UHN Toronto Rehabilitation Institute

6th National Spinal Cord Injury Conference

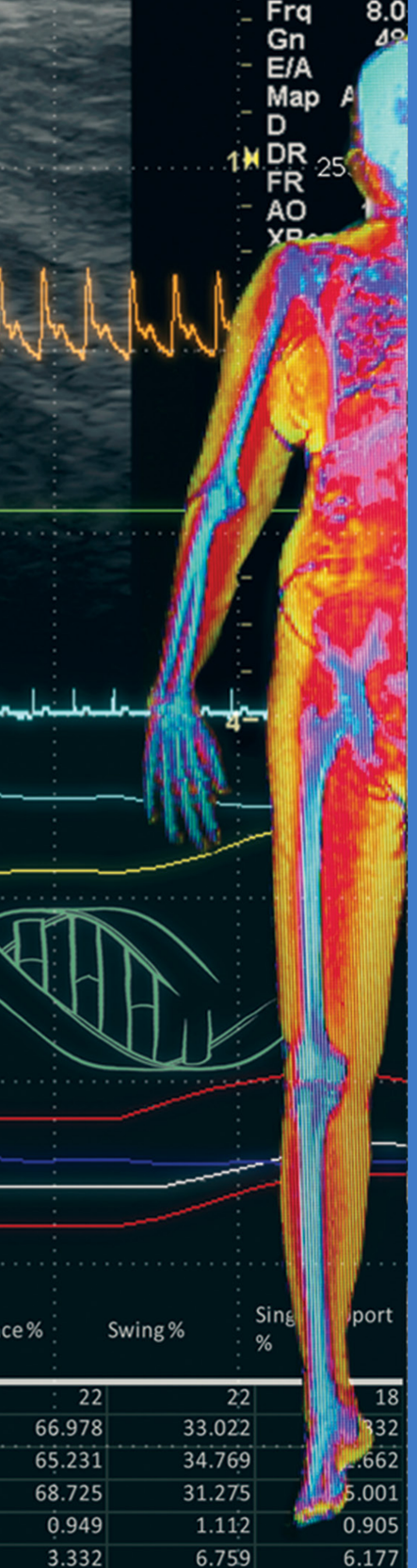
Bioinformatics Inform SCI Rehabilitation

October 2nd, 2014 (Pre-Course)

October 3rd – 4th, 2014 (Main Conference)

Allstream Centre, 105 Princes' Blvd Toronto ON

www.sciconference.ca



6th National Spinal Cord Injury Conference

Toronto Rehabilitation Institute – UHN is pleased to announce the **6th National Spinal Cord Injury Conference, Bioinformatics Inform SCI Rehabilitation.** Join us in downtown Toronto for the pre-eminent gathering of clinicians, physicians, research scientists and consumers from across Canada and North America who are focused on understanding and achieving recovery among the spinal cord injury (SCI) population.

The 6th National SCI Conference will focus on the integration of bioinformatics and clinical care. How clinical care is designed, interpreted, delivered and evaluated using biological and clinical evidence to shape rehabilitation practice will be featured. Key note speakers, oral and poster presentations along with workshops will provide SCI rehabilitation clinicians with knowledge and opportunities to utilize information generated from difference sources (i.e. biomarkers and genetics; clinical guidelines, algorithms and assessment outcomes; data mining of registries, decision support and economic analysis; rehabilitation interventions, technologies and software) to customize and advance the rehabilitation of individuals with SCI over their lifetime.

Save Your Spot & Register Today!

This conference includes a pre-course and numerous keynote presentations. Benefit from 13 interactive workshops and more than 60 poster displays. The conference will showcase expertise from across North America with an agenda that will enhance the networking experience and promote exchange of ideas among attendees.

CME's

We are applying to have this event approved as an accredited group learning activity as defined by The Royal College of Physicians and Surgeons of Canada's Maintenance Certification Program. Application for Mainpro-M1 accreditation has been submitted.

All accepted abstracts will be published in **The Journal of Spinal Cord Medicine**

Pre-Course: Thursday, October 2nd, 2014

12:00 – 13:00 **REGISTRATION**

13:00 – 13:15 Opening Remarks

13:15 – 14:05 Keynote Presentation
Clinical Translation of Biological Therapies for SCI

James Guest, MD PhD FACS
Clinical Professor of Neurological Surgery
The Miami Project to Cure Paralysis, The Neuroscience Graduate Program, and Jackson Memorial Hospital, Miami FL

Learning Objectives
- ✔ Describe the limitations of using a single biological therapy to treat SCI
- ✔ Determine if commercialization of biological therapies are necessary
- ✔ Determine if the obstacles to the repair of a severe SCI are resolvable

14:05 – 14:20 **TRANSITION TO WORKSHOPS**

14:20 – 15:50 **Concurrent Workshops – Session One**
Workshops 1 – 4 will run concurrently from 14:20 to 15:50 and will be repeated again from 16:05 – 17:35.

