

UNIVERSITY
TORONTO

Spine Program newsletter

Fall & Winter 2016/2017

Sunnybrook
Health
Sciences

ST. Michael's
Hospital

UHN

Toronto
Western
Hospital

Hospital for
Sick Children

MESSAGE from the CO-DIRECTORS

Dear spine community,

While the academic year is still in full swing we are delighted to share our ongoing program activities that have occurred over the fall and winter as well as some of the upcoming events planned for the rest of the year.



In each edition we highlight a spine faculty member and a trainee. Dr. Mark Erwin (Chiropractor and Disc Biology Scientist), and Dr. Daipayam Guha, PGY 4 (Neurosurgery resident, Surgeon-Scientist Training Program) are profiled in this edition with their selected spine publications. We also share news of excellence from our faculty and trainees. In particular, we extend our sincere congratulations to Dr. Charles Tator on being awarded to the Officers of the Order of Canada, the second highest honor for merit in the system of orders.

Our fellows and senior residents continue with great enthusiasm to participate in our Journal Clubs, research update meetings and FRCSC Mock Oral Exam Course which intended to prep those who write the Royal College of Physicians and Surgeons of Canada examinations this year.

We are also excited about a special workshop on spine oncology being jointly organized by the University and Sunnybrook Health Sciences Centre and co- led by Drs. James Rutka, Arjun Sahgal, Michael Fehlings and Albert Yee. In this workshop we aim to review perspectives from across the continents on surgical management of primary osseous spine tumors. We look forward to informative presentations being given by Dr. Peter Varga (Budapest, Hungary) Dr. Laurence Rhines (MD Anderson, Houston, Texas), Dr. Ziya Gokaslan (Providence, RI), and Dr. Charles Fisher (Vancouver, BC). This initiative aligns with

SAVE the DATE

SpineFEST 2017

Host site: U of T Spine Program

Co-Chairs: Professor Michael Fehlings & Professor Albert Yee

Keynote Speaker: Professor Zoher Ghogawala MD, neurosurgery, Tufts University School of Medicine

Talk: The Search for Truth in Spinal Surgery

Time: Monday June 12, 2017. 7:00am-4:00pm. Keynote address at 8:00am Location: MaRS Centre- Main Auditorium-Lower Concourse, 101 College Street Toronto ON

U of T GTA Spine Rounds

Host site: U of T Spine Program & SBHSC

Chair: Dr Joel Finkelstein

Talk: Spine and the Machine: How will Big Data make us better doctors?"

Time: Monday June 12, 2017 at 6:30pm (by invitation)

U of T spine Program Strategic Planning Retreat

Time: Monday December 4, 2017 @730am

Organized by: U of T Spine Program

Special Workshop on Primary Spine Tumors

Host site: U of T Spine Program, Department of Surgery, and Sunnybrook Radiation Oncology Spine

Organized by: Professors James Rutka; Arjun Sahgal; Michael Fehlings; and Albert Yee. Speakers: Drs Peter Varga-Budapest; Larry Rhines-MD Anderson; Ziya Gokaslan-Brown; and Charles Fisher-UBC. Time: Saturday Sep 23, 2017 (by invitation)



Surgery
UNIVERSITY OF TORONTO

Spine Program

our program's mission towards enhancing the coordinated health care delivery of quality oncological spine care.

We also present to you some of our ongoing translational research with updates from our PIs on their clinical trials. We congratulate Dr. Carlo Ammendolia on completing his successful study on Lumbar Spine Stenosis which has achieved the enrolment target.

SpineFEST is just around the corner! This year's event is marking its 9th Annual with on-going outstanding support from our faculty and trainees. The event will take place on Monday June 12, 2017 and we encourage all faculty, trainees, and academic partners to attend. Our keynote speaker Dr. Zohar Ghogawala is a world renowned neurosurgeon and scientist from Tufts University who will give address on the Search of Truth in spinal Surgery. He will also provide a talk at U of T GTA Spine Rounds about Bigger Data Better Doctors. In the same evening, we will celebrate our citywide spine fellow's graduation and congratulate them on successful completion of their clinical and research fellowship(s).

We are pleased to invite all U of T Spine Faculty and trainees to our Strategic Planning Retreat which will be held December 4 2017. The retreat will focus on three themes which are central to the mission of the Program: a) fellowship and training; b) integration of clinical care and enhancement of clinical programs and c) inter-institutional translational research. The retreat will inform the strategic directions for our program over the next 3 years.

We are looking forward to an exciting end of academic year program.

All the best and until soon,

Michael & Albert

SpineFEST (9th Annual Academic Day)

Monday, June 12, 2017, 7am-4pm

The University of Toronto Spine Program's 9th Annual Academic Day "SpineFEST" is being held this year on **Monday June 12 at MaRS Centre**, Main Auditorium- Lower Concourse.

SpineFEST is a unique interactive platform bringing together the spine community across the university and its affiliated hospitals/research institutes. The program provides attendees with an in-depth review of current trends and innovations to managing spinal care and discusses updates on spine research spanning the spectrum from bench, to bedside to community.

This year, our world renowned keynote speaker and Tator-Hall Visiting Professor Lecturer **Dr. Zohar Ghogawala** will be featuring **"The Search for Truth in Spinal Surgery"** at 8:00. Dr Ghogawala is the Chair of Neurosurgery at Lahey Hospital and Medical Center and a Professor of Neurosurgery at Tufts University School of Medicine. He is active in the surgical treatment of patients with disorders of the spine, carotid vascular disease and pituitary brain tumors. His research focuses on comparative effectiveness, cost-effectiveness, and neurosurgical outcomes, exploring the effectiveness, benefits and sometimes harmful results of different treatment options.

