



**WESTERN UNIVERSITY
INTERDISCIPLINARY PAIN PROGRAM**



ANNUAL REPORT

2015



- TABLE OF CONTENTS -

| | |
|---|----|
| Executive Summary | 3 |
| Scientific Advisory Board Members | 4 |
| Mission and Vision Statement | 7 |
| Awards | 8 |
| Research Funding | 10 |
| Publications | 12 |
| National and International Presentations | 17 |
| Undergraduate Education Program | 21 |
| Postgraduate / Fellow Education Program | 21 |
| Continuing Medical Education Program | 21 |
| Interdisciplinary Pain Rounds and Conferences | 22 |

- EXECUTIVE SUMMARY -

Pain Program Annual Report 2015

The year 2015 was pivotal in the history of the Western Pain Program. Dwight Moulin took on a third and final term as the Earl Russell Chair with a promise to change the research mandate from neuropathic pain to musculoskeletal pain. The focus on neuropathic pain has served us well over the past 10 years. With the support of the Canadian Pain Society, we provided the nucleus for Canadian Consensus Guidelines for the pharmacological management of neuropathic pain and citations indicate they have had a substantial impact on pain management. The original guidelines paper published in 2007 has been cited more than 250 times and the revised guidelines published in 2014 have already been cited 35 times. Our national Neuropathic Pain Database (NePDAT) continues to flourish with 5 papers published or in press and 3 further papers submitted for publication. In keeping with the transition to a musculoskeletal research focus, the annual Earl Russell Trainee Grant Award for 2015 went to Anusha Ratneswaran who is a PhD student in the lab of Dr. Frank Beier - Canada Research Chair in Musculoskeletal Research at Western. Their project involves pharmacological inhibition of osteoarthritis in a rat model. On the clinical side, we will be supporting research in chronic neck and back pain including the studies of Dr. David Walton and Dr. Eldon Loh on whiplash-associated neck pain.

Our programs in undergraduate and postgraduate pain education continue to evolve and impact pain management. Our undergraduate Pain Medicine Course in 4th year is part of the newly established Integration and Transition Course. New topics include: pain in primary care, chronic pain in the elderly, the role of cannabinoids in pain management and the critical issue of pain assessment and management in the addicted patient.

There are also clinical highlights to report. We have been deficient in the management of pediatric pain but as of 2015, this is no longer the case! With support from the Ministry of Health, a Pediatric Pain Service was established at Children's Hospital of Western Ontario. This is a multidisciplinary clinic involving psychologists, social workers, and physicians including Dr. Raju Poolacherla – an anesthesiologist who has specialized training in pediatric pain.

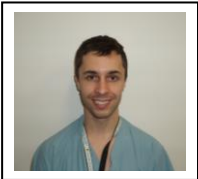


Dwight Moulin, M.D., FRCP(C), Earl Russell Chair, Western Pain Program

Face Page

Dr. Qutaiba Tawfic, Assistant Professor in the Department of Anesthesia and Perioperative Medicine, illustrates relevant anatomy for a patient in the Fluoroscopy Suite in the St. Joseph's Health Care Pain Clinic.

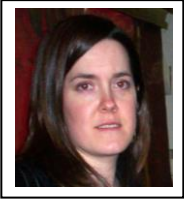
- SCIENTIFIC ADVISORY BOARD MEMBERS -



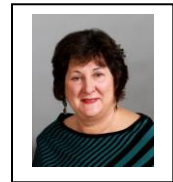
Dr. Geoff Bellingham completed residency in anesthesia and perioperative medicine at Western University. This was followed by a fellowship in chronic pain at the University of Toronto at the Wasser Pain Management Centre. Dr. Bellingham's focus during the fellowship was on the use of ultrasound guidance for interventional pain management in addition to other established interventional pain management techniques using fluoroscopy. Currently, he holds pain clinics in which patients are managed using pharmacotherapy in addition to using other resources available such as psychotherapy and physiotherapy. Interventions using ultrasound are integrated into these clinics and separate interventional days are held at the pain clinic's dedicated fluoroscopy suite. Dr. Bellingham is also the present program director of the Chronic Pain Fellowship and is presently working to establish a Royal College accredited Pain Medicine Residency program.



Dr. Collin Clarke is an Assistant Professor in the Department of Anesthesia and Perioperative Medicine at Western University. Following the Completion of his anesthesia residency at Western University, Collin completed an Interventional Pain Management at Duke University Medical Centre in North Carolina. During his fellowship, he focused primarily on the management of Complex Regional Pain as well as fluoroscopically guided interventions for the management of spinal mediated pain syndromes. Currently, he operates a pain clinic out of St. Joseph's Health Care that involves both pharmacotherapy as well as a variety of interventions for treatment and management of a variety of pain syndromes. His research interests focus on functional imaging for the interpretation of pain pathways. He continues as the Chair of Chronic Pain Section for the Canadian Anesthesia Society.



Heather Getty earned her Ph.D. in Adult Clinical Psychology at the University of Windsor. Her training including her Pre-doctoral Residency at the London Health Sciences Centre has involved work in both traditional mental health treatment settings and in clinical health psychology programs for the treatment of chronic sleep and pain disorders. She was Postdoctoral Fellow in the Pain/Anxiety program at St. Joseph's Health Care 2002-2005 where she researched psychosocial predictors of disability among individuals with chronic pain. She conducts treatment, research and education at the St. Joseph's Health Care Pain Management Program.