Workshop 1

Future Directions in Clinical Gait and Postural Balance Analysis after Spinal Cord Injury – Moving Towards Novel Gait Training Opportunities

Hossein Rouhani, PhD (Biotechnology & Bioengineering)
Postdoctoral Fellow, Toronto Rehabilitation Institute – University Health Network; Institute of Biomaterials & Biomedical Engineering, University of Toronto

Christian Schuld, Dipl – Inform Med
Research Associate, Experimental Neurorehabilitation, Spinal Cord Injury Center, Heidelberg University Hospital, Germany

This workshop will provide an overview about the state-of-the-art of clinical movement analysis in SCI and will demonstrate gait and postural balance therapy systems based on real-time feedback and application of wearable sensors for this purpose.

Learning Objectives:
- ✔ Understand the value of clinical movement analysis in SCI
- ✔ Recognize that real-time feedback can be a valuable tool in gait rehabilitation

Learning Objectives Continued:
- ✔ Understand the advantage of application of wearable (body-worn) sensors for gait and postural balance assessment
- ✔ Realize that the combination of real-time feedback and wearable systems allows for a mobile and affordable gait analysis and gait feedback therapy device

Workshop 2

Clinical Guidelines for Use and Implementation for the Graded Redefined Assessment of Strength Sensibility and Prehension (GRASSP)

Sukhvinder Kalsi-Ryan, BScPT MSc PhD
Postdoctoral Fellow, Krembil Neuroscience Centre – University Health Network; Lecturer, Department of Physical Therapy, University of Toronto

This workshop will provide a clinical learning opportunity in the administration of the GRASSP Version 1.0; the development of the GRASSP, how to administer the GRASSP, document the findings and implement use of the GRASSP into a clinical setting.

Learning Objectives:
- ✔ Administer the GRASSP independently, accurately score patient outcomes, and interpret the results
- ✔ Evaluate and document the results, and determine the optimal use of longitudinal assessment
- ✔ Identify the benefits of utilizing the GRASSP and indicate how the GRASSP can be applied in their clinical settings
- ✔ Recommend how to enhance use and uptake of the GRASSP in their own clinical environments

Workshop 3

Enhancing Inter-Professional Collaboration during Team Rounds in SCI Rehabilitation through the Implementation of a Domain-Based, Patient-Focused Structure

Kristina Guy, PT MSc BScPT BSc(HK)
Profession Practice Leader, Brain and Spinal Cord Rehabilitation Program, Toronto Rehabilitation Institute – University Health Network

Heather Flett, MSc B.Sc(PT) BA
Advanced Practice Lead, Spinal Cord Rehab, Brain and Spinal Cord Injury Rehab Program, Toronto Rehabilitation Institute – University Health Network; University of Toronto

Sandra Mills, MEd BRLS (TRS)
Patient and Family Educator, Toronto Rehabilitation Institute – University Health Network

Carol Scovil, PhD
Transformation Specialist, Brain and Spinal Cord Rehabilitation Program, University Health Network — Toronto Rehabilitation Institute

Tess Devji, OT BScOT BSc(HK)
Spinal Cord Rehab Process Improvement Lead & Occupational Therapist, Brain and Spinal Cord Rehabilitation Program, Toronto Rehabilitation Institute – University Health Network; University of Toronto

This presentation will provide an overview of the methods used to design and implement a collaborative structure for interprofessional team rounds. The presenters will provide specific information about transitioning from profession-based discussion to domain-based discussion as well as how the discussion is focused on the patients' priorities.

Learning Objectives:

- ✔ Be able to describe how a domain based structure allows patients to identify areas of priority and teams to identify areas of need
- ✔ Understand how domain-based team discussions facilitate interprofessional collaboration
- ✔ Have tools and resources available to assist in implementation of this strategy in their own environment

Workshop 4

Improving Voluntary Grasping Function in Incomplete Cervical Spine Injury Patients using Functional Electrical Stimulation Therapy

Milos Popovic, PhD PEng
Chair in Spinal Cord Injury Research, Rehabilitation Engineering Laboratory, Toronto Rehabilitation Institute – University Health Network; Professor, Institute of Biomaterials and Biomedical Engineering, University of Toronto

Naaz Kapadia Desai, MSc PT (Neuroscience)
Research Physiotherapist, Toronto Rehabilitation Institute – University Health Network; Clinical Physiotherapist, William Osler Health System

Sylvia Daniel , PT BScPT MScPT
Clinical Physiotherapist, Private Practice; Lecturer Appointment, Department of Physical Therapy, University of Toronto

This workshop will illustrate the application of functional electrical stimulation (FES) therapy for retraining upper extremity function, in particular grasping, in individuals with cervical level spinal cord injury (SCI). Participants will be given an opportunity to experience the stimulation. The session will be followed by a discussion regarding the implications of FES interventions as well as current and future upper extremity rehabilitation assessment and best practices.