The Day will continue with interesting talks from spine faculty members (**Drs. Jefferson Wilson, Michael Fehlings, Raja Rampersaud, Julio Furlan, Carlo Ammendolia, Joel Finkelstein, and Henry Ahn**) and trainees (Drs. Allan Martin and Eric Crawford) . **In session I at 9:30** we will be discussing **value-based spine surgery and spine quality**, **session II at 13:00** will focus on **clinical trials/outcome measures in spine surgery**, and **in session III at 14:30** our **PGY4 trainees from orthopaedic surgery and neurosurgery will provide their research presentations**. We have received 30 excellent abstracts of clinical and preclinical research this year which have been reviewed by our faculty members. Winners of best abstracts will be providing oral presentation in session III. Abstracts will be presented at the **E-poster presentations and viewing at 10:45**. **Winners of best e-poster presentation** will be announced at the end of the day during the awards presentation **at 15:40**.

SpineFEST is an accredited group learning activity as defined by the Maintenance of Certification Program of The Royal College of Physicians & Surgeons of Canada (section I, 6.5 points). All faculty and trainees with interest in spine care and research are invited and welcomed to participate in this event. Onsite free registration, however early RSVP to uoft.spine@utoronto.ca is encouraged.

SPINEFEST
 MONDAY JUNE 12 2017
 7:00am - 4:00pm
 MaRS CENTRE, LOWER CONCOURSE
 101 COLLEGE ST, TORONTO ON

KEYNOTE SPEAKER
Zohar Ghogawala MD FACS
 Professor, Tufts University School of Medicine
 Chairman, Department of Neurosurgery, Lahey Hospital & Medical Center
 Co-Director, Comparative Effectiveness Research Institute

KEYNOTE ADDRESS
 Tator-Hall Visiting Professor Lecture
 8:00 - 9:15 AM
"The Search for Truth in Spinal Surgery"

Faculty Talks

COST UTILITY ANALYSIS EVALUATING SURGICAL VS. NON-SURGICAL TREATMENT FOR TYPE 2 GERIATRIC ODDTID FRACTURES Jefferson Wilson MD PhD FACS	9:30-9:45
COST EFFECTIVENESS SURGERY FOR DEGENERATIVE CERVICAL MYELOPATHY Michael G. Fehlings MD PhD FACS FRCSC	9:45-10:00
COST EFFECTIVENESS SURGERY FOR LUMBAR SPINAL STENOSIS R. Raja Rampersaud, MD, FRCSC	10:00-10:15
COST EFFECTIVENESS TREATMENT INTERVENTIONS FOR THE ELDERLY SPINAL CORD INJURIES Julio Furlan MD PhD MSc PhD FRCPC	10:15-10:30
GOING THE DISTANCE: A RANDOMIZED CONTROLLED STUDY EVALUATING A NOVEL, NON-OPERATIVE APPROACH TO IMPROVE WALKING ABILITY IN NEUROGENIC CLAUDICATION DUE TO DEGENERATIVE LUMBAR SPINAL STENOSIS Carlo Ammendolia MD PhD	13:00-13:15
DEIPHERING THE TRUTH IN SPINAL SURGERY OUTCOME MEASUREMENT Joel Finkelstein MD PhD FACS	13:15-13:30
Outcome Measures - title TBD Henry Ahn MD PhD FACS	13:30-13:45

Trainee Talks

MOVING QUANTITATIVE MRI OF THE SPINAL CORD INTO CLINICAL USE FOR DIAGNOSIS, MONITORING OF PROGRESSION, AND PREDICTION OF OUTCOMES IN DEGENERATIVE CERVICAL MYELOPATHY Allan Martin (PGY4 Neurosurgery)	14:30-14:40
OPPIOID-USE IN LOW BACK PAIN: PATIENT CHARACTERISTICS, OUTCOMES AND COSTS Eric Crawford (PGY4 Orthopaedic Surgery)	14:40-14:50

E-Poster Presentations & Judging 10:45-12:15
Best Abstracts Oral Presentations 15:00-15:30
Awards Presentations 15:40-16:30
Please arrive at 7:00 am for breakfast & University Bookings

Accreditation: Royal College of Physicians and Surgeons of Canada - Section I
 E-mail: uoft.spine@utoronto.ca; Twitter: @uoftspine; #uoftspine
 Web: <http://surgery.utoronto.ca/programs/spine.htm>

Program EVENTS

Tator-Turnbull Spinal Cord Injury Symposium 2016

On November 18, 2016 the University of Toronto Spine Program and the Krembil Neuroscience Centre celebrated the 15th anniversary of the Tator-Turnbull Lectureship. It was a spectacular event with excellent turnout. There was a very moving tribute to the late Barbara Turnbull and dedication of one of the spinal cord injury lab investigator offices, that belonging to Dr Charles Tator, in Barbara's name.



The lectureship featured Dr Claes Hultling from the Karolinska Institute. Claes himself is a quadriplegic as well as an innovative rehabilitation physician and researcher. The symposium was also sponsored by the U of T Collaborative Program in Neuroscience, Spinal Cord Injury Ontario, and the Ontario Neurotrauma Foundation.



