

Surgery
UNIVERSITY OF TORONTO

Spine Program

**UNIVERSITY OF TORONTO
SpineFEST™ VISITING PROFESSORSHIP**

Friday, June 24, 2011
St. Andrew's Club and Conference Centre
Toronto, Canada



University of Toronto Spine Program

Remarks from Co-Directors:

Dr. Albert Yee

Dr. Michael Fehlings



Colleagues,

The 2010-2011 academic year has marked an important time in our program development where we have begun implementing a variety of initiatives recommended from our strategic planning process and January 2010 meeting. Our Program Council, with continued commitment and strong leadership from the UT Divisions of Neurosurgery and Orthopedic Surgery, the Department of Surgery, the Toronto Academic Health Sciences Network (TAHSN) spinal units and the University of Toronto (UT) spine research community, has been active in enacting our academic vision. The UT Spine Program has been particularly active in advocating for enhanced access for clinical resources, facilitating a strong collaborative research vision and for promoting several key educational initiatives.

We continue to advocate for clinical resources, access and provision of timely care for our spinal patients. With the completion of the first phase of our UT-SpineLINK AFP funded project on improving access for Ontarian's with emergent spinal conditions, we have observed enhanced hospital-based resources to manage our patients as well as a recent reduction in out-of-province transfers. We have benefited by our collaboration and support through the Provincial Neurosurgical Expert Panel that has observed improvements to spinal access as a component of the broader Neurosurgical trauma initiative. Our project was one of several projects highlighted by the Ministry of Health Innovation Fund Provincial Oversight Committee

(IFPOC) in their inaugural Innovation Fund Showcase held in November, 2010. We participated on a key panel discussion on 'Health Care Collaboration and Coordination'. We have taken a parallel-pronged approach to our advocacy engaging as well the Provincial Orthopaedic Expert Panel in Spine. Dr. Raja Rampersaud, in collaboration with other key stakeholders, aims to enhance triage and care of many of our 'elective' patients with degenerative conditions of the spine. Our program continues to be involved in several city-wide clinical trials and continue to engage actively at both the national as well as international levels.

Building upon our research strengths, we have formalized a research committee within the UT Spine Program governance. Apart from assisting with the planning of our academic calendar of events such as SpineFEST and our quarterly hospital-based visiting professorships, this committee has been examining ways to facilitate the conduct of multi-centre clinical trials. Opportunities such as city-wide data sharing agreements and advocacy towards streamlined ethics review processes transcending TAHSN hospitals will help towards the fruition of upcoming trials. The research committee is also examining establishing regular research rounds and a visiting professor series.

We also continue to be active in spinal education particularly at the fellowship and resident levels. With our newly established educational committee, Dr. Stephen Lewis held a well received inaugural 'New Clinical Fellows Surgical Skills Course'. Held at the beginning of the academic year, this course provided a tremendous opportunity for the incoming spinal fellows introducing them to our university. Building upon this initiative, we plan in the upcoming year to include an inaugural 'Annual Research Update' venue that will partner at the end of Dr. Lewis' course. Our aim is to showcase our faculty academic interests and to encourage early trainee participation in research opportunities. At the fellowship level, we continue to explore new opportunities such as the Royal College of Physicians and Surgeon's of Canada Diploma program, a program designed to formally recognize sub-specialty medical and surgical training. Such training, based on competency based assessments complements well with our experience in our Division of Orthopaedic Surgery Competency Based Curriculum (CBC) pilot program for which Dr. Michael Ford has been instrumental in implementing the resident spinal training module this year. We look forward to opportunities to further enhance cross-training amongst various spinal disciplines. We have advocated towards the more formal recognition of spinal surgical training at the national level and have dialogued with the Canadian Spine Society (CSS) and look forward to collaborating with our national partners. We will participate in the coordination of a key symposium at next years CSS meeting on spinal surgical training in Canada. At the residency level, Dr. Massicotte' resident hands—on spine course continues to grow and represents an excellent opportunity for neurosurgical and orthopedic residents at UT and across Canada to get practical exposure to spinal anatomy and surgical techniques.

Dr. Zeller hosted our Hospital for Sick Children visiting professorship in October of 2010. Dr. Charles Thompson gave an engaging talk on the strong history and relationship between the Texas Scottish Rite Hospital and Toronto at our University of Toronto Greater Toronto Area (UT-GTA) spine rounds lead by Dr. Finkelstein. In addition, his talk on congenital cervical spinal deformities was extremely well received by both faculty and importantly by our trainees - he

was recognized for his ability to condense a complex topic into concise, fundamental principles easily understood and using practical concepts. Dr. Finkelstein also hosted our inaugural spinal journal club. Covering provocative spinal topics, the evening was highlighted by tremendous dialogue, debate, and collegiality. Dr. Fehlings also hosted Dr. Alan Crockard as part of a visit highlighting the successes of our graduate trainees in spinal research. We were privileged to hear his lifelong experiences in complex spinal care.

