



**WESTERN UNIVERSITY
INTERDISCIPLINARY PAIN PROGRAM**



ANNUAL REPORT

2012



- TABLE OF CONTENTS -

Executive Summary	3
Scientific Advisory Board Members	4
Mission and Vision Statement	7
Awards	8
Research Funding	9
Publications	10
National and International Presentations	16
Undergraduate Education Program	20
Postgraduate / Fellow Education Program	20
Continuing Medical Education Program	20
Interdisciplinary Pain Rounds and Conferences	21

- EXECUTIVE SUMMARY -

Pain Program Annual Report 2012

There were landmark developments for the Western Pain Program in 2012. In September, the Pain Management Program at St. Joseph's Health Care moved to a 3,326 sq. ft. state-of-the-art facility on the third floor of the hospital. This includes procedure rooms and a fluoroscopy suite dedicated to pain management. The fluoroscopy suite allows for leading edge procedures for patients with intractable pain. For example, this facility allows many more guided nerve blocks to be performed for back pain, reducing wait times for patients. The **face page** shows Dr. Collin Clarke performing a radiofrequency ablation procedure, a technique in which radio waves are used to destroy nerve tissue to relieve back pain. The St. Joseph's Health Care Outpatient Pain Clinic carries almost 5,000 patient visits per year and this number is growing.

Another exciting development for 2012 was the complete revision of the Western Pain Medicine website. This is neatly divided into an "About Us" section which describes the history of the pain program at Western as well as other sections dedicated to patients, faculty, education, clinical services, research and resources. There are helpful tips for patients regarding pain management and answers to frequently asked questions. The Clinical Services section provides information on the St. Joseph's Health Care Outpatient Pain Clinic as well as the referral process. The Education section provides details on upcoming educational events for both healthcare professionals and patients. There are also links to helpful resources for patients and healthcare professionals. Check out the Western Pain Medicine Program at westernpain.ca.

The faculty from the Pain Management Program at St. Joseph's Health Care was responsible for the creation of a 3-day pain conference at the InMedic Pain Centre in London in March 2013. This conference, chaired by Dr. Pat Morley-Forster, was titled "A Balanced Approach to Pain Management" and included presentations on a variety of pain topics including musculoskeletal pain, neuropathic pain and headache. The third day also included a hands-on workshop on ultrasound-guided interventions for the management of chronic neck and back pain.

Dr. Melanie Racine, post-doctoral fellow under the direction of Dr. Warren Nielson, was the recipient of a \$10,000 Earl Russell Trainee Grant for her project entitled, "Operant Learning versus Energy Conservation Activity Pacing Interventions in a Sample of Fibromyalgia Patients: A Randomized, Controlled Trial".

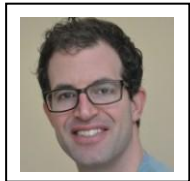


Dwight Moulin, M.D., FRCP(C), Earl Russell Chair, Western Pain Program

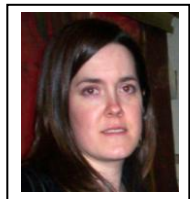
- SCIENTIFIC ADVISORY BOARD MEMBERS -



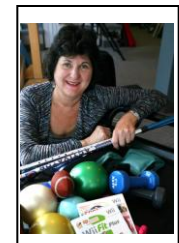
Dr. Geoff Bellingham completed residency in anesthesia and perioperative medicine at Western University. This was followed by a fellowship in chronic pain at the University of Toronto at the Wasser Pain Management Centre. Dr. Bellingham's focus during the fellowship was on the use of ultrasound guidance 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.



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, physiotherapist, has been the community representative on the Scientific Advisory Committee since 2007. Gloria is the owner of the first privately owned physiotherapy clinic in London (est. 1982); her caseload is

primarily comprised of people with complex pain resultant from traumatic neck injuries.

Involvement with this cohort of people has encouraged Gloria to continue to research the possible 'other' physical sequelae of neck trauma. This has resulted in learning more about Mild Traumatic Brain Injury.

Gloria is secretary and newsletter editor of CAPM – the Canadian Academy of Pain Management (www.canadianapm.com) and is credentialed as a Fellow of both the Canadian and American Academies.

Gloria is an active member of NORA (The Neuro-Optometric Rehabilitation Association (www.nora.cc) and the Pain Sciences Division of the Canadian Physiotherapy Association (CPA).