Learning Objectives:

- ✔ Explain what FES therapy is
- ✔ Identify how FES therapy can be used in your practice
- ✔ Identify which FES upper limb protocols are appropriate for your patients
- ✔ Select FES protocols and FES parameters appropriate for your patients
- ✔ Identify indications and contraindications for the use of FES
- ✔ Describe upper extremity outcome measures that are able to detect change, post FES therapy

15:50 – 16:05 **TRANSITION TO WORKSHOPS SESSION TWO**

16:05 – 17:35 **Concurrent Workshops – Session Two**
Workshops 1 – 4 are a repeat of the Session One workshops presented at 14:20 – 15:50 and will run concurrently. Please see above for workshop descriptions and details.

17:35 – 17:55 **TRANSITION TO MAIN ROOM**

17:55 – 18:00 Closing Remarks

18:30 – 20:30 Pre-Registration for Main Conference

07:30 – 08:30 **REGISTRATION & CONTINENTAL BREAKFAST**

08:30 – 08:50 Opening Ceremonies & Welcoming Remarks

08:50 – 09:40 The Dr. Nimmi Bharatwal Lectureship Keynote Presentation
Rehabilomics – A Conceptual Framework for Personalized and Translational Rehabilitation Care

Amy K. Wagner, MD
Associate Professor and Vice Chair for Research; UPMC Endowed Research Chair, Physical Medicine and Rehabilitation; Associate Director Rehabilitation Research, Safar Center for Resuscitation Research Training Faculty, Center for Neuroscience, University of Pittsburgh

There remains a paucity of effective therapies for treating the multiple consequences from injury and complex disease. Despite many people having similar injury or disease factors, demographics, and response to clinical care, outcome can be very different. In addition to traditional demographic, social, and clinical factors, this variability also may be attributable to innate (including genetic, trancriptomic proteomic, epigenetic) biological variation that patients bring to recovery and the unique response to each person's care and environment. Technologies collectively called "-omics" enable simultaneous measurement of an enormous number of biomolecules that can capture many potential biological contributors to heterogeneity of injury/disease course and outcome. Due to the nature of injury (or complex disease), and its associations with impairment, disability, and recovery, rehabilitation does not lend itself to a singular "protocolized" plan of care or therapy. Yet, by nature and by necessity, rehabilitation medicine operates as a functional model of "Personalized Care". Thus, the challenge for translational rehabilitation and research is to identify viable approaches to examine broad populations with a wide range of impairments and functional limitations and to identify effective treatment responses that incorporate personalized protocols to optimize functional recovery.

The Rehabilomics framework provides an "-omics" overlay to the scientific study of rehabilitation processes and multidimensional outcomes. Rehabilomics research provides novel opportunities to evaluate the neurobiology of complex injury or chronic disease and also examine methods and treatments for person-centered care among populations with disabilities. Exemplars for application in SCI and other neurorehabilitation populations will be addressed.

Learning Objectives:

- ✔ To discuss molecular and biological heterogeneity associated with complex injury and chronic disease
- ✔ To define the Rehabilomics frame work and how the framework maps to the World Health Organization's International Classification of Functioning and Participation
- ✔ To identify necessary research tools and capacity for generating a viable translational Rehabilomics research and care program
- ✔ To review current advances in research and care in Neurorehabilitation through a Rehabilomics lens

09:40 – 09:50 **BREAK**

09:50 – 10:30 Keynote Presentation
Neural Engineering Science and Technology for Restoring Function to Damaged Neural Circuits

Douglas J. Weber, PhD
Associate Professor, Department of Bioengineering, Department of Physical Medicine and Rehabilitation, University of Pittsburgh

Over the last 2 decades, advances in microsystems engineering have enabled the development of neural prostheses that interface directly with neurons in the brain, spinal cord and peripheral nerves. These so-called "neural interfaces" serve as bi-directional communication channels, allowing information to be read-out by decoding signals recorded from neurons or written-in via patterned electrical stimulation of neurons. We are exploiting these technologies for two purposes: 1) to advance our understanding of how the nervous system senses and controls limb motion, and 2) to develop advanced prosthetic devices that interface directly with the nervous system for control. Dr. Weber's talk will focus on animal and human studies of implantable neural interface technologies for controlling and sensing dexterous prosthetic limbs. These studies demonstrate the potential for these technologies to dramatically improve quality of life, but also reveal some of the remaining challenges that must be overcome to transition these technologies into mainstream clinical care.

Learning Objectives:

- ✔ Understand goals, capabilities and limitations of state-of-the-art neural interface technologies for restoring function in persons with paralysis or limb loss
- ✔ Gain an understanding of the science and engineering underlying development of these technologies

10:30 – 10:40 **BREAK**

10:40 – 12:10 Significant SCI Snippets
Each Speaker has 10 minutes to present and 5 minutes for a discussion with delegates.

Presentation #1

Measuring Walking after Spinal Cord Injury: Are Current Methods Enough?

