The Section of Orthopaedic Surgery continued to change significantly throughout 2007 and 2008. With the retirement of Dr. William Rennie on June 30th, 2007 after a long and meritorious career we were faced with the prospect of mapping out a new direction for the Section. On the recruitment side we were able to recruit Dr. Paul Jellicoe earlier this year. Paul is a native of the United Kingdom who, after extensive training, did fellowship work at the Hospital for Sick Children in Toronto. He has been a tremendous addition to the Pediatric Orthopaedic Program. We are also anticipating the recruitment of Dr. Jason Old in March 2009 and Dr. Greg Stranges in August 2009 and are in the final process of negotiations with them. Jason will be concentrating on shoulder surgery while Greg will be doing shoulder and knee. Since wait lists in these areas have become a major concern, they will be welcomed additions both on the clinical side, as well as with teaching and research. With the retirement of Dr. Frank Duerksen we were also pleased that Dr. Mario Dascal was able to assume Frank’s diabetic foot practice.

In addition to welcoming staff physicians, we have welcomed Shaun Beach to help with the administrative aspects of the Section as Manager of Physician Services. His knowledge and experience with the Canadian Military will be a valuable asset in terms of medical human resources and administrative skills. The Section also welcomed Dr. Ramon Angeles as a new clinical assistant. He has proven to be a tremendous assistance...
in the ward at Health Sciences in dealing with medical issues as well as inter operative assisting skills. The clinical assistant team at Concordia continues to be an invaluable resource in the ward and with operative work, especially given the huge operative load that Concordia faces.

We've been trying to restructure the Section of Orthopaedics so that more frequent meetings occur and GFT's issues are dealt with on a more open and timely basis. The addition of regular GFT meetings I think has helped in this cause. I've also had to meet once a year with all GFT surgeons in order to make sure that communication continues. We also have had the Joint Research Council to ensure that there were no duplications in research. Further efforts will be made to consolidate some of the research fundraising and operational efforts especially between the Pan Am Clinic and the Concordia Hospital.

We recently opened the David and Ruth Asper Research Centre at the Pan Am Clinic. This area will have some biomechanics and skills lab equipment including a gait lab and force plates under the direction of Barb Shay. In addition there is an arthroscopy simulator, an unloading treadmill, and a BIDEDEX® machine. In the future we hope to see the addition of some soft tissue materials testing machinery. We also now have permanent space to carry out skills labs. As a result we were fortunate enough to have a shoulder lab this year with Rich Hawkins and Jeff Abrams visiting. In the fall of this year we also had the first "Hip Arthroscopy" course ever held in Canada with the help of Dr. Nick Mohtadi and Dr. Kevin Willits as well as the third surgeon from Ottawa, Dr. Paul Beaupré.
Over at Concordia, things continue to grow and develop with the Hip and Knee Institute being ever closer to a reality. Occupancy of the office space is expected to occur early in 2009. Fundraising efforts have been very active and with the assistance of Mr. Vic Janzen many doors have been opened. As a result, it is expected that the Hip and Knee group will be able to meet their multi-million dollar goal for fundraising. Both the Hip and Knee Institute and the Pan Am Clinic have worked on permanent liaisons with the University of Manitoba faculties of Kinesiology and Engineering.

The residency program had a solid year under the direction of Dr. Mike Johnson. Congratulations go to Mike for the excellent results attained in the Royal College review. We also moved the resident academic day to the fall. The addition of Jeff Leiter to assist with resident research has given the residents some much-needed assistance in this area. The academic day was a success and we are thankful to Dr. Ben Alman from Toronto as our visiting professor for the day. Congratulations to Tod Clark and Jon Marsh as prize winners. Earlier in the year, Dr. Mike Stuart from the Mayo Clinic was also a visiting professor speaking to us on Periprosthetic Osteolysis after Total Knee Arthroplasty and Ice Hockey Injuries.
We look forward to more changes next year including possible consolidation of call between Victoria and Concordia. We are also exploring the possibility of consolidating surgical volumes completely between Concordia and Victoria at the Concordia Hospital. We are beginning the process of actively looking for a spine surgery recruit to further expand the spine program, as well as, assist with surgery wait times. The section will also soon welcome back Kim Stoughton from maternity leave. Her valuable contributions to spine surgery research have been missed. Dr. Mike Johnson will be completing his term as Program Director this coming year. The process of identifying a new Director is well under way and I anticipate that we will continue to build upon the foundation and successes achieved during Mike's tenure. We are extremely indebted to Mike for his leadership during the last five years. We are also anticipating a new TeleHealth unit in the conference room on AD4 to assist with the on-going challenge of communication between the academic sites. All in all, the future looks bright for this Section but we must continue to work towards its growth and development.

I would like to take this opportunity to thank all the section members and staff for support during these dynamic times since change is never easy but we live in a world where stagnation is not an option. We hope that these changes which are often associated with short-term discomfort will eventually propel us forward and maximize our potential.

Section Faculty

Full Time
Dr. Peter MacDonald | Head, Professor
Dr. Laurie Barron | Assistant Professor
Dr. Brian Black | Professor
Dr. Eric Bohm | Assistant Professor
Dr. Colin Burnell | Assistant Professor
Dr. Mario Dascal | Assistant Professor
Dr. James Dubberley | Assistant Professor
Dr. Michael Goytan | Assistant Professor
Dr. David Hedden | Assistant Professor
Dr. Paul Jellicoe | Assistant Professor
Dr. Michael Johnson | Assistant Professor
Dr. Jack McPherson | Assistant Professor
Dr. Brad Pilkey | Assistant Professor
Dr. Warren Terry | Assistant Professor
Dr. Susan Thompson | Assistant Professor
Dr. Ted Tufescu | Assistant Professor
Dr. Tom Turgeon | Assistant Professor

Part time
Dr. Dimitrios Balageorge | Lecturer
Dr. Warren Froese | Lecturer
Dr. David Huebert | Assistant Professor
Dr. Dean Kriellaars | Associate Professor
Dr. Ron Monson | Associate Professor
Jeff Leiter | PHD candidate

Fellows
Dr. Mohammed Homoud (Health Sciences Centre, Spine)
Dr. Abdullah Alzahrani (Pan Am, Sports Medicine and Upper Extremity Reconstruction)
Dr. Pierre Lapointe (Pan Am, Sports Medicine and Upper Extremity Reconstruction)

BSc MED Student
Christopher Kim
The past academic year has seen many successes to the Program.

The Program was very pleased to welcome three new residents who were successful in the 2008 CaRMS Match. Dr. Jonathan Marsh, Dr. Randy Mascarenhas and Dr. Jamie Rusen, all graduates of the University of Manitoba will bring different experiences and perspectives to the program. This year we were also successful in acquiring Dr. Bahram Groohi, a Family Medicine Physician who has decided to re-enter the University of Manitoba to complete training as an Orthopaedic Surgeon. We welcome all of the new PGY 1 residents and look forward to their unique contributions in the next five years.