Gloria Gilbert, Gloria continues her involvement with the Western Interdisciplinary Pain Program as a community representative. A physiotherapy graduate of both McGill University and Western, Gloria opened the first private physiotherapy practice in London in 1982. Although she is no longer accepting new patients, Gloria consults on medico-legal matters (personal injury) and has continued to develop community-based education initiatives for both patients and their health providers. A long anticipated website Don't Go to The Ouch will launch in the summer of 2016. Gloria continues to explore the probability that a cohort of patients with persistent post traumatic neck pain have also sustained a mild traumatic brain injury (mTBI) - compromising rehabilitation efforts. Her inter-disciplinary team has expanded to include occupational therapists, optometrists and speech-language pathologists. Gloria is the newsletter editor and Executive member of (CAPM), Canadian Academy of Pain Management (www.canadianapm.com) and is credentialed as a Fellow of both the American and Canadian Academies. She is also a Life Member of the Canadian Physiotherapy Association.



Dr. Patricia Morley-Forster is a Professor of Anesthesiology and Perioperative Medicine at Western University. In February 2002, she was appointed as the inaugural Earl Russell Chair of Pain Research and Medical Director of the Comprehensive Pain Clinic at St. Joseph's Health Care London. Past research in the area of pain has been on the use of non-steroidal anti-inflammatory medication for postoperative pain relief and PCA opioids in labour analgesia. From 1990-2000, she was the Director of Obstetric Anesthesia at Western University before undertaking fellowship training in cancer pain management and chronic pain at the Wasser Clinic in Toronto. She is keenly interested in education in Pain Management and is the Chair of the Royal College Working Group in Pain Medicine, a committee that has established a two-year accredited residency in Pain Medicine. Current research and clinical interests are neuropathic pain, acute pain management in chronic pain patients and topical analgesics.

Annual Report
2015
Interdisciplinary Pain Program



Dr. Dwight Moulin is a Professor in the Departments of Clinical Neurological Sciences and Oncology and the Earl Russell Chair of the Pain Medicine Program at Western University. He is also the Medical Director of Pain and Symptom Management at the London Regional Cancer Program in London, Ontario. His research interests include randomized controlled trials to determine the role of opioid analgesics in the management of chronic pain and observational studies to assess the impact of chronic pain in a variety of chronic neurological disorders. Current research projects include the role of intravenous lidocaine in the treatment of chronic pain and long term outcome of the management of neuropathic pain. He has chaired the Neuropathic Pain Special Interest Group of the Canadian Pain Society since 2005 and was the lead author of national consensus guidelines for the management of neuropathic pain in Canada.



Dr. Warren Nielson is an Adjunct Professor of Psychology at Western University. His research interests are in psychological factors associated with chronic pain, particularly in relation to Rheumatoid Arthritis, Osteoarthritis and Fibromyalgia Syndrome. He is also a member of the Canadian Scleroderma Research Group and on the Editorial Board of the Journal of Pain. Current studies focus on factors that influence outcomes of multidisciplinary treatment programs and motivational factors in pain self-management. Dr. Nielson is a Fellow of the Canadian Psychological Association.



Keith St. Lawrence focused his research on developing imaging methods for studying brain function under normal and disease conditions. I have a particular interest in near-infrared spectroscopy and magnetic resonance imaging since these modalities are non-invasive and extremely safe. As such, they can be adapted to a variety of applications ranging from functional brain mapping to early detection of brain ischemia. In terms of pain imaging, our team has been a leader in the application of a novel MRI-based blood flow technique for mapping the neural correlates of pain. Our current research focus is on using this technique to study the longitudinal changes in brain activation associated with chronic pain.

MISSION -

- To provide exemplary clinical care in prevention and treatment of debilitating pain states
- To continually improve pain management through research and education

- VISION -

The Interdisciplinary Pain Program at Western University identifies the study of pain as a priority that bridges academic disciplines. Integrating the fields of acute and chronic pain will encourage the development of new paradigms for prevention and treatment of chronic pain. Individuals with persistent chronic pain will be provided with timely access to an academic, research-focused facility with linkages to the community to promote continuity of care.

- VALUES -

- We understand that each individual's experience of pain is unique, affecting their work, their life and relationships in a complex manner.
- We believe in a broad interdisciplinary perspective on the understanding and treatment of pain.
- We value evidence-based practice.
- We support the ongoing search for and dissemination of knowledge in pain management.

- AWARDS -

Eldon Loh

2015 Paper of the Year, Canadian Association of Physical Medicine and Rehabilitation. Roberts SL, Burnham RS, Ravichandiran K, Agur AM, **Loh E**. Cadaveric study of sacroiliac joint innervation: implications for diagnostic blocks and radiofrequency ablation. *Reg Anesth Pain Med*. 2014 Nov-Dec;39(6):456-64.

2015 SCI-SIG Early Career Poster Award, First place SCI Poster, ACRM (Swati Mehta). Mehta S, McIntyre A, Guy S, Teasell R, **Loh E**. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. American College of Rehabilitation Medicine 2015 Annual Meeting.

2015 Best Fellow Abstract Award, International Spine Intervention Society (Nathan Swain). Swain N, Stout A, Dreyfuss P, Roberts S, **Loh E**, Agur A. Determining optimal fluoroscopic imaging and needle placement for cooled RF neurotomy of sacral lateral branch nerves: an anatomical study. International Spine Intervention Society 23rd Annual Meeting.

David Walton

2014-2015 2-year tenure as Secretary for Education SIG of International Association for the Study of Pain.

2015-2016 Modeling the Transition from Acute to Chronic Pain Using Stress-System Dysregulation as a Framework. Canadian Pain Society Early Career Research Award.

