

McGill Orthopedic Sports Medicine & Arthroscopy Fellowship

Name of Program Director: **Dr Mark L. Burman**

Location: **Montreal General Hospital
Lasalle General Hospital
Shriners Hospital
McGill Sports Medicine Clinic**

Type of Fellowship:

This Unique Comprehensive Surgical Fellowship covers the complete orthopedic management of the Professional, and elite level athletes, competitive & recreational athlete of all ages. The fellowship covers athletes with sports related injuries from the child athlete to the adult & geriatric athlete. The fellowship emphasizes the care of athletes in a multidisciplinary team approach (Primary care, surgeons, therapists, coaches & parents) and focuses specifically on the surgical open & arthroscopic reconstructive techniques used to treat sports related injuries as well as surgical procedures used to manage acute trauma in the sports setting. The fellow also gains first-hand experience in the on field management of athletic injuries through their exposure to professional & college level sports teams. As a result of their involvement in the pediatric milieu as well as the adult hospitals, the fellow gets exposed to the entire continuum of disease management from developmental to the acute traumatic and the degenerative conditional arising from sporting activity.

Point Form Program Information:

- Number of fellowship positions requested: **1**
- Academic affiliation: **McGill Orthopedic Department**
- Name of hospitals involved in training:
 - Montreal General Hospital / Lasalle Hospital: **~75 %**
 - Shriners Hospital: **~25 %**
- Research activity: **Clinical Outcomes Research as well as Basic science research opportunities**
- Publications: **See attached list (appendix 1)**
- Mission:

Fellowship will ensure that Trainees will master in an incremental fashion over a 12 month period: the fundamentals, sciences, clinical and therapeutic knowledge required to treat, patients with sports related disorders.

- Outline how intended fellowship will enhance residency training

The fellows will enhance the teaching of residents both from a didactic point of view as well as hands on teaching in the OR and clinics. Fellows are responsible for Tuesday subspecialty rounds and regular journal clubs. The fellow will also be responsible for helping to prepare resident academic half-day didactic teaching in Sports medicine & departmental Grand rounds. They will also supplement surgical skill education via daily clinical activities, daily OR. The second role of the trainees is not only to supplement educational, but to advance research endeavors at McGill Sports Medicine group. We expect the trainees to complete at least one research project, which will lead to a publication.

Names of the Teaching Faculty:

Dr Mark Burman: Orthopedic surgeon; Sports Medicine Fellowship Director ; CTU Director; Head Orthopedic Surgeon/Team Physician Montreal Impact FC (MLS); Orthopedic Surgeon/Team Physician Montreal Alouettes Football Team (CFL); Orthopedic Surgeon McGill Redmen / Martlets Athletics (CIS); Specialized in Sports Medicine, Knee Surgery, Shoulder Surgery & Arthroscopy, Adolescent / Pediatric Sports Medicine.

Dr Paul Martineau: Orthopedic surgeon; Sports Medicine Research Director; Head of Upper Extremity Surgery; Head Orthopedic Surgeon/Team Physician Montreal Canadiens Hockey Club (NHL); Orthopedic Surgeon/Team Physician Montreal Alouettes Football Team (CFL); Orthopedic Surgeon McGill Redmen / Martlets Athletics (CIS); Specialized in Sports Medicine, Upper extremity surgery, Trauma, Knee Surgery & Arthroscopy, Adolescent / Pediatric Sports Medicine.