Unveiling the Principal Investigator Office (Dr Tator's) in the name of Barbra Turnbull with Drs Charles Tator (Left) Claes Hultling and Michael Fehlings

SAVE the DATE cont'd

Tator-Turnbull Spinal Cord Injury Symposium- 2017

Host site: U of T Spine Program and UHN- Toronto Western Hospital
Chair: Professor Michael Fehlings
Keynote Speaker: TBD. Time: Friday, November 3, 2017. Half day program - OPEN TO PUBLIC
Location: BMO Centre, 60 Leonard Ave.



Dr Albert Yee (right) and Dr Michael Fehlings



Tator-Turnbull Spinal Cord Injury Symposium Nov 18, 2016

Program EVENTS cont'd

Confusion on Fusion! City-Wide Spine Fellow Journal Club and Research Update Meeting

To fuse or not to fuse, this is the question! The dispute has been longstanding with controversy remaining despite a couple of recent randomized trial.

At our Journal Club on Jan 23rd, 2017, organized by Drs Michael Fehlings and Albert Yee, there were interesting article and case presentations comparing and contrasting the two SLIP clinical trials and the controversial outcomes adopted by the two sides of investigation; the European and the North American. While discussions on laminectomy plus fusion versus Laminectomy without fusion for Lumbar Spondylolisthesis continue as highlighted by NEJM Group Forum discussion, the pro/con debate on fusion appears still to linger.

Excellent presentations and lively discussion was held as lead by our fellows Drs. Kyle Stampe, Dror Ofir, Gary Rosenberg, and Amit Keren with guidance from our faculty Dr. Joel Finkelstein. Once or twice, the discussions sizzled up then cooled down over an enjoyable dinner.

The journal club was followed by a mix of clinical and preclinical discussions, in the Research Update Meeting organized by Drs. Carlo Ammendolia and Karl Zabjek. Projects from across the citywide research units were highlighted. We were updated on the lumbar stenosis trial by Dr. Ammendolia, computational modeling by post-doctoral fellow Dr. Saeid Samiezadeh and stem cell for regenerating spinal cord injury by the PGY IV resident Dr. Chris Ahuja MD PhD.

Nadia Jaber

Photos from top: Faculty and trainees at the Journal Club Oct 18, 2016; Dr Amit Kern presenting (Spine Fellow); Dr Albert Yee (at mic) faculty and trainees at the Journal Club and Research Update Meeting on Jan 23, 2017



Program EVENTS cont'd

Fellowship of Royal College of Surgeon Mock Oral Exam Prep Course

On March 7th the University of Toronto Spine Program conducted its 3rd annual FRCS mock oral exam course bringing together senior residents from both disciplines of orthopedic surgery and neurosurgery.

The course is co-chaired by Professors Michael Fehlings (Neurosurgery) and Albert Yee (Orthopedic Surgery) and designed to prep the residents study for their final FRCS exam with focus on spine conditions. The course is comprised of three rounds of case reviews, brief case vignette in Royal College format, case solution, and case discussion assigned to each resident. It reviews the approach to managing a broad variety of spine conditions using case based discussion, provides practice in handling case discussions in a Royal College examination format, and discusses areas of controversy and

uncertainty in the management of spine conditions through an interactive format.

We thank our spine fellows (Drs. Jean-Christopher Murray, Kyle Stampe, and Mario Ganau) for sharing their expertise in the FRCS examination and their assistance in teaching and examining our residents. We are pleased to have learned that the residents unanimously indicated that the course had made them feel more confident sitting their exam.

Best of luck to all senior residents with their exams this year!



From left: Professors Albert Yee and Michael Fehlings (Co-Chairs) Jean-Chris Murray (spine fellow), and Andrea Chan (PGY5 orthopaedic surgery)



Assistant Professor Jeff Wilson (at mic)

Associate Professor W. Mark Erwin DC PhD

Dr Erwin came to research a bit later in life as he had begun his professional career as a clinician chiropractor after first obtaining his bachelor's degree in kinesiology/science. He was an elite competitive swimmer in university holding several Canadian championships while an undergraduate. An interesting clinical problem posed by a patient led him towards a research career followed some years later by obtaining his PhD at the Institute of Medical Science at the University of Toronto where the subject of his studies concerned intervertebral disc biology and degenerative disc disease. Dr Erwin now has a robust research programme based out of the Krembil Research Institute where he is a Principal Investigator and holds an academic rank of Assistant Professor within the Divisions of Neurological and Orthopaedic Surgery and is cross appointed to The Spine Programme. Dr Erwin's translational research programme concerns cellular and molecular mechanisms involved with degenerative disease of the spine, osteoarthritis and stem cell-based therapeutics as a treatment for ALS.



Dr Erwin is the author of a number of publications in leading peer-reviewed medical journals concerning the results of his studies. He is a CIHR/CCRF Senior Research Chair recipient, was the recipient of a CIHR postdoctoral award, two Connaught Scholarships and two Merit Awards while at the Institute of Medical Science at the University of Toronto. Dr Erwin's work is funded through international peer-reviewed funding, Philanthropic support as well as Industry and he is a reviewer for a number of leading peer-reviewed medical/scientific journals and scientific granting agencies.

Dr Erwin has mentored many trainees including and international surgeon/scientists. He is a committee member of the North American Spine Society biologics committee, the AOSpine research network, and is a member of the University of Toronto Spine Programme executive committee and education and research sub-committees. He is also the inventor of a patent concerning regenerative applications to the treatment of disc disease. Dr Erwin actively collaborates locally and with investigators in the United States, Australia and Switzerland.

In addition to his professional life, Dr Erwin is an avid scuba diver, fitness enthusiast and has a keen interest in photography.