Kristin Musselman, PT PhD (Rehabilitation Science)
Scientist, Toronto Rehabilitation Institute – University Health Network; Assistant Professor (status-appointment), University of Toronto

Despite the development of numerous tools to measure walking post-spinal cord injury, challenges remain. Kristin will discuss these challenges and the work that is being done to address them.

Presentation #2

The Science and Art of Measuring Outcomes after Spinal Cord Injury

Julio C. Furlan, MD MBA MSc PhD
Adjunct Scientist, Lyndhurst Centre, Toronto Rehabilitation Institute – University Health Network; University of Toronto

This presentation will provide an overview of (i) the main clinical outcome measures of impairment and disability for individuals with traumatic spinal cord injury; (ii) qualitative and quantitative parameters from imaging of spinal cord that are associated with impairment following spinal cord injury; and (iii) neurophysiological assessment of motor, sensory and autonomic function in individuals with spinal cord injury.

Presentation #3

Traction Provided by a Mobility Assistance Dog Reduces Upper Limb Effort when Manual Wheelchair Users with Spinal Cord Injury Propel up a Ramp: A Comprehensive Biomechanical Analysis

Valérie Martin Lemoyne, BSc (Physiotherapy) MSc Candidate (Rehabilitation Sciences)
Physiotherapist, Service des aides techniques, Institut de Réadaptation Gingras-Lindsay-de-Montréal (IRGLM)

This biomechanical study compared mechanical and muscular efforts at the non-dominant upper limb when manual wheelchair users with a spinal cord injury propel up a ramp with a slope exceeding building code requirements with or without the use of a mobility assistance dog. The results objectively confirm that the provision of a mobility assistance dog represents a therapeutic alternative that minimizes upper limb effort and optimize performance when propelling up a ramp.

Presentation #4

Rehab Interrupted: Frequency, Type and Duration of Service Interruptions during Inpatient SCI Rehabilitation

Rohit Bhide, DNB (PMR)
Clinical Fellow, Division of Physiatry, Department of Medicine, University of Toronto; Toronto Rehabilitation Institute – University Health Network

This presentation will provide a working definition of Service Interruption. It will specify the common reasons, frequency and types of service interruptions observed in Ontario. The impact of service interruptions on rehab length of stay and outcome will be discussed.

Presentation #5

Promoting Self-Repair: Rapid and Directed Galvanotaxis of Adult Neural Precursor Cells

Rob Babona-Pilipos, PhD (Biomedical Engineering)
Postdoctoral Fellow, University of Toronto

This talk will discuss the phenomenology and mechanisms by which adult brain neural precursor cell motility is directed and enhanced in the presence of an applied electric field.

12:10 – 12:30 Champion of Change Award

Award Recipient:
Serge Rossignol, MD PhD
Full Professor, Department of Neuroscience, Université de Montréal, Canada Research Chair Tier 1; Director ERRSM/SMRRT 12:10 – 13:15

12:10 – 13:15 **NETWORKING LUNCH & SPONSOR/EXHIBIT VIEWING**

13:15 – 14:05 Keynote Presentation
How to Win Friends and Influence People: The Role of Health Economics in Decision Making

Nicole Mittmann, MSc PhD
Executive Director, Health Outcomes and PharmacoEconomic (HOPE) Research Centre, Sunnybrook Health Sciences Centre; Assistant Professor, Department of Pharmacology, University of Toronto; Adjunct Professor, International Centre for Health Innovation, Richard Ivey School of Business, Western University

This presentation will provide information on the role of health economics in the spinal cord injury space. Dr. Mittmann will discuss the relationship between cost and value in the context of publicly and privately funded health care systems. The audience will understand the importance of data and variables required to make decisions about funding and approving technologies in current day practice.

Learning Objectives:

- ✔ Understand the role of health economics in decision making and policy
- ✔ Learn about economic data required for decision making
- ✔ Learn about economics and spinal cord injury

14:05 – 14:15 **TRANSITION TO WORKSHOPS**

14:15 – 15:15 **Concurrent Workshops – Session One**
Workshops 1 – 4 will run concurrently from 14:15 to 15:15 and will be repeated again from 16:15 – 17:15

Workshop 1

Wheelchair Skills Assessment and Training for People with Spinal Cord Injury Who use Wheelchairs: Current State of the Science

R. Lee Kirby, MD FRCPC
Professor, Division of Physical Medicine and Rehabilitation, Dalhousie University

Cher Smith, MSc
Occupational Therapist, Queen Elizabeth II Health Sciences Centre

This presentation will provide an update on the current state of the evidence in support of using a more formalized approach to the assessment and training of wheelchair skills for people with spinal cord injury (SCI) who use wheelchairs. This will be in the context of the World Health Organization's (WHO) 8-step service-delivery process for the provision of wheelchairs.