Dr Eric Lenczner: Orthopedic Surgeon; Head of Sports Medicine Group; Specialized in Sports Medicine & Reconstructive Knee Surgery

Dr. Robert Marien: Orthopedic Surgeon; Specialized in Knee Reconstructive Surgery

Academic Facilities ○ Outline facilities for clinical and academic pursuit:

The sports medicine service clinical activities and its manpower across the MUHC and its affiliated hospital are as follows:

Staff:

Four sports surgeons

One sports fellow

Two to four designated sports residents on the Sports Service

One Medical Student

▲ Covering ALL Clinical Activities across ALL sites

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OR Days:

(Days will vary according to each scheduled block)

MGH: 2-3 days / week

LaSalle: 2.5 days / week

Shriners: ~ 3 days / month

CLINICS

MGH: every Tuesday (Burman, Martineau, Lenczner, Marien)

MGH: Upper Extremity every second Thursday afternoon (Martineau)

Shriners : 4 half days / month (Burman, Martineau)

McGill Sports Medicine Clinic: 2-4 half days / month (Burman, Martineau)

SPORTS ROUNDS Every Tuesday 4:00 – 5:00

- Outpatient clinic responsibilities need to be outlined

The Fellow will attend clinics and OR's to gain knowledge as well as to share their knowledge with residents attending the clinics and OR.

The Fellow will be responsible for managing care of patients in clinic with supervision of attending staff & responsible for supervising & teaching residents in clinic.

The Fellow is expected to participate in the Pre-season Pre-participation Physical evaluations for all of Montreal's Professional Sports Teams (NHL-Montreal Canadiens / MLS-Montreal Impact FC / CFL-Montreal Alouettes) along with the attending staff.

- Library access, materials relevant to fellowship training & ○ Multimedia learning materials available

The fellow has full access to all Sports medicine resource materials through the McGill Medical library & the MGH library. The fellow may also access materials in the McGill Orthopedic Resident Library which is stocked with a large amount of current orthopedic texts & multimedia DVDs.

There is also a small library of Sports medicine references at the McGill Sports medicine clinic. The fellow can access all Major Sports Medicine & Arthroscopy Journals (AJSM, Arthroscopy...) via the McGill Library VPN and from the attending Staffs' personal libraries.

There is also a large volume of multimedia DVDs on surgical techniques made available to the fellow by the major arthroscopy equipment companies via the local sales reps & the company websites (Smith & Nephew, Arthrex, Mitek, Linvatec) .

- Availability of a skills lab if applicable

Once a year local with visiting guest faculty host a 2 day annual cadaveric arthroscopic seminar / course aimed at residents (day 1) & orthopedic Surgeons (day 2) allowing acquisition of new technology and techniques in a safe and controlled educational fashion at the McGill Simulation Center & Shriners Orthopedic

Simulation Centers

The fellow is involved both as a participant & faculty member.

Fellow Duties and Responsibilities

- Call responsibilities to cover service

The Fellow will take call along with the Sports medicine staff.

The fellow will be assigned to each staff for on call responsibility on a quarterly basis & do call with the assigned staff. On call will be done at the level of Chief resident / Jr. Staff. The fellow will be an integrated part of the on call team & have a clearly defined supervisory role in teaching & guiding the residents while on call.

The fellow will be responsible with the respective residents on the MGH Sports service to ensure that daily notes and orders are covered & that the service is managed appropriately.

- Include whether the fellow is the senior supervisor of residents

The fellows will function both as junior staff but also as senior resident coordinating management of emergency & elective cases, emergency & outpatient consults, as well as supervising the residents in managing the in-patients on the service. The fellow's role is to aid the resident team as a supervisory resource and to help out in all the work required to manage the service appropriately.

- Outline whether there are fixed rotations at various institutions

In general, the fellow is based at the MGH. The fellow will also accompany the staff in their clinical activities at Lasalle Hospital, Shriners & McGill Sports Medicine Clinic.

Opportunities for Medical Sporting event coverage (Both Professional & Collegiate) with the attending staff are available and strongly encouraged.

The Fellow is expected to participate in the Pre-season evaluations for all of Montreal's professional Sports Teams (NHL-Montreal Canadiens / MLS-Montreal Impact FC / CFL-Montreal Alouettes)

Depending on the fellow's interest they could also rotate for a short interval at other McGill Affiliated Centers with other fellowship trained Sports Medicine surgeons. Schedules and assignments of the fellows would remain flexible and remain at the discretion of the fellowship

director, in order to ensure that there is no conflict with resident education & exposure. The assignment to these additional sites as well as the assignment to protected research time would also remain flexible to answer the residents', the fellow's, as well as the staffs' needs.