Selected Publications

Rosenberg Gary, Yee Albert, **Erwin W Mark** "Bedside to Bench and back to Bedside: Translational Implications of Targeted Intervertebral Disc Therapeutics", *Journal of Orthopaedic Translation* (2017), In Press

Matta A, Karim MZ, Isenman D, **Erwin WM** "Molecular Therapy for Degenerative Disc Disease: Clues from Secretome Analysis of the Notochordal Cell-Rich Nucleus Pulposus", *Scientific Reports* (2017), | 7:45623 | DOI: 10.1038/srep45623

Mehrkens A, Matta A, Karim MZ, Kimi S, Fehlings MG, Schaeren S, **W Mark Erwin** "Notochordal cell-derived conditioned medium protects human nucleus pulposus cells from stress-induced apoptosis" *The Spine Journal* (2017), Jan 9. pii: S1529-9430(17)30003-7. doi: 10.1016/j.spinee.2017.01.00 Vol 17 579-588

Daipayan Guha PGY 4



Dr Daipayan Guha is a PGY-4 Neurosurgery at the University of Toronto. He is currently undertaking an MSc in the Surgeon-Scientist Training Program with Drs Victor Yang and Albert Yee. Dr Guha's clinical interest is mainly in minimally-invasive and image-guided spinal surgery, with

my graduate research work focusing on the validation and error tracking of optical surface imaging-based neuronavigation. Outside of the lab and hospital, He is an avid badminton player, alpine skier, road cyclist and beginner triathlete.

Selected Publications

Guha D, Coyne S, Macdonald RL. Timing of resumption of antithrombotic agents following surgical evacuation of chronic subdural hematomas: a retrospective cohort study. *Journal of Neurosurgery* 2016; 124(3):750-59.

Guha D, Heary RF, Shamji MF. Iatrogenic spondylolisthesis following laminectomy for degenerative lumbar stenosis: systematic review and current concepts. *Neurosurgical Focus* 2015; 39(4):E9.

Guha D, Ibrahim GM, Kertzer J, Macdonald RL. National Socioeconomic Indicators are Associated with Outcomes After Aneurysmal Subarachnoid Hemorrhage: A Hierarchical Mixed-Effects Analysis. *Journal of Neurosurgery* 2014; 121(5):1039-47.

Congratulations to Drs **Kajana Satkunendrarajah** (Dr Fehlings lab) and **Jefferson Wilson** on being selected to give keynote address at the recent AOSpine Fellows Forum in Banff Alberta (March 23rd - 27th). The selection was based on winning the 2016 Young Investigator Award (Kajana), and winning the top fellows research award 2016 (Jefferson).



Keynote address by Kajana "Promoting respiratory plasticity following cervical spinal cord injury"

Deep Guha (PGY 4) and Surgeon-Scientist graduate student supervised by Drs Victor Yang (Neurosurgery) and Albert Yee (Orthopedic Surgery) has received the Charles Kuntz Scholar Award by the AANS/CNS Joint Section on Disorders of the Spine and Peripheral Nerves at the 2017 Spine Summit in Las Vegas, for his work on machine-vision optical surface imaging for spinal neuronavigation!



Congratulations to our spine fellow **Nizar Moayeri MD PhD** on successful completion of his fellowship (Jan-Dec 2016) Nizar Moayeri finished his training at the Toronto Western Hospital- UHN supervised by our faculty Drs Michael Fehlings, Stephen Lewis, Eric Massicotte and Raj Rampersaud. Dr Moayeri had joined us from the Netherlands and currently is working as a spine neurosurgeon at the University Medical Centre-Utrecht, the Netherlands.

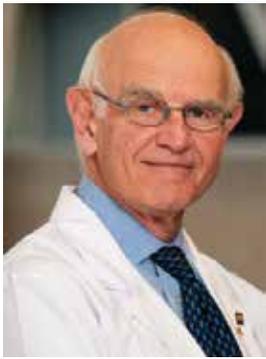


Antigona Ulndreaj, our graduate student at the Institute of Medical Science (IMS) at the University of Toronto, has been chosen the 2017 Winner of the Sara Al-Bader Memorial Award- one of the most important IMS award. Supervised by Dr Michael Fehlings, Antigona is conducting her graduate studies in Fehlings lab focusing on Spinal Cord Injury.



Stewart McLachlin PhD PEng has recently accepted a faculty position at the University of Waterloo as an Assistant Professor in the area of Orthopaedic Spinal Biomechanics starting in July 2017. Dr McLachlin completed his doctorate at Western University in Mechanical & Materials Engineering with a specialization in Musculoskeletal Health Research. He joined Dr Cari Whyne's Orthopaedic Biomechanics Laboratory at Sunnybrook Research Institute in 2013 as a Postdoctoral Fellow and in 2016 was awarded a Mitacs Elevate Fellowship to work in collaboration with Synaptive Medical. His research interests are focused on orthopaedic spine simulation and biomechanics with an emphasis on interdisciplinary collaborations to solve clinical problems. epidemiology of spinal trauma and spinal cord injury.

ANNOUNCEMENTS - Spine Faculty and Trainees



Within the the Order of Canada, one of our country's highest civilian honours, **Charles Tator CM MD PhD FRCS FACS** has been promoted to the Officer of the Order of Canada this year in recognition of his outstanding achievement, dedication to the community and service to the nation. Dr Tator had been previously named to the Order of Canada in 2000.



Carlo Ammendolia DC PhD CCRF

The Canadian Chiropractic Research Foundation has renewed their support to Dr Ammendolia's Professorship in Spine for another five year term, at \$100,000 per year beginning in July 2017.