The Royal College Examinations held this year were successfully completed by Dr. Fawzi Mazek, who is completing a one-year fellowship with the Winnipeg Spine Service and Dr. Allan Hammond, who will complete a fellowship in Australia. Dr. Abeer Syal is completing a fellowship in Vancouver. We wish all of the graduates every success in their careers as Orthopaedic Surgeons.

The program was strengthened by the addition of several new personnel. Dr. Ted Tufescu joined the Trauma team in September 2007, Dr. Mario Dascal took over the diabetic foot area following the retirement of Dr. Frank Duerksen and Dr. Paul Jellicoe began his position with Pediatric Orthopaedics in May. These surgeons have already made an impact on teaching in the program and we look forward to their contributions in the future.

The addition of the Program Administrator’s position to the Section has been instrumental in the operation of the residency program. Donna Shepard comes to the Section from the University of Saskatchewan, College of Medicine where she was one of the administrators for Undergraduate Medical Education for 12 years. We welcome Donna to this key new position.

The University of Manitoba Joint Replacement Group at Concordia Hospital turned the sod on their new state-of-the-art facility, which will be opening in May 2009. This facility will include a large implant retrieval lab and simulation lab; both of which will add to the orthopaedic educational opportunities for our residents.

The Section is also very pleased with the appointment of Jeff Leiter to the position of Director of Research for the Section of Orthopaedic Surgery. Jeff will be overseeing the residents’ research projects and is also responsible for the Pan Am Learning Centre which will provide surgical skill workshops to develop orthopaedic and plastic surgery skills. Specialized computer-based and life-like models will offer extensive opportunities for surgeons and students to develop the precision and accuracy needed in the operating room.

Morale and cohesiveness have improved in the program and we look forward to even brighter times ahead.

Residents

Year 1
Dr. Al-Walid Haman
Dr. Taranjit Tung

Year 2
Dr. Mohamed Elkurbo
Dr. Abdulhamid Elyousfi
Dr. Earl Kowalczyk
Dr. James Longstaffe
Dr. James Vernon
Year 3
Dr. Christopher Lu
Dr. Sacha Rehsia
Dr. Jesse Shantz

Year 4
Dr. Moustfha Alshrif
Dr. Heather Barske
Dr. Tod Clark
Dr. Sue Deonarain

Year 5
Dr. Allan Hammond
Dr. Fawzi Mazek
Dr. Abeer Syal

New Faculty
Dr. Paul Jellicoe
Dr. Mario Dascal

Research Staff
Pan Am Clinic
Jeff Leiter
Sheila McRae
Jason Peeler
Barb Shay

Concordia
Martin Petrak
Kim Baril
Nathan Kesler
Ili Slobodian

HSC
Kim Stoughton
Dr. Nigar Sultana

Resignations/Retirements
Dr. Frank Duerksen
Dr. Warren Terry

Promotions/Awards
Dr. Eric Bohm
Awarded 2009—ABC travelling fellowship. This is a very prestigious award given out by the COA and will involve travel to South Africa and the United Kingdom with other award winners in 2009.

Skills Labs
The annual arthroscopy skills course was held April 11th and 12th, 2008, a resident day and a community surgeon day. We had excellent faculty for the course on Shoulder Arthroscopy, Dr. Richard Hawkins and Dr. Jeffrey Abrams.

Visiting Professor Program
October 25 and 26, 2007
Dr. Michael Gilbart, MD, Med, FRCSC, Assistant Professor, Department of Orthopaedic Surgery, University of British Columbia. 47th Annual Manitoba Orthopaedic Symposium—Topic—Knee Arthroscopy, Shoulder Arthroscopy, Hip Arthroscopy

Dr. Graham King, MD, MSc, FRCSC, Professor, Department of Surgery, University of Western Ontario. 47th Annual Manitoba Orthopaedic Symposium—New Advances in Total Elbow Arthroplasty, Arthritis.

Dr. James McAuley, MD, FRCSC, Associate Professor Department of Surgery, University of Western Ontario. Topic—Bearing Considerations in Total Hip Arthroplasty, Unicompartmental Knee Arthroplasty Overview.

Dr. Stephen Tredwell, MD, FRCSC, MACAM, Professor Emeritus, Department of Orthopaedic Surgery, University of British Columbia. The Alexander Gibson Lecture: Professional Identity in Medicine, Non-Accidental Injury in Children

January 30, 2008
Dr. Jeffrey Husband,
Professor of Orthopaedic Surgery, Hand Surgery, University of Minnesota presented “Treatment of Distal Radius Fractures and Malunions.”

March 5, 2008
Dr. William Geerts, MD, FRCC, FCCP,
Professor of Medicine, University of Toronto. Director of the Thromboembolism Program at Sunnybrook Health Sciences Centre in Toronto. Title—“Bones, Joints and Clots: What’s New and What Isn’t.”

May 28, 2008
Dr. Michael Stuart,
Professor of Orthopaedics, Mayo Clinic presented “Ice Hockey Injuries.”
Section Submissions

Dr. Peter MacDonald

Research

Local Studies or Trials Based at the Pan Am Clinic

Upper Extremity
Randomized Arthroscopic Anterior Instability with Bankart Tear (RAAIB) Shoulder Study (recruitment closed)
Arthroscopic Rotator Cuff Repair With and Without Arthroscopic Acromioplasty in the Treatment of Full Thickness Rotator Cuff Tears (recruitment closed)
Comparison of Pegged versus Keeled Glenoid Components in Total Shoulder Replacements: The Use of RSA to Assess Micromotion
Arthroscopic versus Open Lateral Release for the Treatment of Lateral Epicondylitis: A Prospective Randomized Controlled Trial
Repair of Complete Distal Biceps Tendon Rupture Through the Use of a Single Anterior Approach
The Interrater Reliability and Accuracy of the Special Tests used to Diagnose Superior Labral Anterior-Posterior Lesions
Comparison of Pegged versus Keeled Glenoid Components in Total Shoulder Replacements: The Use of RSA to Assess Micromotion

Lower Extremity
Ipsilateral versus Contrainlateral Hamstring Grafts in ACL Reconstruction: A Prospective Randomized Trial
Use of the Graft Tensioner in ACL Reconstruction
Effect of Skin Incision Angle on Infrapatellar Neuritis and Altered Skin Sensation in ACL Reconstruction with Semitendinosus Tendon Grafts
Retrospective Study of Outcomes of Revision ACL Reconstruction Surgery

Orthopaedic Education
Sensitivity, Specificity and Reliability of a Standardized Orthopaedic Assessment Protocol (SOAP) in a Multi-Disciplinary Clinical Orthopaedic Setting
Evaluation of the Use of Computer-Simulated Surgical Skills Programs on the Confidence and Skills Level of Orthopaedic Surgery Residents

Multi-Centre Trials Based in Other Centres
Upper Extremity
A Multi-Centre Randomized Controlled Trial Comparing Electrothermal Arthroscopic Capsulorrhaphy versus Open Inferior Capsular Shift for Patients with Shoulder Instability (University of Calgary) (recruitment closed)
Cemented versus Uncemented Fixation of Humeral Components in Total Shoulder Arthroplasty for Osteoarthritis of the Shoulder (University of Western Ontario) (recruitment closed)
Humeral Resurfacing Hemiarthroplasty versus Conventional Stemmed Hemiarthroplasty: A Canadian Multi-Centre Pilot Trial (University of Calgary)
GraftJacket® Rotator Cuff Tendon Reinforcement Scaffold: A Single-Blinded, Randomized Prospective Clinical Evaluation