Robert Teasell

2015 1st Place Poster Award. Mehta S, Rice D, Serrato J, Janzen S, Getty G, Shapiro AP, Morley-Forster P, Sequeira K, Teasell R. Mood and disability among a subgroup of chronic pain individuals with high experiential avoidance and anxiety sensitivity. American Congress Rehabilitation Medicine: 92nd Annual Conference, Progress in Rehabilitation Research. Dallas, Texas, USA. October 27-30, 2015.

Annual Report
2015
Interdisciplinary Pain Program

2015 SCI-SIG Early Career Poster Award. Mehta S, McIntyre A, Guy S, Teasell R, Loh E. Effectiveness of Transcranial Direct Current Stimulation for the Management of Neuropathic Pain after Spinal Cord Injury: A Meta-Analysis. American Congress Rehabilitation Medicine: 92nd Annual Conference, Progress in Rehabilitation Research. Dallas, Texas, USA. October 25-30, 2015.

2015 3rd Place Poster Award. Mehta S, Rice D, Shapiro A, Pope J, Harth M, Morley-Forster P, Sequeira K, Teasell R. Psychological distress in outpatients assessed for chronic pain compared to those with rheumatoid arthritis. American Congress Rehabilitation Medicine: 92nd Annual Conference, Progress in Rehabilitation Research. Dallas, Texas, USA. October 25-30, 2015.

- RESEARCH FUNDING -

Collin Clarke

Clarke C, Canadian Institutes of Health Research. Development of a Perfusion MRI Technique to Investigate Longitudinal Effects of Chronic Pain on Brain Function, April 2012 – April 2016, \$558,534 (co-investigator at Western)

Eldon Loh

Eng J, Teasell R, Miller W, Wolfe D, Kwon B, Hsieh J, Townson A, Connolly S, Noonan V, Loh E. Spinal Cord Injury Review Evidence. Rick Hansen Institute. Amount: \$324,000 (2015-2017)

Houghton P, Wolfe D, Lala D, Holyoke P, Mittmann N, Fraser C, Campbell K, Kras-Dupuis A, Gagliardi J, Potter P, Loh E. Best practice implementation of electrical stimulation for healing pressure ulcers in community dwelling persons with spinal cord injury. Rick Hansen Institute. (Feb. 2015-Jan. 2017)

Teasell R, Sequeira K, Loh E. AFP Innovation Proposal: Rehabilitation Knowledge to Action Project (REKAP) 2 in Neurorehabilitation. AFP Southwestern Ontario. Amount: \$190,000 (2013-2015).

Loh E, Walton DMM, Trejos A, Dickey J, Katchabaw M. Establishing the Western Collaboration for Integration of Consumer Technology and Healthcare (CICTH) research

group. Schulich School of Medicine and Dentistry, Collaborative Research Seed Grant. Amount: \$28,000 (2013-2015, extended to 2016).

Loh E, Guy S, Mehta S. Development of clinical practice guidelines for pain management in SCI (Phase 2). Ontario Neurotrauma Foundation. Amount: \$120,000 (2013-2015, extended to June 2016).

Patricia Morley-Forster

Morley-Forster PK. Canadian Institutes of Health Research. Development of a Perfusion MRI Technique to Investigate Longitudinal Effects of Chronic Pain on Brain Function, 2012 – 2016, \$558,534 (co-investigator at Western)

Morley-Forster PK. Internal Research Fund – Dept. of Anaesthesia and Perioperative Medicine. Serum Ketamine Levels after Low-dose Oral Ketamine for Chronic Neuropathic Pain, 2014 – 2015, \$10,000.00 (co-investigator at Western)

Dwight Moulin

Moulin DE. Canadian Institutes of Health Research. Development of a Perfusion MRI Technique to Investigate Longitudinal Effects of Chronic Pain on Brain Function, 2012 – 2016, \$558,534 (co-investigator at Western)

Annual Report
2015
Interdisciplinary Pain Program

Moulin DE. CIHR – Patient-Oriented Research Program, Nova Scotia Health Research Fund, Dalhousie University. Methadone for Neuropathic Pain – Double-Blind, Randomized, Controlled Trial, 2013 – 2016, \$602,633 (co-investigator at Western)

Moulin DE. Pfizer Canada Inc. Neuropathic Pain Database (NePDAT) – Long Term Study of the Outcome of Chronic Neuropathic Pain in Primary Care, 2013 – 2015, \$500,000 (co-investigator at Western)

Moulin DE. Management of Chronic Neuropathic Pain Syndromes: A Network Meta-Analysis. Canadian Institutes of Health Research, April 2014 – April 2015, \$100,000 (co-investigator at Western)

Moulin DE. The Risk of Community-Acquired Pneumonia Among Immunosuppressive Opioid Users. Canadian Institutes of Health Research, June 2014 – June 2016, \$112,034 (co-investigator at Western)

Warren Nielson

Canadian Institutes of Health Research, Emerging Team Grant: Rare Diseases. “Emerging Team: The Scleroderma Patient-Centered Intervention Network” Brett Thombs, \$1,500,000 (in addition to \$205,000 partner funding from McGill University Faculty of Medicine (\$125,000), the Lady Davis Institute for Medical Research of the Jewish

General Hospital (\$75,000) and the Scleroderma Association of British Columbia, 2012-2017 (\$5,000), (principal investigator)

Frank Prato

NSERC Discovery Grant. Biological effects of Weak Extremely Low Frequency Magnetic Fields, 2014-2019, \$210,000