Michael Fehlings MD PhD FRCS FACS has been appointed to the Editorial Board of both Spinal Cord and of Stem Cells Translational Medicine.

His article Rationale, Design and Critical End Points for the Riluzole in Acute Spinal Cord Injury Study by Fehlings et al has been rated the top cited

article published in 2016 by Spinal Cord.

His article on Laminectomy Plus Fusion and Liminoplasty co-authored with Dr James Harrop has been featured in the SpineUniverse .

Dr Fehlings has also won the Germán Ochoa Traveling Fellowship this year. A prestigious opportunity for senior AOSpine faculty member to travel to a spine centre of their choice and to act as Ambassador for AOSpine. Dr Fehlings will base his fellowship out of the Charité Clinic in Berlin.

W. Mark Erwin's, DC PhD, team (Ajay Matta, M. Zia Karim, David E. Isenma2 & W. Mark Erwin) was awarded best paper at the North American Spine Society (NASS) Annual Meeting in October, Boston, USA 2016 for their paper which focuses on Disc Regeneration. The paper has also been featured in Spinal News International within the context of the development of a minimally-invasive, percutaneously-delivered biomolecular treatment for degenerative disc disease". The paper "Molecular Therapy for Degenerative Disc Disease: Clues from Secretome Analysis of the Notochordal CellRich Nucleus Pulposus" has just been published in the Scientific Reports

Dr Fehlings receiving the Royal College Mentor of the Year 2016 Award. Former spine fellows from left: Drs Christina Goldstein; Carlo Santaguida and Allan Martin (current PGY4)



Congratulations !

Toronto, one of the most inspiring city I have ever visited. You could smell the positivity, hard work and enthusiasm everywhere in the city, but most certainly in one of the best neurosurgical centers in the world, Toronto Western. I have wondered how it is possible to bring together a team which could excel in almost every facet of the field in only one center. Yet, Toronto Western is a good example of that and its spine program has set the standard for clinical and scientific work.

I was honored to learn and work with some of the most skilled and brilliant people in spine surgery. Each one of them has his unique set of sub-specialty with years and years of experience. In case you didn't know, almost a 1000 complex spine cases a year is really something you don't see in a lot of centers across the world. Also, publishing more than 100 spine related papers a year is really something to be proud of.

I enjoyed my time in Toronto and happy to look back at a fruitful, inspiring and busy year. My personal thanks to drs Fehlings and Rampersaud to let me spend more time with them to learn from their experience and contaminate me with their enthusiasm bug. In addition, my thanks to drs Massicotte and Lewis for sharing with me their personal input in a lot of clinical challenges. Anoushka Singh, Nadia Jaber and all supporting staff, you keep the spine programs running, thanks to you all.

Nizar Moayeri
Utrecht, the Netherlands



Nizar Moayeri

Celebrating the successful completion of the UofT Lumbar Spinal Stenosis Study. Michael Fehlings and Carlo Ammendolia (right)



For his intensive and extensive On-Calls, Michael Fehlings named "Super Call" by his fellows. Gift and title seem to have been embraced!

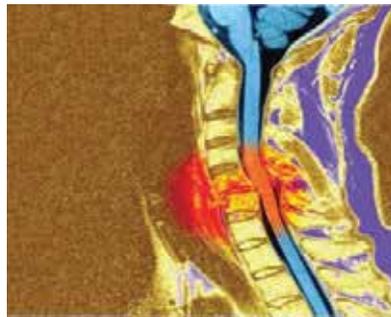


The Riluzole in Spinal Cord Injury Study

Currently recruiting

The Riluzole in Spinal Cord Injury Study (RISCIS) is principally sponsored by AOSpine North America with partnership and co-funding from: AOSpine International Spinal Cord Injury Knowledge Forum; North American Clinical Trials Network (NACTN); US Department of Defense (DOD); Ontario Neurotrauma Foundation; Rick Hansen Institute (RHI), and Christopher and Dana Reeve Foundation. RISCIS is a worldwide multicentre trial launched to evaluate efficacy and safety of Riluzole in improving neurological motor outcomes of patients with acute spinal cord injury at 6 months post injury.

Under the U of T Spine Program umbrella, the trial is launched and approved for data sharing agreement at three affiliated sites: Toronto Western Hospital (TWH); Sunnybrook Health Sciences Centre (SHSC); and St. Michael's



Hospital (SMH). Eligibility is Age 18 to 75 years, Acute (< 14 days old) spinal cord injury of traumatic origin, Spinal cord injury at the neurologic level from C4 to C8, ASIA Impairment Scale level A, B or C, and no other life-threatening injury.

Principal Investigators:

Michael Fehlings (Lead), UHN-Toronto Western Hospital. michael.fehlings@uhn.ca

Albert Yee, Sunnybrook Health Sciences Centre. Albert.Yee@sunnybrook.ca

Henry Ahn, St. Michael's Hospital. AhnH@smh.ca

Contact Research Coordinators:

TWH: Yuriy Petrenko. (416) 790-4535. Yuriy.Petrenko@uhn.ca

SHSC: Katrine Milner. (416) 505-7686. katrine.milner@sunnybrook.ca

SMH: Kayee Tung. (416) 864-6060 Ext. 2713. TungK@smh.ca

For eligibility and inclusion criteria check
ClinicalTrials.gov Identifier: NCT01597518

Lumbar Spinal Stenosis Study



The trial has completed recruitment of 104 participants for this study. Follow-up assessments are 8 weeks, 3 months, 6 months, and 12 months with primary outcome in change in walking capacity measured at 6 months. The trial falls under the umbrella of the U of T Spine Program.