Arthroscopic versus Mini-Open Repair of Full-Thickness Tear of the Rotator Cuff: A Prospective Multi-Centre Randomized Study (University of Western Ontario)

Single versus Double Row Fixation for Arthroscopic Cuff Repair: A Randomized, Controlled Trial (University of Ottawa)

Comparison of Two Methods of Fixation of Subscapularis During Shoulder Arthroplasty: A Multi-Centre, Randomized Controlled Trial (University of Ottawa)

**Lower Extremity**
Operative versus Non-operative Treatment of Achilles Tendon Rupture: A Multi-Centre Prospective Randomized Study (University of Western Ontario)

Multi-Centre Clinical Trial Evaluating BST-Cargel and Microfracture in Repair of Focal Articular Cartilage Lesions on the Femoral Condyle

Safety Study of the iBalance Axial Knee Realignment System (AKRfx) (recruitment closed)

**Non-Industry Funded Research**
Single versus Double Row Fixation for Arthroscopic Cuff Repair: A Randomized, Controlled Trial (University of Ottawa)—Thorlakson Foundation, ($21,000.00)

A Prospective Clinical Study Comparing Anteromedial Portal Technique versus Transtibial Technique for Femoral Tunnel Positioning in Hamstring Anterior Cruciate Ligament Reconstruction—Alexander Gibson Fund Research Grant ($10,121.00)

Reliability of Tunnel Angle in ACL Reconstruction: Free-hand Method versus Mechanical Guide Technique—Alexander Gibson Fund Research Grant ($9,994.20)

Comparison of Two Methods of Fixation of Subscapularis During Shoulder Arthroplasty: A Multi-Centre, Randomized Controlled Trial (University of Ottawa)—Alexander Gibson Fund Research Grant ($4,306.00)

Sensitivity, Specificity and Reliability of a Standardized Orthopaedic Assessment Protocol (SOAP) in a Multi-Disciplinary Clinical Orthopaedic Setting (University of Winnipeg)—Manitoba Medical Services Foundation ($15,000.00)

**Industry Funded Research**
Safety Study of the iBalance Axial Knee Realignment System (AKRfx) (recruitment closed)—iBalance Medical, Inc. ($23,857.50)

Multi-Centre Clinical Trial Evaluating BST-Cargel and Microfracture in Repair of Focal Articular Cartilage Lesions on the Femoral Condyle—BioSyntech Canada Inc. ($36,500.00)

**Grants and Contracts**
With J. Anderson, J. Peeler, J. Leiter

With J. Dubberley, J. Leiter, S. McRae
Arthroscopic Skills Training Centre at the Pan Am Clinic—Winnipeg Foundation ($100,000.00) March 1, 2007–March 1, 2009

With P. Lapner
Single Versus Double Row Fixation for Arthroscopic Cuff Repair: A Randomized, Controlled Trial—Thorlakson Foundation ($21,000.00) September 2007–September 2008

With D. Kriellaars, S. McRae
Tri-Axial Accelerometry as a Measure of Tibial Translation at the Knee and Compared to KT-1000 Arthrometer—Alexander Gibson Chair Fund ($17,000.00) April 2008–April 2009

With W. Froese
Comparison of Patient Outcomes Following ACL Reconstruction with a Free-hand or Mechanically Guided Tunnel Angle Placement—Alexander Gibson Chair Fund ($13,000.00) April 2008–April 2009
ABSTRACT: Biological tissue autograft reconstruction using the patellar tendon or quadrupled semitendinosus/gracilis tendons has become the most popular procedure in surgical treatment of a ruptured ACL. This article provides a review of the history of the use of prosthetics with respect to ACL reconstruction grafts including Carbon Fibre, Gore-Tex and Dacron prosthetics as well as the Leeds-Keio Artificial Ligament and the Kennedy Ligament Augmentation Device (LAD). Emphasis is placed on the Ligament Advanced Reinforcement System (LARS) as preliminary investigations of its use have been encouraging. Significant progress has been made recently with respect to the understanding of ACL anatomy, composition, biomechanics, and healing processes, leading to innovative techniques using approaches based in tissue engineering principles and computer-assisted surgery. While research into improved ACL treatment options continues, the synthesis of recent advancements provides a new optimism towards the regeneration of an ACL mirroring its original stability, function, and longevity.

ABSTRACT: Arthroscopy has been used in the fixation of tibial plateau fractures for more than 20 years. Although not proved in randomized trials, several authors using the arthroscopic technique have demonstrated results comparable to traditional methods, using open reduction and internal fixation with standard buttress plates. 1–3 Improved rehabilitation, greater range of motion, and a shortened hospital stay for patients who have undergone this technique have also been reported. 1,4
Chapter

P. MacDonald, P. Lapointe

Abstracts

D. Herrera, P. B. MacDonald, B. Levy
Acute Repair of Posteromedial and Posterolateral Corner Structures in Multiple Ligament Injured Knees is not Indicated (Poster)
AOSSM Annual Meeting, Calgary, AB, July 12–15, 2007

P. B. MacDonald, R. Mascarenhas, P.C. Lapner, S. McRae
Arthroscopic "Rotator Cuff Repair With and Without Arthroscopic Acromioplasty in the Treatment of Full-Thickness Rotator Cuff Tears
AOSSM Annual Meeting, Calgary, AB, July 12–15, 2007

P. B. MacDonald, P. C. Lapner
Arthroscopic Rotator Cuff Repair With and Without Arthroscopic Acromioplasty in the Treatment of Full-Thickness Rotator Cuff Tears
American Shoulder and Elbow Surgeons Closed Meeting, Dallas, TX, October 10–12, 2007

J. Peeler, J. Leiter, P. MacDonald
Accuracy and Reliability of ACL Injury Assessment in a Multi-Disciplinary Clinical Orthopaedic Setting—A Retrospective Analysis
*Clin J Sport Med* Volume 18, Number 2, March 2008 pp 203–204

B. A. Levy, D. Dahm, H. Diego, P. MacDonald, K. Dajani, M. Stuart

P. B. MacDonald, S. McRae, J. Leiter, R. Mascarenhas
Achilles Allograft Stabilization of the Shoulder in Refractory Multidirectional Glenohumeral Instability
*Techniques in Shoulder & Elbow Surgery*, June 2008 Volume 9, Issue 2 pp 60–65

Meetings/Workshops/Presentations

Arthroscopic Rotator Cuff Repair With and Without Arthroscopic Acromioplasty in the Treatment of Full Thickness Rotator Cuff Tears
AOSSM Annual Meeting, Calgary, AB, July 12–15, 2007

Knee Dislocation ICL: Combined ACL/PCL and Posterolateral Corner Injuries (Faculty)
AOSSM Annual Meeting, Calgary, AB, July 14, 2007