Keith St. Lawrence

St. Lawrence K. Development of a Perfusion MRI Technique to Investigate Longitudinal Effects of Chronic Pain on Brain Function. Canadian Institutes of Health Research, April 2012 – 2016, \$558,534 (principle investigator)

David Walton

Walton DM, Siqueira W, Van Uum S, Gloor G, Lee J. What’s spit got to do with it? An expanded investigation into the role of endocrine and immune reactivity in the onset and maintenance of post-traumatic pain. Physiotherapy Foundation of Canada, \$5,000, 2014-2015

Walton DM, Schabrun S. Establishing psychobiological predictors of acute musculoskeletal pain: An international collaborative study. International Association for the Study of Pain, \$15,000, 2014-2015

Annual Report
2015
Interdisciplinary Pain Program

Walton DM, Birmingham T, Dixon J, Holdsworth D, MacDermid J. Developing a stakeholder-driven research and knowledge exchange agenda to improve outcomes of injury-related pain and disability. Canadian Institutes of Health Research, \$10,000, 2014-2015

Walton DM, MacDermid J (co-PI), Devereaux P, Grewal R, McGillion M, Miller J, Sinden K, Wideman T. Advancing understanding of gender, work and pain. Canadian Institutes of Health Research, \$100,000, 2014-2015

Walton DM, Siqueira W, Van Uum S, Gloor G, Lee J, Morley-Forster PK. Strengthening networks and proving feasibility for exploration of the chronic pain 'symbiome' for mechanism-based pain research. Western Strategic Support for CIHR Success, \$25,000, 2014-2015

- PUBLICATIONS -

Peer-Reviewed Articles

Mehta S, McIntyre A, Guy S, **Teasell R**, **Loh E**. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. *Spinal Cord* 53(11): 780–785, 2015.

Mehta S, Guy S, Lam T, **Teasell R**, **Loh E**. Antidepressants are effective in decreasing neuropathic pain after SCI: a meta-analysis. *Top Spinal Cord Inj Rehabil.* 21(2):166-73 Spring 2015.

Lee SM, Landry J, Jones PM, Buhrmann O, **Morley-Forster PK**. Long-term quit rates after a perioperative smoking cessation randomized controlled trial. *Anesth Analg* 120:582-587, 2015.

Morley-Forster PK, Karpinski J. Pain medicine – a new credential in Canada. *Pain Med.* Jun;16(6):1038-44, 2015.

Bostick GP, Toth C, Carr ECJ, Stitt LW, **Morley-Forster PK**, Clark AJ, Lynch M, Gordon A, Nathan H, Smyth C, Ware M, **Moulin DE**. Physical functioning and opioid use in patients with neuropathic pain. *Pain Medicine* doi: **10.1111/pme.12702**, 2015

Moulin DE, Clark AJ, Gordon A, Lynch M, **Morley-Forster PK**, Nathan H, Smyth C, Toth C, VanDenKerkhof E, Gilani A, Ware MA. Longterm outcome of the management of chronic neuropathic pain – a prospective observational study. *The Journal of Pain*;16(9): 852-861, 2015.

Mulla S, Wang L, Khokhar R, Izhar Z, Agarwal A, Couban R, Buckley N, **Moulin DE**, Panju A, Kallyth S, Turan A, Montori V, Sessler D, Thabane L, Guyatt G, Busse J. Management of central post-stroke pain: a systematic review of randomized controlled trials. *Stroke*;46: 2853-2860, 2015.

Tarride JE, **Moulin DE**, Lynch M, Clark AJ, Stitt L, Gordon A, **Morley-Forster PK**, Nathan H, Smyth C, Toth C, Ware MA. Impact on health-

related quality of life and costs of managing chronic neuropathic pain in academic pain centres: results from a one year prospective observational Canadian study. *Pain Research and Management*;20(6): 327-333, 2015.

Bostick GP, Toth C, Dick BD, Carr ECJ, Stitt LW, **Moulin DE**. An adaptive role for negative expected pain in patients with neuropathic pain. *Clinical Journal of Pain*;31:438-43, 2015. [Epub ahead of print]

Riehm KE, Kwakkenbos L, Carrier M, Bartlett SJ, Malcarne VL, Mouthon L, **Nielson WR**, Poiradeau S, Nielsen S, Baron M, Frech T, Hudson M, Pope J, Sauve M, Suarez-Almazor ME, Wigley FM, Thombs BD. Validation of the self-efficacy for managing chronic disease (SEMCD) scale: a scleroderma patient-centered intervention network (SPIN) cohort study (In Press). *Arthritis Care & Research*. 2015 Nov 30. doi: 10.1002/acr.22807. [Epub ahead of print]

Burns JW, **Nielson WR**, Jensen MP, Heapy A, Czapinski R, Kerns RD. Specific and general therapeutic mechanisms in cognitive-behavioral treatment of chronic pain. *Journal of Consulting and Clinical Psychology*, 83, 1-11, 2015.

Burns JW, **Nielson WR**, Jensen MP, Heapy A, Czapinski R, Kerns RD. Does change occur for the reasons we think it does? A test of specific therapeutic operations

during cognitive-behavioral treatment of chronic pain. *Clinical Journal of Pain*, 31, 603-611, 2015.

Prato FS. Non-thermal extremely low frequency magnetic field effects on opioid related behaviors: Snails to humans, mechanisms to therapy. *Bioelectromagnetics*. 2015 Jul;36(5):333-48. doi:10.1002/bem.21918. Epub 2015 May 11.