- Describe any support staff available to the fellow:

There is a dedicated Sports Medicine Research coordinator who can help the fellow in his /her research endeavors and a fellowship/residency coordinator available to assist in university administrative needs.

- Proposed meetings to be attended by the fellow

Fellows must attend the annual McGill Arthroscopy Course. Fellows are also encouraged to attend one or more of the AANA fall & Spring meetings, AOSSM annual meeting, ISAKOS biennial meeting, AAOS learning center courses & AOSSM or AANA specialty days at the AAOS annual meeting, and the COA annual meeting.

- Research productivity and publications expected by the Fellow

As stated earlier fellows are expected to publish one paper at the end of their fellowship

Curriculum

- Intended case load

Fellows are expected to perform or be 1st assistant in 400-500 cases

- Intended Percentage of varieties of cases

Knee Soft Tissue reconstruction (Open & Arthroscopic)	40%
Knee Bony Reconstructive	10%
Shoulder reconstructive (Open & Arthroscopic)	40%
Trauma & Miscellaneous	10%

APPENDIX 1:

MUHC SPORTS GROUP SELECTED PUBLICATIONS:

1. Aldebayan W, Liddell A, Steffen T, Beckman L, Martineau PA. Proximal Tibial Fracture Following Anterior Cruciate Ligament Reconstruction Surgery: A Biomechanical Analysis of the Tibial Tunnel as a Stress Riser. fracture: a biomechanical analysis of the tibial tunnel as a stress riser. *Knee Surgery, Sports, Traumatology, Arthroscopy*, 2015 [epub ahead of print]
2. Talbot M, Harvey EJ, Reindl R, Martineau P, Schneider P. Ultrasound-assisted external fixation: a new technique for austere environments. *Journal R Army Med Corps*, 2015 [epub ahead of print].
3. Janssen SJ, Molleman J, Guitton TG, Ring D, Martineau PA et al.* What Middle Phalanx Base Fracture Characteristics are Most Reliable and Useful for Surgical Decision-making? * as part of Science of Variation Group. *Clin Orthop Relat Res*, 2015, 473(12): 3943-50.
4. Alzahrani MM, Aldebayan S, Abduljabbar F, Martineau PA. Hamstring Injuries in Athletes: Diagnosis and Treatment. *JBJS Reviews*, 2015, 3(6), 1-11.
5. Behrends DA, Khendek L, Gao C, Zayed N, Henderson JE, Martineau PA. Characterization of a Pre-Clinical Mini-Pig Model of Scaphoid Non-Union. *J Funct Biomater*, 2015, 6(2):407-21.
6. Hart A, Han Y, Martineau PA. The Apex of the Deep Cartilage: A Landmark and New Technique to Help Identify Femoral Tunnel Placement in Anterior Cruciate Ligament Reconstruction. *Arthroscopy*, 2015 [epub ahead of print].
7. Janssen SJ, Teunis T, Guitton TG, Ring D, Martineau PA et al. * Do Surgeons Treat Their Patients Like They Would Treat Themselves? * as part of Science of Variation Group. *Clin Orthop Relat Res*, 2015 [epub ahead of print]
8. Hageman MG, Jayakumar P, King JD, Guitton TG, Doornberg JN, Ring D, Martineau PA et al. * The Factors Influencing the Decision Making of Operative Treatment for Proximal Humeral Fractures. * as part of Science of Variation Group. *J Shoulder Elbow Surg.*, 2015, 24(1): 21-6.
9. Hart A, Collins M, Chaatwal D, Steffen T, Harvey EJ, Martineau PA. Can the use of variable angle volar locking plates compensate for suboptimal plate positioning in unstable distal radius fractures? *Journal of Orthopaedic Trauma*, 2015, 29(1):e1-6.
10. Ljungquist KL, Martineau P, Allan C. Radial Nerve Injuries. *Journal of Hand Surgery Am.*, 2015, 40(1):166-172.
11. Mellema JJ, Doornberg JN, Guitton TG, Ring D, Martineau PA et al. * Biomechanical Studies : Science (f)or Common Sense? * as part of Science of Variation Group. *Injury*, 2014, 45(12) : 2035-9.