Arthroscopic Rotator Cuff Repair With and Without Arthroscopic Acromioplasty in the Treatment of Full-Thickness Rotator Cuff Tears
American Shoulder and Elbow Surgeons Closed Meeting, Dallas, TX, October 10–12, 2007

Knee Dislocations
Grand Rounds, University of Manitoba, Winnipeg, MB November 21, 2007

Shoulder Instability
Canadian Sport Medicine Leadership Forum, Orlando, FL, November 27–29, 2007

Arthroscopic Rotator Cuff Repair: Indication and Technique
Faculty for ICL AAOS 2008 Annual Meeting, San Francisco, CA, March 5–9, 2008

Arthroscopic Cuff Repair
AOA—ASG 2008 Travelling Fellows, University of Manitoba, Winnipeg, MB, March 11, 2008

Knee Arthritis and Cartilage
Fowler Fellows’ Orthopaedic Society Meeting, Emerald Lake, AB, March 27–29, 2008

Rotator Cuff Repair with and Without Acromioplasty
Fowler Fellows’ Orthopaedic Society Meeting, Emerald Lake, AB, March 27–29, 2008

Randomized Controlled Trial of Heat Probe versus no Heat Probe as an Adjunct to Arthroscopic Bankart Repair
Fowler Fellows’ Orthopaedic Society Meeting, Emerald Lake, AB, March 27–29, 2008

Update: Anterior Cruciate Ligament Studies in Winnipeg
Fowler Fellows’ Orthopaedic Society Meeting, Emerald Lake, AB, March 27–29, 2008
Dr. Jamie Dubberley

Research

Local studies or Trials Based at the Pan Am Clinic

Randomized Arthroscopic Anterior Instability With Bankart Tear (RAAIB) Shoulder Study

Arthroscopic versus Open Lateral Release for the Treatment of Lateral Epicondylitis: A Prospective Randomized Controlled Trial

Repair of Complete Distal Biceps Tendon Rupture Through the Use of a Single Anterior Approach

Evaluation of the Use of Computer-Simulated Surgical Skills Programs on the Confidence and Skills Level of Orthopaedic Surgery Residents

Randomized Acute Idiopathic Adhesive Capsulitis Treatment: Use of Arthroscopic Debridement in Addition to Manipulation Under General Anaesthetic

Multi-Centre Trials Based in Other Centres

A Multi-Centre Randomized Controlled Trial Comparing Electrothermal Arthroscopic Capsulorrhaphy versus Open Inferior Capsular Shift for Patients With Shoulder Instability (University of Calgary)

Operative versus Non-operative Treatment of Achilles Tendon Rupture: A Multi-Centre Prospective Randomized Study (University of Western Ontario)

Grants and Contracts

With P. B. MacDonald

Arthroscopic Skills Training Centre at the Pan Am Clinic—Winnipeg Foundation ($100,000.00) March 1, 2007–March 1, 2009
Presentations

Total Elbow Arthroplasty (Live Surgery)
47th Annual Manitoba Orthopaedic Symposium, Winnipeg, MB October 25, 2007

Elbow Update
Pan Am Clinic Continuing Education Rounds, Winnipeg, MB April 2, 2008

Infected Total Elbow Arthroplasty
Orthopaedic Grand Rounds, University of Manitoba, Winnipeg, MB April 16, 2008

Shoulder Arthroplasty
Canadian Orthopaedic Nurses Association Meeting, Winnipeg, MB May 20, 2008

Elbow Update
Physiotherapists, St. Boniface General Hospital, Winnipeg, MB May 30, 2008

Dr. Laurie W. Barron

Laurie W. Barron MD, Kelly Trask MSc, Gwen Dobbin, Ross K. Leighton MD. “Comparison of MIS versus non-MIS Total Knee Arthroplasty using the Subvastus Approach.”

• Poster Presentation, Canadian Orthopaedic Association, Annual Meeting, Quebec City, QC, June 4–7, 2008.

Laurie W. Barron MD, Paul Duffy MD, Kelly Trask MSc, Allan Hennigar BSc, Michael Dunbar MD, Ross K. Leighton MD. “A Mechanical Comparison of Supracondylar Femur Fracture Fixation using RSA.”

• Podium Presentation, Canadian Orthopaedic Association, Annual Meeting, Toronto, ON, June 2, 2006

• Podium Presentation, American Academy of Orthopaedic Surgeons, Annual Meeting, Chicago, IL, March 23, 2006

Publications

Assessment of Fragment Micromotion in Distal Femur Fracture Fixation With RSA.

ABSTRACT: To assess fragment micromotion in three fracture fixation constructs 18 composite femur models were sectioned to create AO-C3 fractures and fixed using the Less Invasive Stabilization System (LISS), Dynamic Condylar Screw (DCS), or the Condylar Buttress Plate (CBP). Tantalum beads were attached to each fracture fragment. The constructs were tested for permanent deformation after cyclical loading (amplitude = 242.2N) and elastic deformation during static loading with 490.5N. Radiographs were taken before loading and then after unloading to determine permanent deformation or during loading to determine elastic deformation. We used RSA to quantify the six degrees of freedom interfragmentary maximum total motion, strain, and stress. For maximum total motion the CBP had more permanent deformation and two failures, whereas the LISS underwent the greatest elastic deformation. LISS and CBP had the highest strain conditions in the fracture gap and LISS had the greatest stress movements between fragments, all of which exceeded the upper limits for bone healing. LISS and CBP may not be indicated for comminuted fractures due to the high degree of flexibility of the LISS, resulting in high stress and strain conditions and susceptibility to catastrophic failure and high strain conditions with the CBP.

Dr. G.B. Black

Research (Active)

P. Jellicoe, B. Black. “Adolescent Tillaux Fracture (Long-term follow up in those children with displacement > 2 mm).”

M. Reed, B. Black. “Aneurismal Bone Cyst and the Stump Sign.”

B. Black, P. Jellicoe, S. Thompson. “Motocross Accidents in Children (A retrospective review of orthopaedic injuries at Winnipeg Children's Hospital).”
M. Reed, B. Black. “Dislocation of the Elbow in Children (A radiographic survey of 104 dislocations).”


A. Chudley, B. Black. “Orthopaedic Manifestations of Fetal Alcohol Syndrome (Sections of Genetics/Orthopaedics).”

**Publications (Accepted)**


**ABSTRACT:** Displaced radial neck fractures in the skeletally immature patient are uncommon and can be difficult to reduce. We describe a new technique for the closed reduction of radial neck fractures in children. One of the authors (RM) has used this technique in treating six children with displaced radial neck fractures. This was a retrospective review carried out at a tertiary care hospital in Winnipeg, MB, Canada. All charts and radiographs were reviewed. One patient underwent an ultrasound assessment to assist reduction. Average age of the patients was 9 years, 6 months. Average follow up was 4.3 months. Closed reduction was successful in all patients. No patient went on to an open reduction. The results in this series using a newly described technique are encouraging and there is consideration for its continued use.

