2013/2014

ORTHOPAEDIC SURGERY LOCATIONS

Children's Hospital
Health Sciences Centre
Concordia Hip and Knee Institute
Pan Am Clinic
Message from the Section Head

It is a privilege for me to write on behalf of the Orthopaedic Section for the yearbook of 2014 – 2015. In the past year we have recruited Dr. Patricia Larouche, Pediatric Orthopaedics. We are also expecting the recruitment of Dr. Jon Marsh to Sports Upper Extremity in February of 2015. Both will be valuable additions. Dr. Larouche did medical school training at the Northern Ontario School of Medicine followed by fellowship training at the University of British Columbia. Dr. Jon Marsh is of course a local grad who went on to fellowship training at the Hand & Upper Limb Surgery at the Western University and additional fellowship training in Shoulder & Elbow Surgery in New Zealand under Dr. Peter Poon.

The Orthopaedic Program has come through another accreditation without any major problems. This is thanks to the excellent work of Cidalia as the Surgery Education Administrator and Dr. Tod Clark as our Program Director. Congratulations to both of them, as well to all the Faculty who participate in Postgraduate Program activities.

At a departmental level work continues with restructuring and consensus building by one of our own Section Members, Dr. Jack McPherson, who is now the official Department Head. Jack has made some successful changes in contracts that will improve the remuneration model. He has also created an open and honest dialogue about all the difficult issues that we wrestle with on a daily basis.

For the past two years we have had two Orthopaedic Academic Days and have been fortunate enough to have world-class visiting professors. In 2014 we had Dr. Ross Leighton from Halifax and in 2013 we had Dr. Richard Berger from the Mayo Clinic Hand Service. These continue to be landmark events in our academic year. Next year we are expecting Dr. Charles Fisher from University of British Columbia Spine Service for the Academic Day September 30th 2015.

We also had successful Orthopaedic Skills Labs with this year’s visiting professors being Dr. Mike Stuart from the Mayo Clinic and Dr. Misty Suri from New Orleans. In 2013 we had Dr. Robert Bell from Akron, Ohio and Dr. Jas Chahal from the University of Toronto. We are expecting in 2015 to have Dr. Anthony Romeo from Rush University in Chicago and Dr. Peter Lapner from the University of Ottawa. We also had Dr. Mo Bhandari for 2014 Department of Surgery Research Day and Dr. Mike McKee for Department of Surgery Grand Rounds.

Orthopaedic research continues to improve on multiple fronts. Last year the Orthopaedic Section was awarded the best Research Section in the Department of Surgery. Congratulations to all the researchers in the Section, especially Dr. Jeff Leiter who is Director of our Resident Research Program. Spine Research has secured the permanent services of Dr. Steve Passmore who will continue to assist with their spine research on a more formal basis. On the Arthroplasty front Dr. Eric Bohm has resigned as Director of Arthroplasty Research and this position will be filled by Dr. Tom Turgeon. Eric will continue to help out on multiple administrative fronts. Arthroplasty research continues to expand especially with the Orthopaedic Innovation Centre.

We thank you for all your efforts in making this one of the most well-rounded and stable Orthopaedic Sections in the country and look forward to exciting times in the future.
The Pan Am Clinic Foundation research program continues to expand to meet and advance research needs in the subspecialty of Orthopedic Sports Medicine and Upper Extremity Reconstruction.

Since the opening of the David and Ruth Asper Research Centre in 2008, we have published over 55 peer-reviewed manuscripts and the research team continues to evolve. Led by Dr. Peter MacDonald, Chief Research and Innovation Officer, the research team includes surgeons Drs. Jamie Dubberley, Jason Old, Greg Stranges, Tod Clark and Heather Barske. Drs. Jeff Leiter and Sheila McRae, as well as several research assistants and students, round up this multidisciplinary research team that strives to produce evidence-based information that has the potential to advance the outcomes and quality of life of our patient population.