With colleagues in the physiotherapy, psychology and optometric professions, Gloria has spoken and provided workshops in 2012 at the Canadian Pain Society, the Canadian Physiotherapy and Ontario Associations as well as to the London Brain Injury Association.

Gloria is no longer accepting new patients, but will continue to devote her interest on consulting, patient education and developing course work for health providers on 'Assessing the Chronic Post-Traumatic Neck Pain Patient'.



Dr. Patricia Morley-Forster is a Professor of Anesthesiology and Perioperative Medicine at Western Ontario. 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 mandated to develop 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.



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. He is also the Clinical Director of the Rheumatology Day Programs at St. Joseph's Health Care, London. 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 -

Collin Clarke

Western University Department of Anesthesia Undergraduate Educator of the Year. Voted by Clinical Clerks rotating through the Department of Anesthesia to be top educator. 2012

Duke University Medical Center Department of Anesthesia Case Competition 2012. 1st Place “The Successful Management of a Pediatric Patient with Neuropathic Pain from a Spinal Anaplastic Ependymoma using Ziconotide”

Dwight Moulin

Distinguished Career Award, Canadian Pain Society, May 2012

Inclusion of ‘Moulin DE, Iezzi A, Amireh R, Sharpe WKJ, Boyd D, Merskey H: A randomized trial of oral morphine for chronic non-cancer pain. The Lancet 347: 143-147, 1996’ in book ‘50 studies every doctor should know – key studies that form the foundation of evidence-based medicine’ Hochman ME, CreateSpace, 141-147, 2012

Robert Teasell

Royal College McLaughlin-Gallie Visiting Professorship

- RESEARCH FUNDING -

Collin Clarke

Clarke C. Canadian Institutes of Health Research. "Functional imaging of complex regional pain syndrome," 2012-2014 (co-investigator at Western)

Eldon Loh

Loh E, Mehta S. Pain Management: Development of Clinical Practice Guidelines for Pain Management in Spinal Cord Injury (Phase 1). Ontario Neurotrauma Foundation Capacity Building Grant, 2 years, \$120,000

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)

Moulin DE. CIHR – Patient-Oriented Research Program. "Methadone for Neuropathic Pain – Double-Blind, Randomized, Controlled Trial," 2012 – 2014, \$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," 2011 – 2014, \$500,000 (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, Principal Investigator, 2012 – 2017, \$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 (\$5,000)

Racine M, **Nielson W.** Earl Russell Trainee Grant in Pain Research. "Operant learning versus energy conservation activity pacing interventions in a sample of fibromyalgia patients: A randomized, controlled trial," 2012, \$10,000.

Frank Prato

Prato FS (project leader), Koropatnick J (project co-leader), Thomas AW et al. Biomedical multimodality hybrid imaging, Canadian Foundation for Innovation (CFI) Leading Edge Fund and Ontario Research Fund (ORF), Project No. 11358, \$30,000,000, 2007-2012

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)

Alex Thomas

Thomas AW (PI), Legros A. Hydro Quebec Research Project Phase III – magnetophosphenes and neurophysiological investigations of power-line frequency magnetic fields. Hydro Quebec/Electricite de France/Reseaux Transport Electricite, \$1,200,000, 2011 - 2014

Thomas AW. Industry match for Canadian Institutes of Health Research Industry-Partnered Chair, Hydro Quebec/Electricite de France/Reseaux Transport Electricite (Part of Phase III), \$300,000, 2011 – 2014

Legros A (PI), Thomas AW. Impact of an extremely low frequency magnetic stimulus between 5 and 50 mT on human neurophysiological function: A multidimensional approach at 60 Hz. Canadian Institutes of Health Research Operating Grant, Industry Partnered, \$428,010, 2011 – 2014

Prato FS (project leader), Koropatnick J (project co-leader), Thomas AW et al. Biomedical multimodality hybrid imaging. Canada Foundation for Innovation (CFI) Leading Edge Fund and Ontario Research Fund (ORF), \$30,000,000, 2007 – 2012

Legros A (PI), Thomas AW. Human threshold detection facility, EPRI, \$120,000, 2012 - 2013

- PUBLICATIONS -

Peer-Reviewed Articles

Bellingham GA, Bhatia A, Chan CW, Peng PW. Randomized controlled trial comparing pudendal nerve block under ultrasound and fluoroscopic guidance. *Reg Anesth Pain Med* 37(3): 262-266, 2012

Owen DG, **Clarke CF**, Bureau Y, Ganapathy S, **Prato FS**, **St. Lawrence KS**. Measuring the neural response to continuous intramuscular infusion of hypertonic saline by perfusion MRI. *J Magn Reson Imaging* 35(3): 669-77, 2012