**Publications (Submitted)**

*Canadian Journal of Emergency Medicine.* “Type III Monteggia Lesion in a Nine-Month-Old Infant (A Case Report).” B. Black, M. Reed

**ABSTRACT:** Monteggia lesions in children are uncommon, occurring in less than 1% of forearm fractures. Peak incidence occurs between four and ten years of age.<8> We report a rare case of a Type III Monteggia lesion of the elbow in a nine-month-old male infant. We believe this to be the youngest child ever to be reported in the orthopedic literature. A careful clinical and radiographic assessment is important to make the diagnosis even in the young child.

**Book Chapters**

Co-author for two chapters in upcoming text.

“*Evidence-Based Imaging in Paediatrics*”
- Chapter I: Fractures of the Ankle
- Chapter II: Slipped Capital Femoral Epiphysis with Dr. M. Reed

**Academic Honours/Awards**

Nomination—University of Manitoba Faculty of Medicine Teaching Award

**Dr. C. Graham**

**Book Chapters**

*Canadian Orthopaedic Trauma Society text/atlas of fracture surgery*
- Chapter I: Operative Management of Ankle Fractures
- Chapter II: Operative Management of Patella Fractures

**Dr. M. Goytan**

**Research (New and Ongoing)**


M. Goytan (Department of Surgery), Ken Zorniak (Frantic Films). “A Computer Model to Simulate Lumbar Spine Pedicle Screw Placement: Resident and Fellow Teaching Tool.”

M. Goytan, M. Johnson (Department of Surgery). “Analysis of Brace Treatment of Thoracolumbar Junction Fractures.”
M. Johnson, D. Kriellaars, M. Goytan (Co-investigator). “An Evaluation of the Feasibility of an Exercise Program on Pre-Surgical Patients with Herniated Lumbar Disc.”

M. Johnson, M. Goytan (Co-investigator) (Department of Surgery). “Winnipeg Spine Program Research Database.”

M. Johnson, M. Goytan, D. Kriellaars (Department of Surgery/Rehabilitation Medicine). “Quality of Life, Physical Activity Monitoring, and Functional Status Evaluation of Pre- and Post-Surgical Patients Diagnosed with Cervical Spondylotic Myelopathy.”

M. Johnson, M. Goytan, D. Kriellaars (Department of Surgery/Rehabilitation Medicine). “Quality of Life, Physical Activity Monitoring, and Functional Status Evaluation of Pre- and Post-Surgical Patients Diagnosed with Lumbar Spinal Stenosis.”

M. Johnson, D. Kriellaars, M. Goytan (Co-investigator). “The Effect of Orthotic Management on Adolescent Idiopathic Scoliosis Patients’ Activity Levels (as Measured by Triaxial Accelerometer) and on Their Psychosocial Functioning.”

Grants and Contracts

With M. Goytan, M. Johnson Analysis of Brace Treatment of Thoracolumbar Junction Fractures—Alexander Gibson Fund Grant ($20,000.00) April 2008

Publications


ABSTRACT: A retrospective case-control and cohort analysis of hemodialysis patients was done to identify risk factors for spondylodiscitis. These risk factors included bacteremia, receipt of blood products, invasive procedures, and establishment of vascular access. The death rate was greater for case subjects than for control subjects (odds ratio, 2.7).

Abstracts


Presentations


Invited Presentations


“Pathology Case Examinations in Spine.” Pathology Resident Rounds, University of Manitoba, Winnipeg, MB, March and May 2008


“Spinal Instrumentation.” Discovery Days in Health Sciences, University of Manitoba (in partnership with The Canadian Medical Hall of Fame), Winnipeg, MB, November 2007

Presenter/Moderator, AO North America Spine Operating Room Personnel Course, Toronto, ON, March 2008
Dr. M. Johnson

Research (New and Ongoing)

M. Johnson, D. Kriellaars. “The Impact of Stress and Sleep Disturbance on the CanMEDS Competencies, Job Satisfaction, and Mood State.”


M. Johnson, M. Goytan, D. Kriellaars. “Early Activity Monitoring and Pain Assessment in Microendoscopic Discectomy Versus Conventional Open Discectomy for the Treatment of Lumbar Herniated Disk.”

M. Goytan, M. Johnson. “Analysis of Brace Treatment of Thoracolumbar Junction Fractures.”

M. Johnson, D. Kriellaars. “Physical Activity and Body Composition of Surgeons and Surgical Residents.”

M. Johnson, D. Kriellaars. “Quality of Life, Physical Activity Monitoring and Functional Status Evaluation of Pre- and Post-Surgical Patients Diagnosed with Cervical Spondylotic Myelopathy.”

M. Johnson, D. Kriellaars. “Quality of Life, Physical Activity Monitoring and Functional Status Evaluation of Pre- and Post-Surgical Patients Diagnosed with Lumbar Spinal Stenosis.”

M. Johnson, D. Kriellaars. “The Effect of Surgical Management on Adolescent Idiopathic Scoliosis Patients’ Activity Levels (as Measured by Triaxial Accelerometer) and on Their Psychosocial Functioning.”

M. Johnson, D. Kriellaars. “Physical Activity, Psychologic Characterization and Body Composition of Surgeons in Comparison to Other Allied Health Professionals and Nonsurgical Professionally Employed Controls.”

M. Johnson, D. Kriellaars. “The Effect of Orthotic Management on Adolescent Idiopathic Scoliosis Patients’ Activity Levels (as Measured by Triaxial Accelerometer) and on Their Psychosocial Functioning.”

M. Johnson, D. Kriellaars. “An Evaluation of the Feasibility of an Exercise Program on Pre-Surgical Patients with Herniated Lumbar Disc.”

Grants and Contracts

“The Impact of Stress and Sleep Disturbance on the CanMEDS Competencies, Job Satisfaction and Mood State”—Alexander Gibson Fund Grant ($22,754.00) (Pending Approval) April 2008

M. Goytan, M. Johnson. “Analysis of Brace Treatment of Thoracolumbar Junction Fractures.”—Alexander Gibson Fund Grant, ($20,000.00) April 2008

Abstracts


Presentations


“Cervical Spine in Sports.” Grand Rounds, Section of Orthopaedics, University of Manitoba, Winnipeg, MB, September 2007 (Platform)
Invited Presentations


“Metastatic Spine Disease.” Visiting Professor and Resident Teacher, Public Hospitals Authority, Princess Margaret Hospital, Nassau, Bahamas, February 2008

“Management of the Ankylosed Spine.” Grand Rounds, Section of Rehabilitation Medicine, University of Manitoba, Winnipeg, MB, October 2007


“Problem-Based Learning—Panel Discussion of Cases/Complications.” AOspine North America, Spine Tumor Symposium, Vancouver, BC, September 2007


Publications

Published Refereed Papers

E. Bohm. Revision of a Dislocated Mobile Bearing Unicondylar Knee Arthroplasty Requiring the Use of Hinged Components—A Case Report. Submitted for publication to the Journal of Arthroplasty September 2008

E. Bohm. The Effect of Total Hip Arthroplasty on Employment. Submitted for publication to the Journal of Arthroplasty

ABSTRACT: This study was undertaken to investigate the impact of total hip arthroplasty on a patient’s work ability. Fifty-four patients who were in the workforce completed a questionnaire one year after total hip arthroplasty. Thirty-eight (86%) of 44 patients working preoperatively were working one year after surgery, whereas only two (20%) of 10 patients who were not working preoperatively resumed work. Those who resumed work were younger and reported better Oxford-12 and physical function scores. Patients who resumed working had improvements in their ability to meet workplace physical demands and in productivity. Total hip arthroplasty has positive effects on work capacity in patients who return to work. To help patients remain in the workforce, surgery should be undertaken before a patient’s hip dysfunction forces them off work.