Learning Objectives:

- ✔ World Health Organization's (WHO) 8-step service-delivery process for the provision of wheelchairs
- ✔ Describe the Wheelchair Skills Test, objective (WST) and questionnaire (WST-Q) versions, and the research evidence regarding measurement properties
- ✔ Describe the Wheelchair Skills Training Program (WSTP) and the research evidence regarding its safety and effectiveness
- ✔ Describe how the elements of the Wheelchair Skills Program (WSP) relate to the World Health Organization's (WHO) 8-step service-delivery process for the provision of wheelchairs
- ✔ Describe the relevance of the WSP and WHO Guidelines for people with spinal cord injury (SCI) who use wheelchairs

Workshop 2

A Focus on Assessing & Treating Fatigue after Spinal Cord Injury: A Workshop

Andrea Townson, MD FRCPC
Clinical Associate Professor and Head, Division of Physical Medicine and Rehabilitation, University of British Columbia GF Strong Rehab Centre

Susan Forwell, PhD OT(C) FCAOT
Associate Professor, Associate Department Head, Graduate Advisor, UBC Department of Occupational Science & Occupational Therapy; Research Associate, MS Clinic, Vancouver Coastal Hospital Research Institute; Principal Investigator, International Collaboration of Repair Discoveries, University of British Columbia

This interactive workshop will combine didactic, case based and small group work to provide clinicians with a systematic approach to the evaluation and treatment of fatigue after spinal cord injury

Learning Objectives:

- ✔ Define the SCI fatigue experience
- ✔ Evaluate fatigue using validated measures
- ✔ Identify potential confounding factors
- ✔ Describe an approach to the treatment of fatigue after SCI

Workshop 3

Pain after Spinal Cord Injury: Impact on Central Nervous System Functioning and Association with other Secondary Complications

John (Kip) Kramer, PhD
Senior Research Fellow, Hulse Spinal Cord Injury Laboratory, Shepherd Center, Atlanta, Georgia, USA

Jacquelyn Cragg, MSc (PhD candidate)
Doctoral Student, School of Population & Public Health, ICORD, University of British Columbia

Catherine Jutzeler, MSc (PhD candidate)
Doctoral Student, Neuroscience (ZNZ), ETH Zurich (University Hospital Balgrist)

This workshop will provide a comprehensive overview of the effects of pain on neurological function and general health after spinal cord injury. Topics such as the impact of acute pain on spontaneous neurological recovery, changes in brain and spinal cord anatomy and function related to the development of neuropathic pain, and relationship between pain and other secondary complications (e.g., cardiovascular disease) will be discussed.

Learning Objectives:

- ✔ Describe the natural progression of nociceptive and neuropathic pain after spinal cord injury, and the potential influence of pain and pain management on neurological recovery
- ✔ Discuss key changes in brain anatomy and function underlying the development of neuropathic pain as relevant targets for therapeutic intervention
- ✔ Provide new evidence linking neuropathic pain with other secondary complications after spinal cord injury

Workshop 4

Computer Algorithms for the International Standards for Neurological Classification of Spinal Cord Injury (ISNCSCI)

Christian Schuld, Dipl – Inform Med
Research Associate, Experimental Neurorehabilitation, Spinal Cord Injury Center, Heidelberg University Hospital, Germany

This presentation will provide the basic principles of ISNCSCI's classification part. It will outline difficulties and challenges in human classification and present computational ISNCSCI algorithms as a solution to minimize the classification error rate.

Learning Objectives:

- ✔ Explain the importance of ISNCSCI for clinicians and researchers
- ✔ Perform basic ISNCSCI classification tasks
- ✔ Realize the difficulties in human ISNCSCI classification
- ✔ Describe the value of computation ISNCSCI classification as a quality improving tool for clinical practice and research.

15:15 – 15:25 **TRANSITION TO BREAK & POSTER VIEWING**

15:25 – 16:25 **SPONSOR/EXHIBIT & POSTER VIEWING SESSION**

16:15 – 17:15 **Concurrent Workshops – Session Two**
Workshops 1 – 4 are a repeat of the Session One workshops presented at 14:15 – 15:15 and will run concurrently. Please see above for workshop descriptions and details.

17:15 – 17:25 **TRANSITION TO MAIN ROOM**

View program information at: www.sciconference.ca

17:25 – 18:15 Top 6 Articles You Need to Read

The "Top Six Articles You Need to Read" session will be led by a group of physiatrists. The intent is to supplement the busy clinician's learning with six succinct presentations of key articles published in the last two years. Each presentation will highlight the article's utility and discuss its implications for clinical practice in a journal club format. Discussion and debate is encouraged.

Learning Objectives:

- ✔ Review some of the most significant publications in the field of SCI Rehabilitation.
- ✔ Identify areas of strength or weakness in the current SCI literature.