We continue to look beyond our program in an inclusive approach to collaboration on spinal health. This year, we are privileged to welcome Dr. Karl Zabjek as a new member of our UT Spine Program. As an Assistant Professor in the Department of Physiotherapy, Dr. Zabjek comes to us with a background in kinesiology and spinal biomechanics. He has a strong research interest in spinal biomechanics and outcomes in paediatric deformity. He has created linkages within our UT Spine Program collaborating with Dr. Zeller and is keen to pursue additional collaborative opportunities.

Importantly, we would like to extend a sincere welcome and thank you to Dr. Jens Chapman as our Annual UT Spine Visiting Professor at SpineFEST™. We very much look forward to his Tator-Hall Lectureship on 'Surviving Cranio-cervical Injuries'. He is recognized as an international leader in the field of spinal care and indeed has been, or is currently, leading several very respected scientific societies and academic networks. We also look forward today to a terrific panel discussion on complications in spinal surgery, highlights by our faculty researchers, as well as clinical and research trainee presentations in both oral and poster formats.

In closing, our Program is extremely grateful to both Ms. Connie Johnson as well as Ms. Stephanie Neilson who have been instrumental in coordinating programmatic efforts this year. We would also like to acknowledge the very strong support of the Department of Surgery as well as the Divisions of Neurosurgery and Orthopaedic Surgery of our Program, all of who are committed to our vision. We welcome Dr. Rutka as our new Chair of our University Department and will benefit from his leadership that stems from a long standing commitment to academia. It truly is an ongoing privilege for us to work together further building our program.



Michael Fehlings and Albert Yee
Co-Directors, U of T Spine Program

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Friday, June 24th, 2011
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7:00 – 7:30	<i>Welcome Reception – Breakfast</i>
7:30 – 7:45	<p><i>Introductory Comments</i></p> <p>University of Toronto Department of Surgery Spine Program <i>Drs. Albert Yee and Michael Fehlings (Program Co-Directors)</i></p> <p>Greetings from the University of Toronto <i>Dr. J. Rutka, RS McLaughlin Chair, Department of Surgery</i></p>
	<p><i>THE TATOR-HALL VISITING PROFESSOR LECTURE</i></p>
7:45 – 8:00	<p><i>Introduction of Visiting Lecturer</i> <i>Drs. M. Fehlings and A. Yee</i></p> <p>Visiting Professor- Dr. Jens Chapman</p>
8:00 – 8:45	<p><i>Keynote Address</i></p> <p><i>"Surviving Cranio-cervical Injuries"</i></p> <p><i>Dr. Jens Chapman</i></p>
8:45 – 9:00	<p><i>Discussion - Moderator Dr. Michael Fehlings</i></p>

9:00 – 10:00	<p style="text-align: center;">SESSION 1 – Complications in Spine Surgery Moderator- Dr. Albert Yee</p> <p>Dr. Raj Rampersaud: Adverse Effects</p> <p>Dr. Reinhard Zeller: Complications in AIS</p> <p>Dr. Henry Ahn: Does regionalization work in reducing adverse events?</p>
10:00 – 10:15	<i>Coffee Break</i>
10:15 – 11: 15	Poster Presentations & Judging
11:15 – 13:00	<p style="text-align: center;">SESSION 2: Faculty Presentations</p> <p style="text-align: center;">Repair and regeneration of the Injured Spinal Cord: What is New? What is Hot? Dr. Michael Fehlings</p> <p style="text-align: center;">Response Shift in People Awaiting Spine Surgery: Investigating the Appraisal Process Used for Measuring Quality of Life Dr. Joel. Finkelstein</p> <p style="text-align: center;">Translational Research in Vertebral Metastases Drs. Albert Yee and Cari Whyne</p> <p style="text-align: center;">Educational navigational tools/devices Dr. Howard Ginsberg</p> <p style="text-align: center;">Intervertebral Disc Tissue Engineering Dr. Rita Kandel</p>
13:00 – 14:00	<i>Lunch & Poster Viewing</i>

14:00 – 15:30	<p style="text-align: center;">SESSION 3: Trainee Presentations</p> <p style="text-align: center;">Neural precursor cells express trophins following transplantation But remyelination is the key mechanism by which they augment functional recovery following rodent spinal cord injury Dr. Gregory Hawryluk</p> <p style="text-align: center;">Multilevel (≥ 3 levels) ACDF versus posterior laminectomy with instrumented fusion for multilevel cervical myelopathy – a radiological analysis at C5 cord Dr. Hitesh N. Modi</p> <p style="text-align: center;">Graded redefined assessment of sensibility strength and prehension (GRASSP): Psychometric development of an upper limb impairment measure for individuals with traumatic tetraplegia Dr. Sukhvinder Kalsi-Ryan</p> <p style="text-align: center;">Defining human embryonic development of the annulus fibrosus (AF) and its interface with cartilage anlagen (CA) YS Nosikov, MSc (C)</p>
15:30 – 15:45	<i>Coffee Break</i>
15:45 – 16:00	<p>Awards Presentations (Drs. Michael Fehlings and Albert Yee)</p>

2011 SpineFEST™ VISITING PROFESSOR

Jens R. Chapman, MD

Acting Chair

Department of Orthopaedics and Sports Medicine.