Contact Investigator: Carlo Ammendolia, Mount Sinai Hospital. CAmmendolia@mtsinai.on.ca
Health Sciences Centre. Arjun-Sahgal@sunnybrook.ca

Update by the PI

We have completed the final 12 m follow-up assessment of our participants in our clinical trial.

At 8 weeks follow-up mean change from baseline in walking ability was +502 meters in the comprehensive group compared to 201m in the control group. At 12 m the mean improvement in walking ability was + 675 m in comprehensive group compared to 201 m in the control group. These are clinically important improvements in walking ability that were sustained at long term follow-up even after the termination of the active intervention. Clinically important improvements were also seen in the functional score of the Zurich Claudication Scale and the composite score of the symptom and functional scores of the Zurich Claudication Scale. We are currently assessing prognostic factors and co-interventions. We will be interested in seeing whether compliance to participants' respective program was factor in improved walking ability.

Carlo Ammendolia



The Epidemiology, Process and Outcomes of Spine Oncology (EPOSO)

Currently recruiting

The main purpose of this study is to utilize a comprehensive, prospective clinical database to collect patient, diagnostic and treatment variables along with disease specific and generic health related quality of life (HRQOL) data on consecutively treated patients with metastatic spine tumors. The objectives are to determine the validity and reliability of the Spine Cancer Outcomes Questionnaire (SCOQ) for use in the assessment of spine tumor outcomes, to determine if the Spine Instability Neoplastic Score (SINS) Classification is a valid tool for predicting the stability of spine in metastatic spine disease, and to determine the efficacy of surgery versus radiotherapy for the treatment of impending instability secondary to metastatic disease of the spine.



This is an international multi-centre trial spanning centres in Hungary, USA, and Canada including our affiliated hospitals SBHSC, and UHN-TWH.

Sponsored by: AOSpine International

Principal Investigators:

Arjun Sahgal, Odette Cancer Centre-Sunnybrook Health Sciences Centre. Arjun.Sahgal@sunnybrook.ca

Michael Fehlings, UHN-Toronto Western Hospital. michael.fehlings@uhn.ca

[For eligibility and inclusion criteria check ClinicalTrials.gov Identifier: NCT01825161](#)

Update from the PI:

Recruitment is almost closed, following which, the Metastatic Tumor Research and Outcome Network (MTRON) will be initiated. MTRON will be an international multi-centre prospective registry for the management of metastatic spine tumors. It will be co-led internationally by Drs Arjun Sahgal (U of T) and Charles Fisher (UBC). Again SHSC and UHN-TWH will open MTRON having successfully been high accruing centres for EPOSO.

Arjun Sahgal

SC. 24 A Randomized Phase II/III Study Comparing Stereotactic Body Radiotherapy (SBRT) Versus Conventional Palliative Radiotherapy (CRT) for Patient with Spinal Metastases

Currently recruiting

SC.24 is a Phase II randomized trial that has been moved to a Phase III trial comparing stereotactic body radiotherapy (SBRT – 24Gy in 2 fractions, developed at the University of Toronto) to conventional radiation (20Gy in 5 fractions) for patients with intact painful spinal metastases.

This trial is open in 8 sites across Canada including our affiliated hospitals SHSC and UHN.

Sponsored by: Canadian Cancer Trials Group

[For eligibility and inclusion criteria check ClinicalTrials.gov Identifier: NCT02512965](#)

Study Chair: Dr Arjun Sahgal, Odette Cancer Centre-Sunnybrook Health Sciences Centre. Arjun.Sahgal@sunnybrook.ca

Study to Assess the Efficacy and Safety of VX-210 in Subjects With Acute Traumatic Cervical Spinal Cord Injury

Currently recruiting

This new and is a phase 2b/3, double-blind, randomized, placebo controlled, multicenter Study designed to determine the efficacy and safety of VX-210 in subjects with Acute Traumatic Cervical Spinal Cord Injury. Secondary objectives include the specific evaluation of the effects of VX-210 on neurological recovery and daily function after spinal cord injury. 54 have been recruited across Canada.

Sponsored by: Vertex Pharmaceuticals Incorporated

Principal Investigator: Michael Fehlings, UHN-Toronto Western Hospital. michael.fehlings@uhn.ca

Contact:

TWH: Yuriy Petrenko, 416-603-5285 . yuriy.petrenko@uhn.ca

[For eligibility and inclusion criteria check ClinicalTrials.gov Identifier: NCT02669849](#)

Cervical Spondylotic Myelopathy Surgical Trial

Currently recruiting

The purpose of the study is to determine the optimal surgical approach (ventral vs dorsal) for patients with multi-level cervical spondylotic myelopathy (CSM). There are no established guidelines for the management of patients with CSM, which represents the most common cause of spinal cord injury and dysfunction in the US and in the world.



This study aims to test the hypothesis that ventral surgery is associated with superior Short Form-36 physical component Score (SF-36 PCS) outcome at one year follow-up compared to dorsal approaches and that both ventral and dorsal surgery improve symptoms of spinal cord dysfunction measured using the modified Japanese Orthopedic Association Score (mJOA). A secondary hypothesis is that health resource utilization for ventral surgery, dorsal fusion, and laminoplasty surgery are different. A third hypothesis is that cervical sagittal balance post-operatively is a significant predictor of SF-36 PCS outcome.

This is an international Multi-Centre Trial being conducted in the United States and Canada including our affiliated hospital the UHN-TWH.