Moderator:
Colleen McGillivray, BSc OT MD FRCPC
Assistant Professor, Department of Medicine, University of Toronto; Physiatrist, Brain and Spinal Cord Rehabilitation Program Toronto Rehabilitation Institute – University Health Network

Panel:
Anthony S. Burns, MD MS
Associate Professor, Department of Medicine, University of Toronto; Physiatrist, Brain and Spinal Cord Rehabilitation Program Toronto Rehabilitation Institute – University Health Network

Cathy Craven, BA MSc MD FRCPC
Associate Professor, Department of Medicine, University of Toronto; Physiatrist, Brain and Spinal Cord Rehabilitation Program Toronto Rehabilitation Institute – University Health Network ; Scientist, Neural Engineering & Therapeutics Team

Eldon Loh, MD FRCPC
Assistant Professor, Department of Physical Medicine and Rehabilitation, Western University; Physiatrist, St. Joseph's Health Care London, Parkwood Hospital

Colleen O'Connell, MD FRCPC
Assistant Professor, Faculty of Medicine, Dalhousie University; Department of Physical Medicine and Research Chief, Stan Cassidy Centre for Rehabilitation

Karen M. Smith, MD FRCPC
Associate Dean, Continuing Professional Development, Faculty of Health Sciences, Queen's University; Providence Care, St. Mary's of the Lake Hospital

Andrea Townson, MD FRCPC
Head and Clinical Associate Professor, University of British Columbia, Division of Physical Medicine and Rehabilitation; Medical Site Lead, GF Strong Rehab Centre

18:15 – 19:30 **CLOSING REMARKS & RECEPTION**

Day 2 Main Conference: Saturday, October 4th, 2014

07:30 – 08:30 **REGISTRATION & CONTINENTAL BREAKFAST**

08:30 – 08:50 Welcome & Announcements

08:50 – 09:40 Keynote Presentation
Turning Data into Information: Not as Easy as it Sounds: Lessons from SCIRehab

Gale G. Whiteneck, PhD FACRM
Senior Principal Investigator, Craig Hospital

In the SCI Rehab Study more than 1,000 clinicians in 7 disciplines at 6 centers collected detailed data about more than 460,000 interventions provided to 1,376 SCI rehabilitation patients during more than 250,000 hours of treatment. But turning all that data into useful information about what treatments are associated with positive outcomes was difficult.

Learning Objectives:

- ✔ Describe the Practice Based Evidence (PBE) methodology used in the SCIRehab Study to capture detailed data about patient and injury characteristics, the process of rehabilitation, and the outcomes at discharge and one year.
- ✔ Discuss the difficulties of, and promising approaches to, analyzing observational data to identify treatment interventions with positive outcomes after controlling for patient and injury characteristics.

Learning Objectives Continued:

- ✔ Know how to access the SCI Rehab public use datasets to conduct their own analyses and research.

09:40 – 09:50 **BREAK**

09:50 – 12:00 Scientific Poster Presentations by Award Winning Recipients
The top three award winners in each of the categories of Patient Care, Education, Research and Student will present their posters.

Moderator:
José Zariffa, PhD
Assistant Professor, Institute of Biomaterials and Biomedical Engineering, University of Toronto; Scientist, Toronto Rehabilitation Institute – University Health Network

Awards will be presented by:
Serge Rossignol, MD PhD
Full Professor, Department of Neuroscience, Université de Montréal; Canada Research Chair Tier 1; Director of ERRSM / SMRRT

12:00 – 12:30 **PATTI DAWSON AWARD PRESENTATION**

12:30 – 13:30 **NETWORKING LUNCH, SPONSOR & EXHIBIT VIEWING**

13:30 – 14:20 Keynote Presentation
Effectively Utilizing SCI Consumer Input to Guide Research

Kim Anderson-Erisman, PhD
Associate Professor, Department of Neurological Surgery; Director of Education, The Miami Project to Cure Paralysis, University of Miami Miller School of Medicine

This presentation will provide an overview of how to obtain and utilize information from people living with SCI to effectively inform research. Topics to be discussed will include functional priorities, risk/benefit decisions, and facilitators and barriers to participation in clinical trials.

Learning Objectives:

- ✔ Identify functions of highest priority to the SCI population.
- ✔ Describe risk/benefit decision factors important to the consumer population.
- ✔ Discuss clinical trial design factors that may impede participation by the otherwise eligible SCI research population.

14:20 – 15:20 **SPONSOR/EXHIBIT & POSTER VIEWING SESSION**

15:20 – 15:30 **TRANSITION TO WORKSHOPS**

15:30 – 16:30 **Concurrent Workshops**
Workshops 1 – 5 will run concurrently from 15:30 to 16:30, they will not be repeated.

Workshop 1

Changing Minds, Changing Lives – Healthcare Professionals as Key Influencers in the Parasport Movement

Robert Buren, MA BA
Senior Marketing Consultant, Microsoft Canada

Nancy Botting, BPHE BScPT Dip.Sport Physio
Registered Physiotherapist, Physical Edge Physiotherapy

Kathleen A. Martin Ginis, PhD
Professor, Health and Exercise Psychology; Director, McMaster Physical Activity Centre of Excellence; Director, SCI Action Canada

Changing Minds, Changing Lives is an outreach program presented by the Canadian Paralympic Committee that is aimed at educating healthcare professionals and other key influencers about the Paralympic Movement, the associated benefits of regular sport activity, sport development for people with a disability, community opportunities available for participants with a disability/volunteers to become involved in sport and about the path to international/Paralympic competition and the potential that resides in all Canadians living with a physical disability.