12. Behrends DA, Cheng L, Sullivan MB, Wang MH, Roby GB, Zayed N, Gao C, Henderson JE, Martineau PA. Defective Bone Repair in Mast Cell Deficient Mice with c-Kit Loss of Function. *Eur Cell Mater*, 2014, 28(10): 209-221.
13. Doring AC, Hageman MG, Mulder FJ, Guitton TG, Ring D, Martineau PA et al. * Trigger Finger: Assessment of Surgeon and Patient Preferences and Priorities for Decision Making. * as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2014, 39(10): 1152-6.
14. Hageman MG, Kinaci A, Ju K, Guitton TG, Mudgal CS, Ring D, Martineau PA et al. * Carpal Tunnel Syndrome: Assessment of Surgeon and Patient Preferences and Priorities for Decision-making. * as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2014, 39(9): 1799-1804.
15. Tosti R, Ilyas AM, Mellema JJ, Guitton TG, Ring D, Martineau PA et al. * Interobserver Variability in the Treatment of Little Finger Metacarpal Neck Fractures. * as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2014, 39(9): 1722-7.
16. Han Y, Hart A, Martineau PA. Is the Clock Face an Accurate, Reliable and Precise Measuring Tool for ACL Reconstruction? *Arthroscopy*, 2014, 30(7): 849-55.
17. AlSheikh K, Behrends D, Cota A, Martineau PA. A cadaveric analysis of flexible versus rigid instrumentation in a single-incision distal biceps tendon repair. *Arthroscopy*, 2014, 30(5): 561-567.
18. Neuhaus V, Bot AG, Guitton TG, Ring D, Martineau PA, et al.* Scapula Fractures: Interobserver Reliability of Classification and Treatment. * as part of Science of Variation Group. *Journal of Orthopaedic Trauma*, 2014, 38(5): 856-62
19. Collins M, Hines J, Hart A, Steffen T, Harvey EJ, Martineau PA. Distal Ulna Fractures: A Biomechanical Comparison of Locking Versus Non-locking Constructs. *Journal of Orthopaedic Trauma*, 2013 Oct [Epub ahead of print]
20. Khoury V, Van Lanker HP, Martineau PA. Sonography as a tool for identifying engaging Hill-Sachs lesions: preliminary experience. *Journal of Ultrasound in Medicine*, 2013, 32(9):1653-7. Erratum published, 2013 32(11).
21. Gradl G, NeuhausV, Fuchsberger T, Guitton TG, Prommersberger KJ, Ring D, Martineau PA et al. * Radiographic diagnosis of scapholunate dissociation among intraarticular fractures of the distal radius: interobserver reliability. * as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2013, 38(9):1685-90.
22. Martinez A, Han Y, Sardar Z, Miller BS, Martineau PA. Risk of Glove Perforation with Arthroscopic Knot Tying Using Different Surgical Gloves and High Tensile Strength Sutures. *Journal of Arthroscopy*, 2013, 29(9):1552-8.
23. Hart A, Harvey EJ, Lefebvre LP, Barthelat F, Rabiei R, Martineau PA. Insertion Profiles of 4 Headless Compression Screws. *Journal of Hand Surgery Am.*, 2013, 38(9): 1728-34.