Over the last few years, we have been fortunate to publish several level I randomized controlled trials in top Orthopaedic Journals such as the Journal of Bone and Joint Surgery and the American Journal of Sports Medicine. Recently we have initiated a randomized controlled trial investigating the effectiveness of biceps tenodesis versus biceps tenotomy in patients with long head of biceps pathology. This has been an ongoing debate in the surgical literature and we are excited to answer this question with the highest level of evidence that a prospective trial can provide. Our research team also continues to bridge the gap between clinical and basic science research with studies aimed at investigating the underlying mechanisms of muscle atrophy in the presence of rotator cuff disease. Muscle biopsies are retrieved from patients undergoing rotator cuff repair with the intent to find treatment options that have the potential to enhance muscle strength and function following surgical intervention. With over 40 active studies at Pan Am Clinic Foundation, the research team is always on the forefront to discovery and is looking forward to many valuable contributions to orthopedic research in years to come.

In addition to research productivity, mentorship of students, residents and fellows is a top priority for the Pan Am Clinic Foundation. Over the last three years, 10 Fellows have completed our Orthopaedic Sports Medicine and Upper Extremity Reconstruction Fellowship. We have also supervised and mentored six BSc Med students, one Med II research project, eleven Master of Science students and four individuals that have completed or are enrolled in a PhD program.
Orthopaedic Surgery Residency

The Section of Orthopaedic Surgery offers a five-year residency program fully accredited by the Royal College of Physicians and Surgeons of Canada. The program covers a broad range of orthopaedic subspecialty disciplines including lower extremity and total joint replacement, hand and upper extremity, paediatric orthopaedics, spine surgery, sports medicine, arthroscopic reconstruction and foot and ankle surgery.
What it’s like...

As an Orthopaedic resident at The University of Manitoba you will be on a path to a successful career. Working alongside a team that will help guide you, challenge you, encourage you to be your best. The team will help you develop your strengths, abilities and knowledge to be an Orthopaedic surgeon. All our subspecialties are well staffed so there is always someone to guide you or available to answer your questions. Here at Orthopaedic Surgery we have a balance of work and play from skeet shooting, Friday ice hockey games, hitting the links, heading to the cabin or just simply having a drink together. We are family here!!!
Arthroplasty

Four Arthroplasty surgeons perform approximately 1,500 primary and revision hip and knee replacements per year, using the most current techniques for primary hip and knee replacement surgery. The Arthroplasty Group has developed a strong research base comprising a database, implant retrieval lab, and RSA lab.

Winnipeg Spine Program

A clinical Spine Fellowship has been designed to provide extensive and well rounded exposure to all operative and non-operative aspects of adult and pediatric spinal surgery. The Fellow will gain familiarity with anterior, posterior, and combined approaches to cervical, thoracic, and lumbar spine with anterior and posterior instrumentation.

Sports Medicine and Upper Extremity Reconstruction Fellowship

This Fellowship affords extensive experience in knee, shoulder, and upper extremity surgery, with three busy Sports Medicine surgeons contributing to management of the clinical load. Clinical research and outcome studies are also encouraged, assisted by the contributions of research support staff in outcome assessments and clinical trials.

This Fellowship is conducted at the Pan Am Clinic, a new state-of-the-art facility complete with MRI, five operating rooms, abundant clinic space, dedicated research space, a skills lab, and a bio-mechanics facility. Inpatients are treated at the Victoria General Hospital.

Hospital Trauma

This Fellowship program, designed for Orthopaedic graduates with an interest in adult trauma (excluding spine), is based entirely at Health Sciences Centre, the designated trauma center for Manitoba, North-Western Ontario, and Nunavut. Daily dedicated trauma operating rooms are staffed by program faculty. In addition, up to three elective operating rooms per week deal with post-traumatic problems. Clinics are held on most days and provide exposure to fracture follow-up and new patient referrals. Over 800 tertiary trauma operative cases are treated annually.
Adult Orthopaedic trauma provides expert care for patients with acute and chronic conditions that involve severe musculoskeletal injuries and related complications as well as non-trauma cases including musculoskeletal infections, tumors and amputations. The trauma surgeon group provides teaching at both undergraduate and postgraduate levels as well as offering short term observer-ships and civilian and military physician assistant training. Additionally the group offers an OR training course for Allied Health Personnel.
Paediatric Orthopaedics provides care for a wide range of musculoskeletal disorders affecting children from newborn to 16 years of age. These include congenital, acquired and traumatic musculoskeletal conditions.