Camera F, Paffi A, Thomas AW, Apollonio F, D'Inzeo G, **Prato FS**, Liberti M. The CNP signal is able to silence a supra threshold neuronal model. *Front Comput Neurosci*. Apr 28;9:44. doi:10.3389/fncom.00044, 2015

Solé E, Tomé-Pires C, de la Vega R, **Racine M**, Castarlenas E, Jensen MP, Miró J. Cognitive fusion and pain experience in young people. Published ahead-of-print, *The Clinical Journal of Pain*. 2015. (Supported by Earl Russell Chair in Pain Medicine)

Castarlenas E, de la Vega R, Tomé-Pires C, Solé E, **Racine M**, Jensen MP, Miró J. Students expectations of peer and teacher reactions to students with chronic pain: implications for improving pain-related functioning *The Clinical Journal of Pain* 31(11): 992-7, 2015 doi: 10.1097/AJP.000000000000188. (Supported by Earl Russell Chair in Pain Medicine)

de la Vega R, Tomé-Pires C, Solé E, **Racine M**, Castarlenas E, Jensen MP, Miró J. Evaluation of the validity of the Pittsburgh Sleep Quality Index in adolescents and young adults. *Psychological Assessment*, 27(4): e22-27, 2015. (Supported by Earl Russell Chair in Pain Medicine)

Jensen MP, Tomé-Pires C, Solé E, **Racine M**, Castarlenas E, de la Vega R, Miró J. Assessment of pain in clinical trials: Individual ratings versus composite scores. *Pain Medicine*; 16: 141-148, 2015. (Supported by Earl Russell Chair in Pain Medicine)

Racine M. Castarlenas E, de la Vega R, Tomé-Pires C, Solé E, Miró J, Jensen MP, **Moulin DE**, Nielson WR. Sex differences in psychological response to pain in patients with fibromyalgia syndrome. *The Clinical Journal of Pain*; 31:425-432, 2015. (Supported by Earl Russell Chair in Pain Medicine)

Coulombe MA, **St. Lawrence K**, **Moulin DE**, **Morley-Forster PK**. Intrinsic functional connectivity of the periaqueductal gray (PAG) is related to fibromyalgia clinical symptoms. *Society for Neurosciences:Chicago Pain Imaging and Perception* 5496, October 18, 2015.

Tawfic QA, **Bellingham G**. Postoperative pain management in patients with chronic kidney disease. *J Anaesthesiol Clin Pharmacol.*; 31: 6-13, 2015.

Tawfic QA, Faris AS. Acute pain service: past, present and future. *Pain Manag.*;5:47-58, 2015.

Teasell R, Feng QP. Hypersensitivity of vascular alpha-adrenoceptor responsiveness: a possible inducer of pain in neuropathic states. *Neural Regeneration Research*;10(1):165, 2015.

MacKenzie H, **Teasell R**, Miller T, Sequeira K. Peri-incisional botulinum toxin for chronic post-craniotomy headache following traumatic brain injury: A case series. *PMR*; 7(7):785-788, . 2015

Mehta S, McIntyre A, Guy S, **Teasell R**, **Loh E**. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. *Spinal Cord*; 53(11):780-785, 2015.

Walton DM, Lefebvre A, Reynolds D. The brief illness perceptions questionnaire identifies 3 classes of people seeking rehabilitation for mechanical neck pain. *Manual Therapy* 20(3):420-426, 2015.

Versteegh T, Hellyer L, Beaudet D, Green M, **Walton DM**. Evaluating the reliability of a novel neck strength assessment protocol using self-generated resistance with a handheld dynamometer in healthy subjects. *Physiotherapy Canada* 67(1):58-64, 2015.

Walton DM, Elliott J, Lee J, **Loh E**, MacDermid J, Schabrun S, Siqueira WL, Corneil BD, Aal B, Birmingham T, Brown A, Cooper L, Dickey JP, Dixon SJ, Fraser D, Gati J, Gloor G, Good G, Holdsworth D, McLean SA, Millard W, Miller J, Sadi J, Seminowicz DA, Shoemaker JK, Siegmund G, Versteegh T, Wideman TH. Research priorities in the field of post-traumatic pain and disability: Results of a transdisciplinary consensus-generating workshop. *Pain Res Manag.* 2015 Nov 19. [Epub ahead of print] PubMed PMID: 26583461.

- PUBLICATIONS -

Non-Peer Reviewed

Dhir S, Sondekoppam RV, Ganapathy S. Pharmacologic management of acute pain in trauma. In: *Trauma Anesthesia: Second Edition.* Cambridge University Press, 2:244, 2015.

Dhir S, Sharma R, Ganapathy S. Regional anesthesia. In: *Trauma Anesthesia: Second Edition.* Cambridge University Press, 2:267, 2015.

Nielson, WR. Patient selection: setting the stage of operant treatment. In: C.J. Main, F.J. Keefe, J.W.S. Vlaeyen and K.E. Vowles (Eds.) *Fordyce's Behavioral Methods for Chronic Pain and Illness.* IASP Press, pp 246-254, 2015

Nielson WR Patient selection: setting the stage for operant treatment. In C.J. Main, F.J. Keefe, J.W.S. Vlaeyen & K.E. Vowles (Eds.), *Fordyce's Behavioral Methods for Chronic Pain and Illness.* IASP Press, pp. 246-254, 2015.

Abstracts

Swain N, Stout A, Dreyfuss P, Roberts S, **Loh E**, Agur A. Determining optimal fluoroscopic imaging and needle placement for cooled RF neurotomy of sacral lateral branch nerves: an anatomical study. *Pain Medicine* 2015; 16(8):1659-1660. Platform presentation July 23, 2015, Las Vegas NV.