As part of a larger body of work to develop a rheumatology priority referral score, a literature review was conducted. The objective of the literature review was to identify pre-existing priority-setting, triage, and referral tools/scales developed to guide referrals from primary care to specialist care/consultation usually provided by a rheumatologist. Using a combination of database, citation, Internet, and hand-searching, 20 papers were identified that related to referral prioritization in three areas: rheumatoid arthritis (RA; 5), musculoskeletal (MSK) diseases other than RA (3), and MSK diseases in general (12). No single set of priority-setting criteria was identified for rheumatologic disorders across the spectrum of patients who may be referred from primary care providers (PCPs) to rheumatologists. There appears to be more congruence on conditions at either end of the urgency spectrum with conditions such as suspected cranial arteritis or systemic vasculitis deemed to be emergency referrals and fibromyalgia and other soft-tissue syndromes deemed to be more routine referrals. Between these two extremes, there is a divergence of opinion about urgency on conditions such as suspected cranial arteritis or systemic vasculitis deemed to be emergency referrals and fibromyalgia and other soft-tissue syndromes deemed to be more routine referrals. Between these two extremes, there is a divergence of opinion about urgency and few papers on the issue. The exception to this is referral for early RA for which several criteria have been established. Despite the inherent complexities in developing a tool to prioritize patients referred by PCPs to rheumatologists, there are compelling reasons to proceed. With the aging of the population, the number of patients being referred to rheumatologists is expected to increase. With pharmaceutical advances, there are demonstrable benefits in early referral for some conditions. These trends have led to increased pressure on scarce rheumatological human resources. A tool to prioritize referrals is a critical component of improving access and the referral process.

E. Bohm. Employment Status and Characteristics of Working Aged Patients Awaiting Hip Replacement Surgery. Accepted for publication by the *Canadian Journal of Surgery.*

**ABSTRACT:** Total Hip Arthroplasty (THA) is a cost effective surgical intervention that produces significant improvement in quality of life. Recent advances have broadened the indications to include younger, working aged patients. Despite these benefits, there are often long wait lists for this procedure in Canada. Furthermore there exists little documentation of the ability of wait-listed THA patients to maintain employment or perform their occupational duties. **METHODS:** Patients < 65 years of age were identified prospectively from a primary hip replacement surgery waitlist. Patients were contacted by phone and asked to participate. If they agreed, they were mailed a validated questionnaire. **RESULTS:** 84 of 100 patients agreeing to participate returned the questionnaire. While awaiting THA, 20% of patients who considered themselves to be in the workforce were off work secondary to their hip condition. Work cessation resulted in a drop of median income of $15 000 CDN and forgone tax revenues of $3 800. Poor hip function is related to both lowered
productivity and work cessation prior to surgery. Patients with an Oxford 12 hip score of 50 or worse appear to have about 50% chance of stopping work prior to THA surgery, while those with a score of 40 or better appear to only have a 10% chance of stopping work.

**CONCLUSIONS:** Twenty percent of workforce patients are off work due to their hip condition while awaiting THA. Poor hip function is associated with work cessation and decreased productivity.

L. Kafai, E. Bohm, C. Burnell, and D. Hedden. Presence of Medical Comorbidities in Patients with Infected Primary Hip or Knee Replacements *J Arthroplasty* 2007 Aug; 22(5) 651–6

**ABSTRACT:** Many older patients undergoing primary hip or knee joint arthroplasty surgery have multiple medical problems. In this retrospective case-control study, the authors examined the individual and cumulative effects of various types of medical comorbidities on the risk of developing prosthetic joint infection after surgery. Case and control patients were matched by age, sex, and procedure. Analysis was undertaken using crude odds ratios (ORs) and multiple logistic regression analysis. Fifty-one patients with 52 joint infections were identified. Both diabetes mellitus (OR, 3.91; P = .04) and total number of medical conditions (OR, 1.35; P = .005) were associated with higher risk of infection. This information allows the orthopaedic surgeon to inform patients more fully regarding the risks of surgery, and promotes the reduction and optimization of medical comorbidities before surgery.

**Published Non-Refereed Papers**


**Meetings/Workshop Presentations**

Guest Speaker: Redesigning of Arthroplasty Care and Delivery; WRHA Patient Flow Forum, Winnipeg, MB, June 2008

Panel member: Case-based Difficult Primary and Revision Total Hip Arthroplasty, AOA/COA Combined Meeting, Quebec City, QC, June 2008

Moderator: Hip Reconstruction paper session. AOA/COA Combined Meeting, Quebec City, QC, June 2008

Guest Speaker: Redesigning Arthroplasty Care and Delivery; MMSF Board/Manitoba Blue Cross Board Annual Meeting Winnipeg, MB, May 2008

Redesigning Arthroplasty Care Delivery—Centre For Health Care Innovation, University of Manitoba, April 2008

Panel Member: Implanting a THA—Getting It Right, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008

Panel Member: Implanting a Resurfacing—Getting It Right, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008

Panel Member: Gender-specific THA makes Sense to Me, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008

Panel Member: Pain/DVT Management: Pre-Op/Hospital/Post-Discharge, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008

Panel Member: The Patella Should Be Routinely Resurfaced, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008


**Research Reports**

Bohm E., Joint Replacement Registry Report—Winnipeg Regional Health Authority, Manitoba Orthopaedic Society, 2006 – 2007

Panel Member: Painful and Stiff TKA: Etiology and Management, Total Joint Arthroplasty: Updates & Controversies Meeting, Whistler, BC, February 2008


Operating Room Efficiencies—Canadian Orthopaedic Advisory Council, Toronto, October 2007

Prevention of Leg Length Discrepancy in THA—Primary & Revision Total Joint Arthroplasty: Current Concepts, Niagara-on-the-Lake, September 13–16 2007

The Use of Polyethylene for THA—Primary & Revision Total Joint Arthroplasty: Current Concepts, Niagara-on-the-Lake, September 13–16 2007


Scientific Presentations


Research Projects (Current and Ongoing)

Drs. Eric Bohm, David Hedden, Colin Burnell, and Tom Turgeon

Patient Information and Consent Form for the University of Manitoba Joint Replacement Group Research and Teaching Database

Patient Satisfaction and Predictors of Success Following 2-Stage Revision Total Hip/Total Knee Replacement Surgery

A Comparison of Functional Outcomes, Costs, & Morbidity between Elective Coronary Artery Bypass Graft Surgery and Elective Lower Extremity Joint Replacement (CABG)