Learning Objectives:

- ✔ Describe the benefits of sport participation for people with a disability who are engaged in a healthcare program

Learning Objectives Continued:

- ✔ Discuss strategies to make sport a part of 'life after rehab' through local community participation avenues and partnership opportunities
- ✔ Describe parasports, the Paralympic movement and the Paralympic Games and cite resources related to these

Workshop 2

Exploring New Training Paradigms on a Manual Wheelchair Simulator with Haptic Biofeedback to Improve Propulsion Mechanical Effectiveness

Rachid Aissaoui, PhD (Biomechanics)
Professor, Department of Automation Engineering, École de technologie supérieure, Montréal, Canada

This presentation aimed to investigate whether or not the use of haptic biofeedback can improve propulsion effectiveness during a single training session on the simulator among long-term manual wheelchair users with a spinal cord injury.

Learning Objectives:

- ✔ Identify different types of wheelchair ergometers
- ✔ Explain how to measure Mechanical Effective Force during manual wheelchair propulsion
- ✔ Describe the principle of haptic biofeedback
- ✔ Discuss the implications of learning of a new technique of propulsion in clinical practice

Workshop 3

The Development of Clinical Practice Guidelines for the Management of Chronic Neuropathic Pain following Spinal Cord Injury

Eldon Loh, MD FRCPC
Physiatrist, St. Joseph's Health Care London, Parkwood Hospital; Assistant Professor, Department of Physical Medicine and Rehabilitation, Western University

Stacey Guy, MSocSc
Research Coordinator, Lawson Health Research Institute, St. Joseph's Parkwood Hospital; Transformation Specialist, National Spinal Cord Injury Knowledge Mobilization Network

Swati Mehta MA PhD (candidate)
Research Associate, Lawson Health Research Institute, St. Joseph's Parkwood Hospital

This presentation will provide an overview of the development of the first Canadian clinical practice guidelines for the screening, diagnosis, and management of chronic neuropathic pain for the rehabilitation setting in persons with spinal cord injury.

Learning Objectives:

- ✔ Understand the process of developing clinical practice guidelines
- ✔ Evaluate quality of primary literature evidence
- ✔ Identify the steps required to align guidelines with the AGREE tool.
- ✔ Discuss the importance of ensuring knowledge translation initiatives for clinical implementation.

Workshop 4

Challenges for Measuring a Clinically Meaningful Difference in a Clinical Trial

John D. Steeves, PhD
Professor, ICORD, University of British Columbia; Vancouver General Hospital, Vancouver, BC, Canada

John (Kip) Kramer, PhD
Senior Research Fellow, Hulse Spinal Cord Injury Laboratory, Shepherd Center, Atlanta, Georgia, USA

This workshop will discuss the concepts and constraints for the determination of study endpoints in early and late phase clinical trials. We will compare and contrast statistically significant differences versus clinically meaningful differences and how outcomes for one type of SCI may be different from another type of SCI.

Learning Objectives:

- ✔ List the various elements that influence recovery after SCI and the difficulties in establishing sensitive, accurate and reliable outcome measures
- ✔ Identify the challenges in establishing a threshold for a meaningful improvement or minimal clinically important difference (MCID)
- ✔ Guide workshop leaders in their endeavours and calm their anxiety (smile, this is optional!)

Workshop 5

SCI Bioinformatics: Invited Presentations and Discussion

Moderator:

Molly Verrier, Dip P&OT MHSc
Associate Professor Emeritus, Department of Physical Therapy, Phsiology, Rehabilitation Science, Institute of Medical Science, Faculty of Medicine, University of Toronto, Senior Scientist, Toronto Rehabilitation Institute – University Health Network, Lead SCI Mobility Laboratory

This workshop will consist of five, 8 minute long presentations followed by a 10 minute group question, answer and discussion period with the audience. The scientific planning committee has invited five presenters whose abstracts align with the conference theme.

Presenters:

Presentation #1

Current Treatment of Individuals with Traumatic Spinal Cord Injury: Do we need Age-Specific Guidelines?