Mehta S, Loh E, Walton DM. Identification and characterization of unique subgroups of chronic cervical pain individuals based on their coping style. *Archives of physical medicine and rehabilitation.* Oct. 2015, Vol. 96, Issue 10, e66 Poster presentation Oct. 28, 2015, Dallas TX.

Mehta S, McIntyre A, Guy S, Teasell R, Loh E. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis *archives of physical medicine and rehabilitation* Oct. 2015, Vol. 96, Issue 10, e117. Poster presentation Oct. 28, 2015, Dallas TX.

Mai LM, Clark AJ, Gordon A, Lynch M, **Morley-Forster PK**, Nathan H, Smyth C, Toth C, Ware A, **Moulin DE**. Long term outcomes in the management of painful diabetic neuropathy. Canadian Neurological Sciences Federation, Toronto, ON, B.06, Suppl. 1-S10, June 10, 2015

Racine M, Moulin DE, Nielson W, Lynch M, Clark AJ, Stitt L, Gordon A, **Morley-Forster PK**, Nathan H, Smyth C, Ware MA, Jensen MP. Changes in pain catastrophizing predict both earlier and later changes in pain intensity and interference: A cross-lagged panel analysis study. EFIC Congress Pain in Europe, Vienna, Austria, Sept 2015

Tarride JE, **Moulin DE**, Lynch M, Clark AJ, Stitt L, Gordon A, **Morley-Forster PK**, Nathan H, Smyth C, Toth C, Ware MA. Impact on health-related quality of life and costs of managing chronic neuropathic pain in academic pain centres: results from a one year prospective observational Canadian study. Canadian Agency for Drugs and Technologies in Health, Saskatoon, SK, April 12-14, 2015

Racine M, Moulin DM, Nielson WR, Morley-Forster PK, Lynch M, Clark AJ, Stitt L, Gordon A, Smyth C, Ware MA, Jensen MP. Changes in pain catastrophizing predict changes in pain and vice versa in patients with neuropathic pain: a cross-lagged panel analysis study. 10th Congress of the European Federation of IASP Chapters (EFIC), Vienna, Austria. Published in : Abstract of the 10th

EFIC Congress on Pain, pp. 64, 154, Index 282, 824, 2015,. **Selected as top best abstract.**

Castarlenas E, Solé E, **Racine M**, Sánchez-Rodríguez E, Jensen MP, Miró J. The psychometric properties of the multidimensional health locus of control scale (form c) in a sample of adolescents reporting pain. 10th Congress of the European Federation of IASP Chapters (EFIC), Vienna, Austria. Published in : Abstract of the 10th EFIC Congress on Pain, pp. 180, Index 989, 2015.

de la Vega R, **Racine M**, Sánchez-Rodríguez E, Tomé-Pires C, Castarlenas E, Jensen M, Miró J. Pain extent, pain intensity, and sleep quality in adolescents and young adults. 10th Congress of the European Federation of IASP Chapters (EFIC), Vienna, Austria. Published in : Abstract of the 10th EFIC Congress on Pain, pp. 180, Index 990, 2015.

Miró J, de la Vega R, Solé E, **Racine M**, Jensen, MP, Gálan S, Engel, JM. Defining mild, moderate, and severe pain in young people with physical disabilities. 10th Congress of the European Federation of IASP Chapters (EFIC), Vienna, Austria. Published in : Abstract of the 10th EFIC Congress on Pain, pp. 181, Index 993, 2015.

Mehta S, Rice D, Serrato J, Janzen S, Getty G, Shapiro AP, **Morley-Forster PK**, Sequeira K, **Teasell R**. Mood and disability among a subgroup of chronic pain individuals with high experiential avoidance and

anxiety sensitivity. Archives of Physical Medicine and Rehabilitation; 96(10):e65-e66, 2015.

Mehta S, McIntyre A, Guy S, **Teasell R**, **Loh E**. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. Archives of Physical Medicine and Rehabilitation; 96(10):e119, 2015.

Mehta S, Rice D, Shapiro A, Pope J, Harth M, **Morley-Forster PK**, Sequeira K, **Teasell R**. Psychological distress in outpatients assessed for chronic pain compared to those with rheumatoid arthritis. Archives of Physical Medicine and Rehabilitation; 96(10):e65, 2015.

**- NATIONAL AND
INTERNATIONAL
PRESENTATIONS AND
WORKSHOPS –**

Clarke C. Moderator at Canadian Anesthesia Society Chronic Pain Section. June 21, 2015. Ottawa

Clarke C. Instructor at Canadian Society of Anesthesia, Annual Meeting. June 21, 2015. Ottawa

Clarke C. Instructor at Toronto Western Hospital Pain Medicine Workshop. April 18-19, 2015. Toronto.

Clarke C. History and treatment of complex regional pain syndrome. Colombian Pain Society South

American Pain Conference. September 26, 2015 Medellin, Columbia.

Clarke C. Interventions for palliative pain management. Colombian Pain Society South American Pain Conference. September 26, 2015 Medellin, Columbia.

Harth M. Fibromyalgia-update. Annual Ontario Rheumatology Association Meeting. ORA Workshop for allied health professionals. May 22, 2015. Lake Rosseau.

Roberts SL, Burnham RS, Robinson TJG, Agur AM, **Loh E**. Denervation – but do it right! First International Conference on Sacroiliac Joint Surgery. Sept 18, 2015. Hamburg, Germany.