A Prospective, Multi-Centre, Non-Randomized, Clinical Outcomes Study of the R3 Acetabular System in Patients With Degenerative Hip Disease

A Randomized Controlled Trial Comparing Different Uncemented Acetabular Fixation Systems and Polyethylene Wear with Different Sized Femoral Heads

Extended Prophylaxis Comparing Low Molecular Weight Heparin to Aspirin Following Total Hip Arthroplasty

A Multi-Centre, Consecutive Series, Clinical Outcomes Study of the Birmingham Hip Modular Hip System in Patients with Degenerative Joint Disease

A Multi-Centre Randomized Controlled Trial of Large Diameter (40/36 mm) versus Conventional Diameter (32 mm) Femoral Heads for the Prevention of Post Revision Arthroplasty Dislocation

Financial Costs and Complications of Obesity in Total Hip and Knee Replacement Surgery
Grants

CIHR. Extended Prophylaxis, Comparing Low Molecular Weight Heparin Following Aspirin in Total Hip Arthroplasty.


Educational Sessions


Yearly Resident Research Course, University of Manitoba 07/08. Ten sessions consisting of:
  - Developing a Research Question & Performing a Literature Review
  - Study Design
  - Sample Size
  - Running a Trial
  - Outcome Metrics
  - Results and Analysis
  - Critical Appraisal of the Literature
  - Writing and Presentation
  - Ethics in Research
  - Meta Analysis

Practice Orals—Orthopaedic Residents

Dr. T. Tufescu

Research

Ongoing Studies

Ongoing Projects
Orthopaedic Trauma Web based database

Grants and Contracts

Grants
Alexander Gibson Fund (14,800 awarded): toward Orthopaedic Trauma Web based database

Contracts
Synthes Canada Ltd.: toward Orthopaedic Trauma Research Assistant position

Presentations


Dr. P. Jellicoe

Publications


**SUMMARY:** This article reviews the management of neonatal brachial plexus injuries, including assessment and indications for surgical exploration and nerve repair, as well as the most common later sequelae, shoulder subluxation and dislocation.

**ABSTRACT:** Chronic recurrent multifocal osteomyelitis (CRMO) and B-cell lymphoma are fairly uncommon conditions that are seen in children. Although CRMO can leave patients with residual deformities and disabilities, it is a benign condition. We describe an unusual situation in which a site adjacent to a biopsy-documented site of CRMO presented 3.5 years later with B-cell lymphoma. B-cell lymphoma can behave in an indolent manner and reports suggest that this condition can initially be mistaken for CRMO. This case presented here underscores the importance of vigilance in the short- and long-term management of patients initially diagnosed with CRMO, and raises the possibility that the pathogenesis of the two conditions is related.

**Publications (Submitted)**


**ABSTRACT:** Osteochondromas are the most common bone tumors in children. The proximal femur is affected in up to 30% of individuals which may lead to growth disturbances, hip dysplasia and even subluxation. We present two cases of intra articular osteochondroma and a review of the current literature. Both patients were successfully treated by surgical dislocation of the hip and adequate clearance of the osteochondroma. However, we highlight the fact that despite this, the hips were still abnormal due to the inherent growth disturbance and residual dysplasia associated with the osteochondromas, which may well require further surgery.

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**Academic Day**

*Friday, October 3, 2008*

The Section of Orthopaedic Surgery held their own “Academic Day” on Friday, October 3, 2008 at the Pan Am Clinic. The event was formerly held jointly with the University of Saskatchewan and this year marks the first year that the Section has gone out on their own for this event.

There were 14 very interesting presentations made by residents and one fellow, Dr. Mazek. Our guest speaker, Dr. Ben Alman provided us with insight into the obesity epidemic and Pediatric Orthopaedics as well as how knowledge about how stem cells may cure sarcomas. The judges, Dr. MacDonald, Dr. Alman and Mr. Jeff Leiter had the very difficult task of scoring the presentations and awarding first and second place presentation winners.

**Guest Speaker**

Dr. Ben Alman

Dr. Alman holds a Canada Research Chair and is the A.J. Latner professor and chair of Orthopaedic Surgery at the University of Toronto. He is also the Head of Orthopaedics and a Senior Scientist in the Developmental and Stem Cell Biology Program at the Hospital for Sick Children. He runs an active basic science research program, studying the role of developmental signaling pathways in musculoskeletal tumors and reparative processes. He is the principal investigator on several national research grants, and has over 90 peer reviewed publications in journals such as *PLoS Medicine*, *Proceedings of the National Academy of Sciences*, *Nature Genetics*, and *Lancet*. He has given over 100 presentations at international meetings or at invited lectures at various venues throughout the world. In addition to his clinical teaching responsibilities, he is currently the supervisor for eight graduate students. He received numerous awards for his research work, including the Premier’s Research Excellence Award (for outstanding basic science work in Ontario), the Huene Award (for outstanding contributions to Pediatric...
Orthopaedics in North America), the OREF Research Award, and the Royal College Medal in Surgery (for the best research publication by a member). In addition to his research and clinical activities, Dr. Alman serves on several national grant review panels, the Research Advisory Board and chairs the clinical research subcommittee of the Shriner’s Hospitals, and is chair of the Board of Directors of the Bloorview Foundation (the largest foundation in Canada that supports research into pediatric disability).

**Title: Is Bigger Really Better? The Obesity Epidemic and Pediatric Orthopaedics**

Evidence based review of how obesity affects the treatment and outcomes of patients with Orthopaedic problems. Management of such patients is very unique in that general health as well as disease specific procedures/protocols must be considered. A discussion of tools and tips to be used in the improvement of care for this patient population.

**Title: Cutting the roots: How Knowledge About Stem Cells May Cure Sarcomas**

Tissue specific stem cells maintain adult organs. Although recent evidence suggests that select solid tumors are maintained by a population of cells with stem cell like characteristics (termed tumor initiating cells, TIC), this has not been demonstrated for mesenchymal tumors. This is due, in part, to the lack of unique markers that can be used to identify and isolate mesenchymal progenitors. An alternative technique to identify stem-like cells is isolation based on the exclusion of Hoechst 33342 dye. These are commonly referred to as side population (SP) cells.

We examined cells from 28 fresh mesenchymal tumors ranging in clinical behaviour from benign, locally aggressive tumors to high grade sarcomas. These tumors contained SP cells ranging from 0%–11% of the total cell population. SP cells were grafted into NOD-SCID mice, and they preferentially formed tumors (smaller numbers of cells formed larger sized tumors) when compared to non-SP cells. Only cells from SP tumors had the ability to repopulate both SP and non-SP fractions in vitro and in vivo culture conditions. Importantly, only cells from SP tumors had the capacity to initiate tumor formation upon serial transplantation into NOD/SCID mice. This suggests that only SP cells harbour the capacity to divide asymmetrically and to self-renew both in vitro and in vivo. Interestingly, we noted a correlation between the percentage of SP cells present in a given sample and the aggressiveness of the tumor. In this study, we demonstrate for the first time, the existence of SP cells within primary mesenchymal tumors, and suggest that this population is enriched for TICs. Further study of this population may suggest novel therapeutic approaches and prognostic information about these tumor types.