3 year old boy with a five fingered hand. His thumb had three phalanges and was unable to oppose toward his small finger. We performed a pollicization of the digit to create a thumb that was more normal in appearance and function.

1 month old baby presents with bilateral rocker bottom feet. After serial casting, mini-open reduction of talo-navicular joint is performed.

9 month old boy with VACTERL syndrome. He had a radial deficiency of his right upper extremity. We placed a multiplanar external fixator on the forearm to stretch the soft tissues and then performed a centralization to realign his wrist.
**OIC Providing Research Experience to Future Doctors**

The Orthopaedic Innovation Centre (OIC) performs ground-breaking research which also helps medical students gain experience through summer student positions, focusing their time on research-based projects.

Dr. Colin Burnell, Orthopaedic Surgeon, Concordia Joint Research Group (CJRG), initiated the study Intraoperative fracture risk – traditional versus compaction broaching methods for hip stem implantation to examine if there was a difference in bone strain and therefore risk of fracture between two methods of hip stem insertion: Traditional – which removes cancellous (spongy) bone, and Compaction – which conserves bone.

With funding provided by the University of Manitoba’s Department of Surgery and Alexander Gibson research grants, the project is a 2 year investigation being managed by Trevor Gascoyne, Manager of Clinical Research Services and Biomedical Engineering, OIC.

A first-year medical student at the University of Manitoba, Kevin Stockwell, worked with engineers and surgeons at the OIC for the past 3 months on Phase 1 of the project which looks at strains experienced by the femur (thigh bone) during hip replacement surgery.

To examine this, the OIC Cadaver Lab / Surgical Training Centre was used to perform work on four pairs of cadaveric femurs. The femurs were obtained and fitted with a series of strain gauges to measure the strain around the upper portion of the bone. Instruments used for implantation of the hip replacement components were fitted with force transducers to measure the force of each hammer strike the surgeon makes during the hip replacement procedure. Data acquisition software allowed Kevin and Dr. Burnell to capture the force of each hammer strike as well as the strain experienced by each bone during all 8 surgical procedures.

Presently, all of this force and strain data has been collected and verified. The second phase of the project is analysis of the data and finite element modeling of the surgical procedure which will be validated against the physical findings. Phase 2 will be completed in the summer of 2015 and results of this work are expected to be published in a medical journal by 2016.

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**Operation Walk**

From November 8-15, 2014, Dr. Thomas Turgeon Medical Director of Operation Walk Winnipeg, lead a team of surgeons, anesthetists, nurses, physiotherapists and other staff from Concordia, Victoria, Grace and Health Sciences Centre Hospitals and the Concordia Joint Research Group (CJRG) to the Roberto Calderon Hospital in Managua, Nicaragua. The team gave of their time and skills to provide 59 knee replacements in 3.5 days to impoverished patients with end stage arthritis. These patients came from some of the poorest neighborhoods in the Western Hemisphere and had little hope of relief and regaining their mobility without the team’s help. In less than a week, they changed the lives of 40 people and their families.

Over the past three years, over 100 patients have benefited from this mission and the hope is for these missions to continue on a regular basis.
The Winnipeg Spine Program is a multidisciplinary team of Orthopaedic surgeons and Neurosurgeons along with nurses, physiotherapists and occupational therapists specializing in the effective treatment of complex disorders of the spine for both adults & children.

15 year old female with idiopathic scoliosis complaining of persistent back pain and disability, sagittal and coronal plain imbalance, and dissatisfaction with body topography.

Surgery consisted of posterior scoliosis deformity correction and instrumented stabilization.

L3 burst fracture suffered after falling down 15+ stairs. Diagnosis: L3 burst fracture with posterior column destruction, retropulsion, and facet disruption.

Treated with Open reduction and instrumented fusion L1 to L5.