fracture
Comparison of distal radius fracture devices
Osteoporosis studies
Geriatric Spine Outcomes

Translational Research
Prophylactic internal fixation of the hip
Osteoporotic bone model with a novel embalming technique
Proximal humerus fixation in osteoporotic bone

Education
Education processes in orthopedics and trauma are being investigated. Examples- Investigation of a tool to teach biomechanical principles about the hip

Current Multi Centre Projects in Trauma Group
Multicenter Clinical Trials Based in McGill Trauma Group
Distal Radius ORIF versus Ex Fix versus Kapandji Techniques
Trochanteric nail versus DHS for Hip Fractures

Several studies are being carried out under multicenter umbrella of the Canadian Orthopedic Trauma Society

Breakdown of Resources
o Library access, Multimedia learning materials available
   Orthopaedic textbooks and multimedia is available in the orthopaedic library (12th Floor)
o Availability of a skills lab if applicable
   Access to the McGill Skills Center is possible

Fellow Duties and Responsibilities
See Appendix 2

Call responsibilities 1/3 call
Outpatient clinic responsibilities Trauma Clinics
Describe any support staff available to the fellow: program coordinator, nurse clinician, secretarial
Dedicated Trauma only Research Coordinators:
Fiona Houghton and Mary Amadeo
Secretarial: Silvana DeCrescentis
Data Management: Data base clerk for dbase management

Proposed meetings to be attended by the fellow
OTA Annual Meeting
Research productivity and publications expected by the Fellow
1-3 Research projects to be brought to fruition
Curriculum

Intended case load
Attendance at over 1000 cases will be easily achieved

Intended Percentage of varieties of cases
5% Pelvis, 30-40% Upper extremity, 40-50% Lower extremity, variable percentage of spine cases depending on fellow desires

Regular reading materials provided (if any)
Full access to all current journals and textbooks

Conference weekly schedules
Daily trauma rounds, weekly trauma quality control rounds, weekly general surgery trauma rounds, biweekly grand rounds

Appendix One: Publications- Last 5 years

EJ Harvey

24. “Clinical Outcome of Pediatric Calcaneal Fractures Treated with Open Reduction and Internal Fixation” A Pickle, T Benaroch, P Guy, EJ Harvey Journal of Pediatric Orthopedics, 2004 24(2) March/April, 178-180


Berry GK

Reindl R

Talbot M
Talbot M, Tien H Recombinant Factor VIIa in Trauma JAAOS August 2009 (In print)


Appendix TWO
Breakdown of Responsibilities

**Fellows**

Will assist senior residents and junior with trauma care on the team. Will act as chief resident when he is not present.

Communicate with trauma outcome database coordinator Elena lakoub, regarding injury and treatment classification on service patients, as well as studies underway.

Will be first staff call when trauma staff is on call and communicate with staff pertinent cases.

Attend all assigned clinics on time and arrange coverage for OR cases when necessary.

To supervise elective admission urgent care for all trauma staff.

Document involvement in case with diagnosis and treatment plan.

Responsible for dictation of operative reports before leaving operating room.

Be present at all teaching conferences

Organize and present teaching and working conferences.

To supervise more junior residents education process.

Manage the trauma list.

**Chief Residents**

Communicate with trauma outcome database coordinator Elena lakoub, regarding injury and treatment classification on service patients, as well as studies underway.

Will be responsible for all patient care on their team

Attend all assigned clinics on time and arrange coverage for OR cases when necessary.

To supervise care of all emergency room cases and elective admissions.

Document involvement in case with diagnosis and treatment plan within 24 hours of admission; follow-up notes every 48 hours

Responsible for dictation of operative reports before leaving operating room.

Scheduling of all emergent surgical cases with attending staff's approval

Be present at all teaching conferences

**ADMINISTRATIVE CHIEF RESIDENTS**

Coordinate all fellow, chief, and Junior resident vacations according to MUHC policies

Complete all call schedules 10-20 days before the due date

Schedule junior residents for preoperative H & P's on clinic admits and outpatients
JUNIOR RESIDENTS

Directly responsible for all day to day patient management for all patients and consults on their service

Respond to all pages; respond to the Emergency Room request for your services within 10 minutes.

Responsible for completion of all discharge summaries for patients on service

Work with staff nurses to resolve patient care problems

Document all splinting, casting, traction, halo application, pin placement, and other activities done.

Attend assigned clinics; all residents from each team must attend Clinic on Wednesday am and Friday. If not in clinic on time will receive borderline evaluation on that section.

Perform preoperative H & P’s on Thursday during preoperative clinic. Resident assignment to this clinic is adjudicated by the senior resident on service. Failure to attend this clinic will result in borderline assessment for time management.

Update daily census list

Complete unddictated discharge summaries left delinquent by their peers if they are off service.

List Of Examples For Typical Surgeries Assigned To Training Level

<table>
<thead>
<tr>
<th></th>
<th>Foot</th>
<th>Leg</th>
<th>Pelvis</th>
<th>Shoulder</th>
<th>Arm</th>
<th>Hand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fellow</td>
<td>Crush salvage</td>
<td>Complex intra-articular fractures</td>
<td>Acetabular fracture / SI screws</td>
<td>Glenoid fracture</td>
<td>Complex intra-articular fractures</td>
<td>ORIF phalynx</td>
</tr>
<tr>
<td>Senior</td>
<td>Liszfranc</td>
<td>Complex nails/ simple intra-articular</td>
<td>Ex-fix place/ opening limited exposures</td>
<td>Proximal humerus fractures</td>
<td>Long bone fractures</td>
<td>Open metacarpal repair</td>
</tr>
<tr>
<td>Junior</td>
<td>K-wire fixation</td>
<td>Hip fractures/ Simple nails</td>
<td>none</td>
<td>Reduction closed</td>
<td>Radius ORIF pins</td>
<td>Closed reductions</td>
</tr>
</tbody>
</table>

Compiled requirements and documents derived from:
McGill Orthopedic Program
OTA
COA
AAOS