Sponsored by: Lahey Clinic, and Patient-Centered Outcomes Research Institute

Principal Investigators:
 Michael Fehlings (Local), UHN-Toronto Western Hospital. michael.fehlings@uhn.ca
 Zoher Ghogawala (Lead), Lahey Clinic, Inc. Zoher.ghogawala@lahey.org

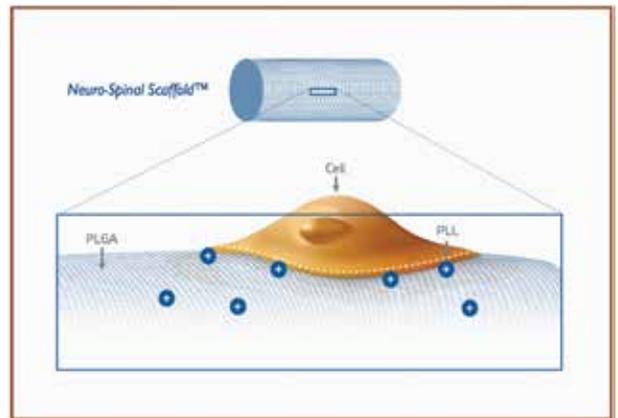
Contact: Yuriy Petrenko, 416-603-5285. yuriy.petrenko@uhn.ca

For eligibility and inclusion criteria check [ClinicalTrials.gov Identifier: NCT02138110](https://clinicaltrials.gov/ct2/show/study/NCT02138110)

The INSPIRE Study: Probable Benefit of the Neuro-Spinal Scaffold for Treatment of AIS A Thoracic Acute Spinal Cord Injury

Currently recruiting

The purpose of this study is to evaluate whether the Scaffold is safe and demonstrates probable benefit for the treatment of complete T2-T12/L1 spinal cord injury. This is a Humanitarian Device Exemption (HDE) Probable Benefit Study to demonstrate safety and probable benefit in support of future studies and an HDE application with subsequent approval.



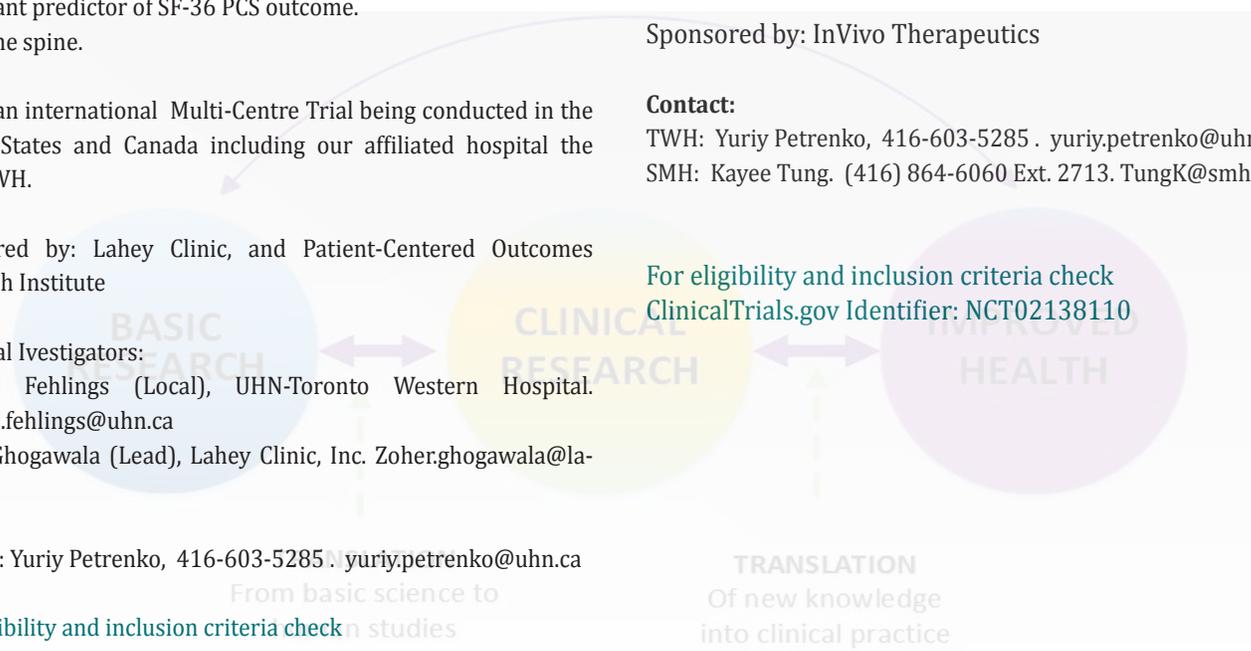
This is an international Multi-Centre Trial being conducted in the United States and Canada. The UHN- Toronto Western Hospital (PI Dr Michael Fehlings) has joined in July 2016 followed by ST. Michael's Hospital (PI Dr Howard Ginsberg).

Sponsored by: InVivo Therapeutics

Contact:

TWH: Yuriy Petrenko, 416-603-5285. yuriy.petrenko@uhn.ca
 SMH: Kayee Tung. (416) 864-6060 Ext. 2713. TungK@smh.ca

For eligibility and inclusion criteria check [ClinicalTrials.gov Identifier: NCT02138110](https://clinicaltrials.gov/ct2/show/study/NCT02138110)



Program AT-LARGE

Special Inter-Professional Workshop on Primary Spine Tumors

In their capacity as Co-Directors of the U of T spine Program Drs. Michael Fehlings and Albert Yee and jointly with Drs. James Rutka (Chair, Department of Surgery) and Arjun Sahgal (Deputy Chief, Department of Radiation Oncology, Sunnybrook) are organizing a special workshop on Primary Spine Tumors on Saturday, September 23 2017.