Loh E. A bench to bedside success story: improving pain management from the anatomy lab to the clinic. PMR Grand Rounds. May 11, 2015. London, Ontario.

Swain N, Stout A, Dreyfuss P, Roberts S, **Loh E**, Agur A. Determining optimal fluoroscopic imaging and needle placement for cooled RF neurotomy of sacral lateral branch nerves: an anatomical study. July 23, 2015, Las Vegas NV.

Guy S, **Mehta S**, **Loh E**, The SCI NP Working Group. Canadian rehabilitation practice guidelines: neuropathic pain in persons with spinal cord injury. 4th ISCoS and ASIA Joint Scientific Meeting. Montreal, QC. May 16, 2015.

Mehta S, Loh E, Walton DM.

Predicting successful response to medial branch blocks. International Spine Intervention Society 23rd Annual Scientific Meeting. Las Vegas NV. July 28, 2015.

Robinson T, Roberts SL, Burnham RS, Agur AM, **Loh E.** Ultrasound-guided radiofrequency ablation: a validation study of needle placement. International Spine Intervention Society 23rd Annual Scientific Meeting. Las Vegas NV. July 28, 2015.

Mehta S, Loh E, Walton DM.

Differences in mood and coping among individuals with chronic cervical pain based on current pain stage of change. 9th Congress of the European Pain Federation (EFIC). Vienna, Austria. Sept 5, 2015.

Mehta S, Loh E, Walton DM.

Identification and characterization of unique subgroups of chronic cervical pain individuals based on their coping style. ACRM, , Dallas TX, Oct. 28, 2015.

Mehta S, McIntyre A, Guy S, Teasell R, Loh E.

Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. ACRM, Dallas TX, Oct. 28, 2015.

Moulin D, What is neuropathic pain and how do we treat it? (Webinar) DeGroote Pain Centre, McMaster University, Hamilton, Ontario, March 12, 2015.

Moulin, D., Neuropathic pain: diagnosis and management –a review and update. Canadian Anaesthesiology Society Annual Meeting, Ottawa, Ontario June 21, 2015.

Moulin, D., nerve pain (Webinar) Canadian Institute for the Relief of Pain and Disabilities. Vancouver, BC, July 15, 2015.

Levine A, Parrent AG, **MacDougall K.,** Successful long-term nerve root stimulation for chronic neuropathic pain: a real world, single centre canadian experience. INS International Neuromodulation Society World Congress, Montreal, Quebec, June, 2015

Racine M, Moulin D, Nielson WR, Morley-Froster PK, Lynch M, Clark AJ, Stitt L, Gordon A, Smyth C Ware MA, Jensen MP. Changes in pain catastrophizing predict changes in pain and vice versa in patients with neuropathic pain: a cross-lagged panel analysis study. Presented at 10th Congress of the European Federation of IASP Chapters (EFIC), Vienna, Austria, September 2015.

Racine, M. Comment gérer les personnalités difficiles: Bref survol sur les troubles de la personnalité en context de soins., Midis conférences, Unité de médecine familiale de l'hôpital Charles LeMoyne, Saint-Lambert, Quebec, October 2015

Nielson, WR. Self-management of chronic pain. 16th Annual National Scleroderma Conference, Hamilton, Ontario. September, 2015.

Annual Report
2015
Interdisciplinary Pain Program

Riehm KE, Kwakkenbos L, Carrier ME, **Nielson WR**, Nielsen K, Thombs BD, SPIN Investigators. Can the self-efficacy to manage chronic disease scale be used to evaluate self-efficacy in patients with systemic sclerosis? A psychometric analysis in the scleroderma patient-centred intervention network (SPIN) cohort. Scleroderma National Conference, Scleroderma Society of Canada, Hamilton, Ontario. September 2015.

Milette K, **Nielson WR**, Khanna D, Thombs BD. Learning from personal experiences of people coping with and managing scleroderma. Scleroderma National Conference. Scleroderma Society of Canada, Hamilton, Ontario. September 2015.

Riehm K.E., Kwakkenbos L., Carrier M.E., **Nielson W. R.**, Nielsen K., Thombs B.D., SPIN Investigators. Can the self-Efficacy to Manage chronic disease scale be used to evaluate self-efficacy in patients with systemic sclerosis? a psychometric analysis in the scleroderma patient-centered intervention network (SPIN) cohort. 2015 Scleroderma National Conference, Scleroderma Society of Canada, Hamilton, Ontario, Canada. September 2015.

Nielson, W.R. Psychosocial impact of rheumatoid arthritis: how can we help? Plenary presentation, Nurse's Issues and Advances in Rheumatology and Dermatology (NIARD) Conference, Toronto, Ontario, October, 2015.

Lopera, M., **Tawfic, QA**. The interventions to reduce chronic post-surgical pain after mastectomy: systematic review. 14th American Society of Regional Anesthesia Meeting, U.S.A, Miami Beach, FL. 19 - 21 Nov. 2015.

Tawfic QA. Multi model analgesia: what does it mean? What is the evidence?". The 6th Annual Ontario Anesthesia Meeting. Toronto Ontario, Canada. Sep. 24-27th, 2015.

Tawfic QA. "Progression from acute to chronic pain: can we stop it? CME, Department of Anesthesia, Southlake Regional Health Centre, ON, Canada. Nov.18th,2015.

Teasell R. Opioids and chronic pain, Michigan State University Department of Physical Medicine and Rehabilitation, E. Lansing, Michigan, January 15, 2015.