Azari P, Lindsay DR, Briones D, **Clarke CF**, Buchheit T, Pyati S. Efficacy and safety of ketamine in patients with complex regional pain syndrome: A systematic review. *CNS Drugs* 26(3): 215-28, 2012

Low Y, **Clarke CF**, Huh BK. Opioid-induced hyperalgesia: A review of epidemiology, mechanisms and management. *Singapore* 53(5): 357-60, 2012

Miller TA, White K, Ross DC. The diagnosis and management of piriformis syndrome: Myths and facts. *CJNS* 39: 577-583, 2012

Teasell R, Foley N, Pereira S, **Miller TA**, Sequeira K. Evidence to practice: Botulinum toxin in the treatment of spasticity post stroke. *Topics in Stroke Rehabilitation* 19(2): 115-121, 2012

Foley N, Pereira S, Salter K, Fernandez MM, Speechley M, Sequeira K, **Miller TA, Teasell R**. Treatment with botulinum toxin improves upper extremity function post stroke: A systematic review and meta-analysis. *APMR* Dec 19, 2012

Shi Q, MacDermid J, Grewal R, King GJK, Faber K, **Miller TA**. Predictors of functional outcome change 18 months following anterior ulnar nerve transposition. *APMR* 93(2): 307-312, 2012

Sequeira K, **Miller TA, Teasell R**. Treatment with botulinum toxin improves upper extremity function post-stroke: A systematic review and meta-analysis. *APMR* Dec 19, 2012

Nalamachu S, **Morley-Forster PK**. Diagnosing and managing postherpetic neuralgia. *Drugs and Aging* 11(29): 863-869, 2012

Nielson WR, Kerns RD. Pain coping but not readiness to change is associated with pre-treatment pain-related functioning. *Clinical Journal of Pain* 28: 687-692, 2012

Thombs B, Jewett L, Assassi S, Baron M, Costa Maia A, El-Baalbaki G, Furst D, Gottesman K, Haythornthwaite J, Hudson M, Impens A, Korner A, Leite C, Mayes M, Malcarne V, Motivala S, Mouthon L, **Nielson WR**, Plante D, Poiraudau S, Poole J, Pope J, Sauve M, Steele R, Suarez-Almazor M, Taillefer S, van den Ende C,

Arthurs E, Bassel M, Delisle V, Milette K, Leavens A, Razykov I, Khanna D. New directions for patient-centered care in scleroderma: The scleroderma patient-centered intervention network (SPIN). *Clinical and Experimental Rheumatology* 30: S23-29, 2012

Levis B, Hudson M, Knafo R, Baron M, **Nielson WR**, Hill M, Thumbs B. Sexual activity and impairment in women with systemic sclerosis. *Arthritis Care and Research* 64: 340-50, 2012

Owen DG, Clarke CF, Bureau Y, Ganapathy S, **Prato FS, St. Lawrence KS**. Measuring the neural response to continuous intramuscular infusion of hypertonic saline by perfusion MRI. *J Magn Reson Imag* 35: 669-77, 2012

Legros A, Corbacio M, Beuter A, Modolo J, Goulet D, **Prato FS, Thomas AW**. Neurophysiological and behavioural effects of a 60 Hz 1,800 μ T magnetic field in humans. *Eur J Appl Physiol*. 112: 1751-62, 2012

Clarke CF, **St. Lawrence KS**. Functional imaging for interpretation of pain pathways: Current clinical application/relevance and future initiatives. *Curr Pain Headache Rep* 17: 311, 2012

Murie-Fernandez M, Carmona IM, Gnanakumar V, Meyer M, Foley N, **Teasell R**. Hombro doloroso en pacientes con ictis (Hemiplegic

Shoulder Pain in Stroke: A Literature Review). *Revista de Neurologia* 24(4): 234-244. 2012 (Epub ahead of print [English, Spanish] 2011)

Viana R, Mehta S, McIntyre A, **Miller T**, **Teasell R**. Evidence for therapeutic interventions for hemiplegic shoulder pain during the chronic stage of stroke: A review. *Topics in Stroke Rehabilitation* 19(6): 514-522, 2012

Modolo J, Beuter A, **Thomas AW**, Legros A. Using smart stimulators to treat Parkinson's disease: Re-engineering neurostimulation devices. *Front Comput Neurosci*. 6: 69, 2012