24. Hageman MG, Guitton TG, Ring D, Martineau PA, et al.* How surgeons decide when the evidence is inconclusive.* as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2013, 38(6): 1202-8.
25. Hageman MG, Becker SJ, Bot AG Guitton TG, Ring D, Martineau et al.* Variation in recommendation for surgical treatment for compressive neuropathy. * as part of Science of Variation Group. *Journal of Hand Surgery Am.*, 2013, 38(5):856-62.
26. Mann M, Desy N, Martineau PA. Suture Bridge Fixation of Tibial Eminence Fractures. *Journal of Arthroscopy*, 2013, 29 (3): 401-404.
27. Hart A, Mansuri A, Harvey EJ, Martineau PA. Central versus eccentric internal fixation of acute scaphoid fractures. *Journal of Hand Surgery Am.*, 2013 Jan, 38(1): 66-71.
28. Gohil,S, Martineau,P., Burman,M. : Anterior Cruciate Ligament reconstruction using an 'out to in' femoral tunnel with flexible reamers - A technical note. *Techniques in Orthopedics; Mar 2015, Vol 30, No 1 pp 54-56*
29. Gohil,S, Martineau,P., Burman,M. : Dynamic valgus instability of the knee due to chronic medial collateral ligament laxity as a cause of recurrent patella dislocation. *Journal of Sports Medicine & Doping Studies Nov. 2015*
30. Al-Jassir,F., Volesky,M., Lenczner,E., Burman,M. : Articular cartilage changes associated with bony contusions in anterior cruciate ligament injury. *J. Taibah University Medical Sciences; Dec 2012;7(2) pp76-80*
31. Alomar,A., Gawri,R., Roughley,P., Haglund,L., Burman,M.: The Effects of Chlorhexidine Graft Decontamination on Tendon Graft
32. Collagen and Cell Viability. *Am J. Sports Med;2012 Jul;40(7):1646-53*
33. Couture,JF, Al-Juhani,W., Forsythe,M., Lenczner,E., Marien,R., Burman, M.: Joint line fullness: A physical examination finding and its correlation with meniscal pathology. *Sports Health – Jan 2012, Vol. 4, No. 1 pp 48-51*
34. Rahme E, Dasgupta K, Kahn SR, Bernatsky S, Berry GK, Cirkovic A, Laflamme Y, Dimentberg RA, Burman M, Habel Y *et al*: Inpatient risks of venous thromboembolism and bleeding following hip and knee replacement surgery. *Journal of Thrombosis and Haemostasis* 2011, 9:159-159.
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37. Al-Omar,A., Powell,T., Burman,M.: Isolated Supraspinatus Muscle Atrophy and Fatty Infiltration Associated with Recurrent Anterior Shoulder Instability: A Case

Report and review of the Literature. *Int. J. Shoulder Surg – Jul-Sept 2011, Vol. 5, No. 3 p 81-84*

38. Han, Y., Giannitsios, D., Duke, K., Steffen, T., Burman, M.: Biomechanical Analysis of Chlorhexidine Power Irrigation to Disinfect Contaminated Anterior Cruciate Ligament Grafts. *Am J. Sports Med; Jul 2011, vol. 39, No. 7 p 1528 – 1533*
39. Rahme, E., Kahn, SR, Dasgupta, K., Burman, M., Bernatsky, S., Habel, Y., Berry, G.: Short term mortality associated with failure to receive continued care following discharge from a hospitalization for hemiarthroplasty: A retrospective cohort study. *CMAJ 2010;182: 1421 - 1426*
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41. Burman, M.L.: ACL Tears in Children – Physeal Sparing Reconstruction. *Canadian Orthopedic Association Bulletin Winter 2007*
42. Martineau, P.A., Al-Jassir, F., Lenczner, E., Burman, M.: Effect of the oral contraceptive pill on ligamentous laxity. *Clin. J. Sport Med. Vol. 14, no. 5, Sept. 2004*
43. Burman, M., Al-Jassir, F., Coughlin, L.: Ganglion Cyst and Olecranon Physis Nonunion in a Baseball Pitcher. *Phys sports med. Vol. 32, no. 6, June 2004*
44. Burman, M., Mascia, A. and Miniaci, A.: Role of Magnetic Resonance Imaging for Evaluating Shoulder Injuries in the Athlete. *Sports Medicine and Arthroscopy Review, June 2000*