Mehta S, Rice D, Shapiro A, Pope J, **Harth M, Morley-Forster PK**, Sequeira K, **Teasell R**. Psychological distress in outpatients assessed for chronic pain compared to those with rheumatoid arthritis. American Congress of Rehabilitation Medicine, Dallas Texas, October 25-30, 2015.

Mehta S, McIntyre A, Guy S, **Teasell R, Loh E**. Effectiveness of transcranial direct current stimulation for the management of neuropathic pain after spinal cord injury: a meta-analysis. American Congress of Rehabilitation Medicine, Dallas Texas, October 25-30, 2015.

Annual Report
2015
Interdisciplinary Pain Program

Mehta S, Rice D, Janzen S, Shapiro AP, Pope JE, **Harth M**, **Teasell R**. Mood, disability and quality of life among unique subgroups of rheumatoid arthritis individuals with chronic pain based on their level of experiential avoidance and anxiety sensitivity. McMaster/Western Research Day, June 19, 2015.

Rice D, **Mehta S**, Serrato J, Pope JE, **Harth M**, Shapiro AP, **Teasell R**. Correlates of stress in patients with rheumatoid arthritis. McMaster/Western Research Day, June 19, 2015.

Walton DM. Whiplash: An integrated biopsychosocial model for assessment and treatment. Association Quebecoise de physiotherapie manuelle orthopedique (AQPMO), Levis Quebec. 2015.

Walton DM. Triangulating the pain experience for improved clinical decisions. Brain-U: Updates on understanding pain and the brain, University of Western Sydney, Australia. 2015.

Moseley GL, Thacker M, **Walton DM**. Critical updates in our understanding of chronic pain. World Confederation of Physical Therapy World Congress Singapore, Republic of Singapore. 2015.

Elliott J, **Walton DM**, Courtney M, Parrish T, Nicholson S. How science can be used in the courtroom: a case study for whiplash. American Physical Therapy Association Combined Sections Meeting (4-hour Focused Symposium), Indianapolis Indiana. 2015.

Mehta S, **Bellingham G**, Frewen P, **Walton DM**. Psychopathological model of the effect of corticosteroids on pain among people with chronic pain and psychological comorbidity. Poster presentation, 9th Congress of the European Pain Federation Vienna, Austria. 2015.

Walton DM. The Satisfaction and Recovery Index as a new generic measure of health-related satisfaction: development and preliminary validation. Podium presentation, World Confederation of Physical Therapy World Congress Singapore. 2015

Walton DM, Elliott J, Schabrun S. Advances in Neck and Spinal Pain Rehabilitation – 1 day workshop for clinicians with live online simulcast from London, Ontario. 2015.

- UNDERGRADUATE EDUCATION PROGRAM -

The Western Pain Program continues to be very active in pain education at the undergraduate level. The Pain Medicine Course is part of the newly established Integration and Transition Course delivered in 4th year. This course involves 10 seminars given over a total of 15 hours. New topics include pain in primary care, chronic pain in the elderly, the role of cannabinoids in pain management and the critical issue of pain assessment and management in the addicted patient. Competency in this course is being assessed by an examination involving 30 multiple choice questions

- POSTGRADUATE / FELLOW EDUCATION PROGRAM -

Clinical Pain Rounds are held quarterly for Residents, Fellows and Faculty. The format involves 2 case presentations and a thorough discussion of management by a multidisciplinary team including Anaesthesiology, Neurosurgery, Psychology and Rehabilitative Medicine. This continues to be an excellent educational forum for discussion of particularly challenging cases in pain management.

Western University carries the distinction of initiating the Royal College Pain Medicine Subspecialty Program. The first two residents in this program in Canada will complete their fellowship training in 2016. Dr. Geoff Bellingham is the Program Director at Western and has established a very solid foundation for training in pain research and management at the Royal College level.

- CONTINUING MEDICAL EDUCATION PROGRAM -

The westernpain.ca website continues to be very informative and user friendly. The history of the Western Pain Program including the establishment of the Earl Russell Chair in Pain Management is on the website. Various pain rounds, the annual reports of the Western Pain Program and the awardees of the Earl Russell Trainee Grant competitions are also included in the Western Pain website with regular updates.

Interdisciplinary pain rounds (held monthly) and conferences continue to be very popular and are held in the Thompson Amphitheatre at St. Joseph's Hospital. . A list of seminar topics and lectures follows.

- INTERDISCIPLINARY PAIN ROUNDS AND CONFERENCES 2015 -

- January 28 What's new in chronic pain management. **Teasell R.**
Interdisciplinary Pain Rounds. London, Ontario
- February 25 Mindfulness meditation – what it is and how it can help our
patients with chronic pain. **Partridge K.** Interdisciplinary
Pain Rounds. London, Ontario
- March 25 Update on small fibre neuropathy. **Katzberg H.**
Interdisciplinary Pain Rounds. London, Ontario
- April 22 Chronic pelvic pain and sacral neuromodulation.
Elterman D. Interdisciplinary Pain Rounds. London, Ontario
- May 27 Psychological distress among chronic pain vs. rheumatoid
arthritis individuals. **Mehta S.** Interdisciplinary Pain Rounds.
London, Ontario
- September 23 Treatment resistant CRPS: To amputate or not to amputate.
Cassidy C and Viana R. Interdisciplinary Pain Rounds.
London, Ontario
- October 28 The implementation of a transitional pain service. **Clarke H.**
Interdisciplinary Pain Rounds. London, Ontario
- November 25 Neuropathic pain – Update on evidence-based guidelines
and longterm outcome. **Moulin DE.** Interdisciplinary Pain
Rounds, London, Ontario