HansJoerg Wyss Endowed Chair of Spine Surgery

University of Washington



Dr. Chapman is the Chair of the Department of Orthopaedics and Sports Medicine, where he is also a UW professor and holder of the HansJoerg Wyss Endowed Chair of Spine Surgery. He is an expert in surgery for spinal disorders and orthopaedic trauma. In addition, he is chief of the University of Washington Spine Surgery Service and an adjunct professor in the Department of Neurological Surgery.

Dr. Chapman specializes in spinal surgery with a range from microscopic minimally invasive surgery to major reconstructive surgeries. He prioritizes an open, interactive communication style with his patients.

He earned his medical degree at Munich Technical University, Germany, in 1983. He completed an internship and residency in orthopaedic surgery at the University of Texas Southwestern Medical Center at Dallas. In 1990 he came to the UW for a fellowship in traumatology and spine surgery.

Dr. Chapman is the author of *The Spine Manual* and *Spinal Cord Injuries* and editor-in-chief of *Evidence Based Spine Surgery*.

Patient Care Philosophy

To provide the best possible state-of-the-art spine care.

Clinical Interests

Spine surgery, trauma surgery and fusion surgery in rheumatoid arthritis patients.

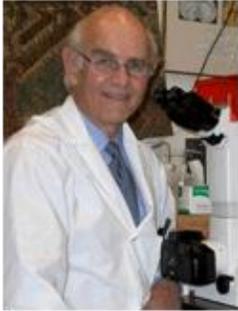
Research Interests

Evaluation of techniques and materials for spine and trauma surgery.

Expertise

Orthopaedics , Orthopaedics (Spine)

THE TATOR-HALL VISITING PROFESSOR LECTURE



Dr. Charles Tator is a Professor in the Department of Surgery, at the University of Toronto, and a neurosurgeon at the Toronto Western Hospital. He is the former Chair of Neurosurgery at the University of Toronto. He started the first Acute Spinal Cord Injury Unit in Canada in 1974, and has reported on the epidemiology, prevention and treatment of spinal cord injury. He has undertaken seminal translational and clinical research in spinal cord injury. In 1992, he founded ThinkFirst, Canada, a national brain and spinal cord injury foundation whose mission is to reduce the incidence of catastrophic injuries in Canada. In 2008, the University of Toronto Press published his book “Catastrophic Injuries in Sports and Recreation, Causes and Prevention-a Canadian Study.” He has held two research chairs at the University of Toronto, the Dan Family Chair in Neurosurgery and the Campeau Family-Charles Tator Chair in Brain and Spinal Cord Research. In 2000, he received the Order of Canada, and in 2009 he was inducted into the Canadian Medical Hall of Fame.



Dr. Hamilton Hall is a Professor in the Department of Surgery at the University of Toronto and a staff consultant at the Sunnybrook Health Sciences Center. In 1974 Dr. Hall founded the Canadian Back Institute (CBI Health Group), now the largest rehabilitation company in Canada. Dr. Hall continues to serve as its Medical Director. In addition to over 100 published articles and book chapters, Dr. Hamilton Hall is the author of the best-selling Back Doctor series, most recently A Consultation with the Back Doctor. He lectures internationally on the management of Pain Disorder. Locally, his medical student course in the evaluation of the low back has been a favorite of trainees over the years; he has a reputation as an engaging speaker and a superb teacher. He is co-founder and currently Executive Director of the Canadian Spine Society and has been instrumental in bringing together the diverse disciplines in spinal care and in advocating for the specialty.

TRAINEE PRESENTATIONS



Gregory Hawryluk is a fourth year resident in neurosurgery currently completing a PhD in neural repair and regeneration through the Institute of Medical Science under the supervision of Dr. Michael G. Fehlings. Greg's research seeks to understand the mechanism by which transplanted cells improve functional recovery following spinal cord injury. In addition to pursuing his graduate studies, Greg sits on the Guidelines Committee of the Brain Trauma Foundation and has served as a moderator at major neurosurgical meetings.