Henry Ahn, MD PhD FRCSC
Assistant Professor, Faculty of Medicine, Division of Orthopaedic Surgery and University of Toronto Spine Program

Presentation #2

Detecting Different Hand Grasps using Electroencephalography (EEG): Applications for Upper-Limb Rehabilitation following Spinal Cord Injury

Kathryn Atwell, MASc Candidate
Graduate Student, Institute of Biomaterial and Biomedical Engineering, University of Toronto

Presentation #3

It's not just about Neurology: Impairment, Medical Complexity and Functional Ability Predict Rehab Length of Stay in Canada

Cathy Craven, BA MSc MD FRCPC
Assistant Professor, Department of Medicine, University of Toronto; Toronto Rehabilitation Institute – University Health Network

Presentation #4

Medication-Related Problems and Activities among Spinal Cord Injury Patients at a Primary Care Based Interdisciplinary Clinic

Tejal Patel, BScPharm PharmD
Assistant Clinical Professor, University of Waterloo School of Pharmacy; Clinical Pharmacy Specialist, Centre for Family Medicine Family Health Team

Presentation #5

Sensitivity & Specificity of Diffusion Tensor Imaging for Diagnosing Traumatic Brain Injury in Patients with Spinal Cord Injury

Bhanu Sharma, MSc (Neuroscience)
Graduate Student, Department of Rehabilitation Science, Toronto Rehabilitation Institute — University Health Network

16:30 – 16:40 **TRANSITION TO MAIN ROOM**

16:40 – 17:00 **CLOSING PRESENTATION**

Perspectives on Bioinformatics and the Future of SCI Rehabilitation

James Guest MD, PhD, FACS
Clinical Professor of Neurological Surgery
The Miami Project to Cure Paralysis, The Neuroscience Graduate Program, and Jackson Memorial Hospital, Miami FL

17:00 – 17:15 Closing Remarks

Early Bird Rate Deadline: August 21st, 2014

Registration includes continental breakfasts, refreshment breaks, lunches, conference material and a certificate of attendance (obtained electronically).

RATE	REGISTRATION TYPE	DEADLINE
$650.00 CAD	Pre-Course & Main Conference – Early Bird Rate	On or before August 21st, 2014
$770.00 CAD	Pre-Course & Main Conference – Regular Rate	After August 21st, 2014
$475.00 CAD	Main Conference – Early Bird Rate	On or before August 21st, 2014
$595.00 CAD	Main Conference – Regular Rate	After August 21st, 2014
$500.00 CAD	Pre-Course + One Day Registration	N/A
$175.00 CAD	Pre-Course ½ Day Registration for Thursday, October 2nd	N/A
$325.00 CAD	One Day Registration for Friday, October 3rd	N/A
$325.00 CAD	One Day Registration for Saturday, October 4th	N/A
$295.00 CAD	Pre-Course Student Rate (Thursday, October 2nd)*	N/A
$470.00 CAD	Pre-Course & Main Conference Student Rate*	N/A
$500.00 CAD	Onsite Registration for One Day	N/A
$800.00 CAD	Onsite Registration for Full Conference (Oct 2nd – 4th)	N/A

*Must send valid student identification via email at conferences@uhn.ca in order to receive the Student Rate.

Registration closes at 5:00pm on Friday, September 26th, 2014.

Payment Details

Payment by Visa, MasterCard or cheque must accompany the completed online registration form. Payment must be received on or before Thursday, September 11th, 2014 for the pre-course and for the conference.

Registration deadlines and fees are subject to change.

Cancellation Policy

A full refund, minus a $75.00 administration fee, will be issued for cancellations received via email (conferences@uhn.ca) **on or before Thursday, September 11th, 2014.** No refunds will be issued after this date. Refunds will not be granted to attendees who do not attend the conference.

If you would like more information about registration guidelines and prices, please contact UHN Education's Conference Services Department at 416-597-3422 x3448 or via email at conferences@uhn.ca

Please note, no letters of invitation will be issued for registered delegates.

Venue

Allstream Centre
105 Princes' Blvd
Toronto, Ontario M6K 3C3

****Important to note that the Conference Venue is not connected to the hotel. We have secured a block of guest rooms and a shuttle will be provided in the morning and in the afternoon.**

Accommodations

The Westin Harbour Castle
One Harbour Square
Toronto, Ontario M5J 1A6

Rates: $199.00 / night, plus taxes

Reservation Cut Off Date: Tuesday, September 2nd, 2014

In order to receive the group block discounted rate, you must book your guest rooms on or by the date specified above. Reservations after this time are subject to availability.

Reservations can be made directly with Westin Reservations at 1-888-627-8559, when booking; you must state that you are with the **6th National Spinal Cord Injury Conference** in order to receive the discounted rate.

University Health Network (UHN)

Providing care to the community for more than 200 years, UHN is a major landmark in Canada's healthcare system and a teaching hospital of the University of Toronto. Building on the strengths and reputation of each of our four hospitals, UHN brings together the talent and resources needed to achieve global impact and provide exemplary patient care, research and education.

UHN is made up of Toronto General Hospital, Toronto Western Hospital, Princess Margaret Hospital and the Toronto Rehabilitation Institute. Each hospital retains its identity and name within the Network.

For more information about the University Health Network, please visit www.uhn.ca

For more information about this conference or other UHN events, please contact
Conference & Educational Technology Services at:
Phone: 416-597-3422, ext. 3448 E-mail: conferences@uhn.ca
or visit: www.uhn.ca/Education/conference_services/Pages/conferences_services.aspx

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