**Resident Presentations**

**Manitoba Orthopaedic Manpower Survey**
Dr. Chris Lu

**A Decision Analytic Model of the Cost Effectiveness of Pre-Operative Rehabilitation in Total Hip Surgery and Total Knee Surgery**
Dr. Jesse Shantz

**Syndesmosis**
Dr. James Longstaffe

**Description of Wait Times in Trauma Patients During Summer Months at Manitoba’s Major Trauma Centre**
Dr. James Vernon

**Giant Cell Tumor of the First Rib Presenting as Left Supra Clavicular Mass—A Case Presentation**
Dr. Mohamed Elkurbo

**Global Ankle Arthroscopy: MRI and Cadaveric Study of a New Medial Portal**
Dr. Heather Barske
Workplace Safety: Noise Levels in an Orthopaedic Cast Clinic
Dr. Tod Clark

Back Stability Assessment During Perturbation and Fatigue Using Differential Lumbar Acceleration
Dr. Jon Marsh

Standard Plate versus Locking Plates in Calcaneous Fractures
Dr. Al Walid Hamam

Above Versus Below Elbow Supination Splints Following Distal Radius Fracture. A Prospective Randomized Controlled Trial.
Dr. Taranjit Tung

Relationship Between Self-Reported Shoulder Function/Quality of Life and Body-Mass Index in Patients Awaiting Rotator Cuff Repair Surgery
Dr. Sacha Rehsia

Simplifying the AO/OTA Classification for Pertrochanteric Fractures Based on 31A2 Group Communion
Dr. Jamie Rusen

Deflazacort Treatment in Duchenne Muscular Dystrophy
Dr. Sue Deonarain

Activity Measurement Pre/Post Surgery in Lumbar Spinal Stenosis—Preliminary Report
Dr. Fawzi Mazek
The awards banquet was also held on October 3, 2008 at the Winnipeg Squash Club where awards were presented as follows:

Best Presentation Dr. Tod Clark “Workplace Safety: Noise Levels in an Orthopaedic Cast Clinic”

ABSTRACT:

TITLE: Workplace Safety: Noise Levels in an Orthopaedic Cast Clinic

AUTHORS: Tod A. Clark*, MD, MSc; Ron Monson, MD, FRCSC
University of Manitoba, Department of Surgery, Section of Orthopaedic Surgery

INTRODUCTION: Noise induced hearing loss (NIHL) results from exposure to high levels of noise. Related illnesses include headache, stress, hypertension and irritability. Manitoba Workplace Safety and Health has guidelines regarding safe noise exposure. Workers exposed to more than an average of 80 dBA daily must have noise levels limited or utilize exposure prevention techniques. Orthopaedic surgeons and technologists experience high noise levels in fracture clinic settings (cast saws). Further increased noise levels occur in the pediatric setting. It is unclear exactly what noise levels these workers are exposed to on a daily basis. Therefore, this study was performed to elucidate the noise exposure in a pediatric cast clinic.

METHODS: HSC children’s cast clinic noise levels were tested consecutively over 4 hours 55 minutes. The cast room encompasses three beds, two cast saws and is approximately 12’ x 25’ with 12’ ceilings. Dosimetry was performed using a Quest Q-400 A weighted dosimeter.

RESULTS: Noise levels varied from a minimum of 40 dBA to a maximum of 111.4 dBA. The average noise level over the five-hour period was 78.0 dBA (Lex). Cast removal and patient voice noise levels ranged from 58.0–98.0 dBA.
CONCLUSIONS: High noise levels are experienced in orthopaedic cast clinics. Although a 78.0 dBA average is considered safe, harmful noise levels begin at 80.0 dBA. Peak noise levels of 111.4 dBA are concerning and personnel should take precautions to limit exposure. Suggested daily maximum exposure of 97 dBA is 30 minutes while at 109 dBA is only two minutes. The use of ear muffs +/- ear plugs can reduce noise levels by up to 24 dBA.

Second Place Presentation Dr. Jon Marsh “Back Stability Assessment During Perturbation and Fatigue Using Different Lumbar Acceleration.”

METHODS: Differential tri-axial accelerometry was monitored over L1 and L4 spinous processes (n=12) during back extension to fatigue. An unexpected load perturbation was applied before and after the fatigue trial.

RESULTS: Differential lumbar acceleration measured lumbar spine segment orientation and relative lumbar orientation (lordosis/kyphosis) (R²=0.99). Short-term adaptation to perturbations was documented (p<0.05). Back failure mechanics were observed during a bout of back extensions (mean 39 reps) to fatigue failure. No deviation from neutral spine was documented. Eccentric mechanomyogram (MMG) magnitude reduced (motor learning) concurrent with an increase in concentric MMG magnitude (fatigue) with successive back extension repetitions (p<0.01).

CONCLUSIONS: Dissociation in lumbar acceleration (L1–L4) occurred during perturbations after fatigue. Differential lumbar acceleration had great utility in the assessment of spine stability. Evidence contrary to the neutral spine hypothesis was documented. A unique neural activation strategy of the back extensors was demonstrated during fatigue. Short-term adaptations in back perturbation management were observed as a result of task adaptation and fatigue.

The Educator of the Year Award was also presented by the Section of Orthopaedic Residents:

Dr. M. Johnson (left) receives Educator of the Year award from Dr. Chris Lu—PGY4 Resident

Educator of the Year, Dr. Michael Johnson

Honorary Mention, Dr. Ted Tufescu and Dr. Laurie Barron

Congratulations to all the award recipients and all presenters on a job well done!
The Concordia Hip and Knee Institute

Collaboration between the WRHA, Concordia Hospital, the Concordia Joint Replacement Group (CJRG) and the Concordia Foundation has laid the framework for the Concordia Hip and Knee Institute (CHKI) to exist in the northeast corner of Winnipeg. The Concordia Hip and Knee Institute is an opportunity for Concordia Hospital and the CJRG to take patient care, research, and education to the next level. While surgery and post-operative care will continue to be performed at the Hospital, the Institute will be an integrated facility providing pre-operative assessment, a pre-habilitation program to optimize patients’ health before surgery, post-operative follow up through a high efficiency clinic, digital imaging suites, and office space for surgeons and support staff in addition to much-needed expanded facilities for research and education.

The new Institute will provide the researchers facilities needed to recreate the conditions within the body that can lead to implant failure. New knee implant simulators will allow investigators to evaluate new implant technology as well as those that have been unsuccessful. The CJRG Radiostereometric Analysis (RSA) Laboratory, which uses x-ray technology to measure very small implant movements within the body over time to ensure proper stability in the bone with far greater accuracy than traditional x-rays, will also relocate to the new Institute. The new RSA Laboratory will be one of only a few places in the world that has a digital radiology suite designed and built for RSA research. The CHKI is located in a new three-storey building currently under construction directly east of the Hospital campus. Tenant improvements began September 8th, 2008 and will be completed by March 2009.