The workshop is to provide the latest update on the surgical management of primary osseous spine tumors. Dr. Peter Varga from Budapest will speak on sacral chordoma and reconstruction techniques; Dr. Larry Rhines from MD Anderson on the role of plastics for complex spine surgery for mobile spine tumors; Dr Ziya Gokaslan from Brown university on en bloc surgery for mobile spine tumors; and Dr. Charles Fisher from Vancouver, UBC on the AOSpine guidelines for primary spinal tumors.

This half-day workshop is targeted towards staff spine surgeons in the GTA followed with discussions on improving the standardization for the surgical management of complex cases.

Combined Canadian Spinal Cord & Ontario Spinal Cord Injury Research Network Meeting

Our faculty and trainees are invited to attend the Combined Canadian Spinal Cord & Ontario Spinal Cord Injury Research Network Meeting being held on May 12-14, 2017 at the Toronto Marriott Downtown.

The ONF usually arranges a biennial OSCIRN meeting. Interestingly, however, this year's meeting will be in combination with the Canadian SCI (Repair, Rehabilitation and Reintegration) in order to bring together Basic and clinical researchers to promote forward and reverse bench-clinic translation. Our program is pleased to collaborate in this event and all our faculty members, committee members and their trainees are welcomed and encouraged to attend this meeting.



**Canadian Spinal Cord & Ontario Spinal Cord Injury Research Network
Combined Meeting**

May 12th to 14th 2017
Contact: Anoushka Singh at asingh@uhnresearch.ca

Toronto Marriot Downtown Eaton Centre
525 Bay St Toronto, ON M5G 2L2

17th Annual Scientific conference of Canadian Spine Society

The University of Toronto Spine Program is proud of taking part of the Annual Scientific conference of the Canadian Spine Society each year. There was excellent representation from our faculty and trainees at the 17th Annual Scientific conference of Canadian Spine Society held between Feb 22nd to 25th this year.

Outstanding podium presentations and excellent best paper presentations were provided by our faculty members (Drs. Michael Fehlings; Stephen Lewis; and Raj Rampersaud) as well as by our fellows and residents (Drs. So Kato, Daipayan Guha, Christopher Witiw, Anick Nater, Christopher Ahuja, and Allan Martin). In additions, an effective session chairing was conducted by our faculty members Drs. Albert Yee and Reinhard Zeller. The conference spanned a range of topics from care of the elderly spine to recent advances in pediatric spinal deformity with presentations covering on-going research involving the Canadian Spine Outcomes and Research.



Global Spine Congress 2019 coming to Toronto

Sneak Preview: The 2019 Global Spine Congress is coming to Toronto (Spring 2019). The U of TS pine Program will be hosting the AOSpine 2019 Global Spine Congress, a vibrant international spine conference which is anticipated to attract over 1500 delegates.

Neurotrauma2018 Symposium coming to Toronto Aug 11-16

We are excited to be hosting the Neurotrauma2018 Symposium in Toronto August 11-16 2017 (Westin Harbour Castle Hotel). This is the 3rd Joint Symposium of the International and National Neurotrauma Societies and AANS/CNS Section on Neurotrauma and Critical Care. The symposium will be a wonderful occasion for exchanging science, preclinical and clinical lessons, and sharing visions for the future of neurotrauma research and care.

This symposium has served as the premier forum for the exchange of ideas and information related to traumatic brain injury (TBI) and spinal cord injury (SCI) with a strong focus of the meeting to integrate clinical, translational, and basic science neurotrauma-related information. The format of the symposium will consist of informative discovery, translational, and clinical sessions and workshops, as well as programs for students and early career investigators. Plenary sessions, workshops, and poster sessions are being planned to focus on topics of current research and practice issues.

A public lecture, patient perspective presentations, and networking opportunities will round out the program.

The meeting will be co-hosted by the International & National Neurotrauma Society and the AANS/CNS Joint Section on Neurotrauma and Critical Care. This combination of expertise allows for presentations that integrate state-of-the-art clinical, translational and basic science information on the consequences of damage to the nervous system.

This is an exciting time in neurotrauma research and care and we hope to see you in Toronto for the Neurotrauma2018 Symposium. For update visit the website at neurotrauma2018.com

Michael Fehlings, NeuroTrauma2018 Local Host

NeuroTrauma2018
The 3rd Joint Symposium of the International and National Neurotrauma Societies and AANS/CNS Section on Neurotrauma and Critical Care
AUGUST 11-16, 2018
TORONTO, CANADA

SAVE THE DATES

	Occurs	Deadline
Abstract Submission	January 15, 2018	April 05, 2018
Early Bird Registration	January 15, 2018	May 20, 2018
Regular Registration	May 21, 2018	June 05, 2018
Late Registration	July 1, 2018	July 15, 2018

www.neurotrauma2018.com | #neurotrauma2018

Acknowledgment

The University of Toronto Spine Program acknowledges the strong support from the University of Toronto Department of Surgery, Division of Orthopaedic Surgery, and Division of Neurosurgery. The Program also acknowledges the continued support from our Industry Partners: Medtronic, DePuy Synthes; Ethicon; Stryker; and Zimmer Biomet.

Donations to the University of Toronto Spine Program support educational events, clinical and preclinical research and trainees. The funds also support ongoing programmatic collaborative initiatives set forth to advance spine care and research in Canada and worldwide.

Contact:

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(416)978 8468



<http://surgery.utoronto.ca/programs/spine.htm>