Hitesh Modi received his M.S. (Ortho) at the MS University of Baroda, Gujarat, India in 2003. He received his Ph.D. (Spinal shortening) in 2010 at the Korea University, Seoul, South Korea. He is currently completing a AO Spine Clinical Fellowship at the Krembil Neuroscience Centre at the Toronto Western Hospital under the supervision of Drs. Michael Fehlings, Stephen Lewis, Raja Rampersaud, and Eric Massicotte. He has won several awards, presented at over 64 international conferences and published 73 peer reviewed journal articles.



Yaroslavna Nosikova received an Honour of Bachelor in Biological Chemistry Specialist at the University of Toronto in 2009. She is currently completing a Masters degree at the Institute of Biomaterials and Biomedical Engineering at the University of Toronto under the supervision of Dr. Rita Kandel and Prof. Paul Santerre. She is characterizing and comparing annulus fibrosus and vertebral bone interface in humans and cows to identify an appropriate model to assess a tissue engineered disc.



Sukhvinder gained her Bachelor of Science in Physical Therapy from the Department of Physical Therapy at the University of Toronto (UofT) in 1995. She has worked clinically with many neurological populations through the acute and sub-acute phases of recovery. For the last 13 years she has worked specifically with the spinal population at the Toronto Western Hospital in the Krembil Neuroscience Centre. She is a Licensed Physical Therapist who has been involved in the rehabilitation care of both ambulatory and non-ambulatory patients. In addition to her clinical work she gained a Master's degree from the Graduate Department of Rehabilitation Science (GDRS) at UofT in 2006 where she studied her interest of upper limb recovery through the development of the Tetraplegia Hand Measure. Sukhvinder was awarded her PhD in 2011, again from GDRS at UofT. Her PhD work consisted of leading the GRASSP project; an international collaboration of six researchers who developed an upper limb measure that targets quantification of impairment post cervical SCI. She established the psychometric properties of the GRASSP along with the utility of the GRASSP in the current field. Sukhvinder continues research as a Post Doctoral Fellow at the Toronto Western Hospital, where she continues to develop the GRASSP measure, and study upper limb recovery in the traumatic and non traumatic SCI population.

NEW UNIVERSITY OF TORONTO SPINE PROGRAM MEMBER



Dr. Zabjek's research involves understanding the neuromusculoskeletal factors that influence functional mobility with a focus on changes that occur during development and from neurologic and musculoskeletal disorders. Dr. Zabjek is an Adjunct Scientist at the Toronto Rehabilitation Institute, and an Associate Researcher at the HSFO Centre for Stroke Recovery. He obtained his PhD in Biomedicine from the University of Montreal

UNIVERSITY OF TORONTO SPINE FACULTY

Dr. Henry Ahn: St. Michael's Hospital

Dr. Margarete Akens : Sunnybrook Research Institute

Dr. Benjamin Alman: The Hospital for Sick Children

Dr. Carlo Ammendolia: Mt. Sinai Hospital

Dr. Leo da Costa: Sunnybrook Health Sciences Centre

Dr. James Drake: Hospital for Sick Children

Dr. Mark Erwin: Toronto Western Hospital

Dr. Mahmood Fazl: Sunnybrook Health Sciences Centre

Dr. Michael G. Fehlings: Toronto Western Hospital

Dr. Joel Finkelstein: Sunnybrook Health Sciences Centre

Dr. Michael Ford: Sunnybrook Health Sciences Centre

Dr. Howard Ginsberg: St. Michael's Hospital

Dr. Hamilton Hall: Sunnybrook Health Sciences Centre

Dr. G. Hawryluk: Neurosurgery Resident

Dr. Rita Kandel: Mt. Sinai Hospital

Dr. Stephen Lewis: Toronto Western Hospital

Dr. Todd Mainprize: Sunnybrook Health Science Centre

Dr. Barry Malcolm: Sunnybrook Health Sciences Centre

Dr. Eric Massicotte: Toronto Western Hospital

Dr. Cindi Morshead: Donnelly Centre for Cellular and Biomolecular Research

Dr. Farhad Pirouzmand: Sunnybrook Health Sciences Centre

Dr. Raj Rampersaud: Toronto Western Hospital

Dr. Arjun Sahgal: Sunnybrook Health Sciences Centre

Dr. Michael Schwartz: Sunnybrook Health Sciences Centre

Dr. Molly Shoichet: .Terrance Donnelly Centre for Cellular & Biomolecular Research

Dr. Charles Tator: Toronto Western Hospital

Dr. Alexander Velumian: Toronto Western Hospital

Dr. James G. Wright: The Hospital for Sick Children

Dr. Cari Whyne : Sunnybrook Health Sciences Centre

Dr. Albert Yee: Sunnybrook Health Sciences Centre

Dr. Karl Zabjek: Toronto Rehabilitation Institute

Dr. Reinhard Zeller: The Hospital for Sick Children