- PUBLICATIONS -

Non-Peer Reviewed

Clarke CF, Azari P, Huh B. Complications Associated with Head and Neck Blocks, Upper Extremity Blocks, Lower Extremity Blocks and Differential Diagnostic Blocks. In: Ranson M, Pope J, Deer T (eds): *Reducing Risks and Complications of Interventional Pain Procedures*. Philadelphia: Elsevier/Saunders, 2012

Moulin DE: Neuropathic pain. In: MacDonald N, Hagen N, Oneschuk D (eds): *Palliative Medicine – Case-Based Manual (3rd Edition)*. New York, Oxford University Press, 61-69, 2012

Moulin DE: Book Review. *The Opiate Receptors*. Second Edition. *Canadian Journal of Neurological Sciences* 39: 259, 2012

Kerns RD, Jensen MP, **Nielson WR**. Motivational Issues in Pain Management. In M. Hasenbring, A. Rusu and D.C. Turnk (Eds), *From Acute to Chronic Back Pain: Risk Factors, Mechanisms and Clinical Implications*. Oxford, UK: Oxford University Press, 2012

Teasell RW, Mehta S, **Loh E**, Aubut J, Foulon BL, Wolfe DL, Hsieh JTC, Townson AF, Short C. Pain Following Spinal Cord Injury. In: Eng JJ, Teasell RW, Miller WC, Wolfe DL, Townson AF, Hsieh JTC, Connolly SJ, Noonan V, Mehta S, Sakakibara BM, Boily K (eds): *Spinal Cord Injury Rehabilitation Evidence*. Version 4.0

Abstracts

Pereira S, **Miller TA**, Foley N, Salter K, Donaldson S, Sequeira K, **Teasell R**. Toning it down: Toward a consensus for standardized assessment in spasticity. *GTA Rehab Network Best Practices Day*, Toronto, ON, February 27, 2012

MacKenzie HM, **Miller TA**, Ross DC. Challenges in the diagnosis and management of foot drop: Intra-neural and extra-neural ganglion cysts. A case series. *J Rehab Med* 44: 997-1013, 2012. A08. 1002

Pereira S, Lobo L, Foley N, **Miller TA**, **Teasell R**. A review of the

evidence for upper extremity interventions initiated more than 6 months post stroke. *J Rehab Med* 44: 997-1013, 2012. A33. 1008

Lanc D, **Teasell R**, Lobo L, Pereira S, Foley N, **Miller TA**. Evidence for stroke rehabilitation therapies directed towards gait and mobility more than 6 months post stroke. *J Rehab Med* 44: 997-1013, 2012. A10. 1003

Viana R, Foley N, Lobo L, Pereira S, **Miller TA**, **Teasell R**. A review of the evidence for therapeutic interventions for hemiplegic shoulder pain initiated more than 6 months post stroke. *J Rehab Med* 44: 997-1013, 2012. A24. 1006

Pereira S, **Miller TA**, Foley N, Salter K, Donaldson S, Sequeira K, **Teasell R**. Toning it down: A consensus for standardized assessment in spasticity. *J Rehab Med* 44: 997-1013, 2012. A29. 1007

Miller TA, Sangha S, ross DC. Neurogenic thoracic outlet syndrome: A treatable disorder. The natural history and outcome in a case series. *Clin Neurophysiol* 123(7): 3 e69-376, 2012

Miller TA, Ross DC, Thomas A. Neurorehabilitation following neurotization: (Radial nerve transfer to axillary nerve) in nerve reconstruction: A case series. *Clin Neurophysiol* 123(7): 2 e69-376, 2012

Ste-Marie PA, Fitzcharles M, Pereira JX, Abbey S, Choiniere M, Ko G, **Moulin DE** et al. Preliminary results for the development of clinically applicable Canadian guidelines for the care of patients with fibromyalgia. *Pain Research and Management* 17: 194, 2012

Moulin DE. The hottest things in pain management. *Pain Research and Management* 17: 195, 2012

Longo C, Ware M, Squire P, Ahmed S, **Moulin DE** et al. Standardizing the clinical sensory examination for the diagnosis of neuropathic pain. *Pain Research and Management* 17: 215, 2012

Alabdulhadi O, Mitchell M, **Moulin DE**. Prospective cohort study to assess the risk of substance abuse in cancer patients being treated with opioid analgesics for severe cancer pain. International Association for the Study of Pain World Congress on Pain, August 28, 2012

Fitzcharles MA, Ste-Marie PA, Goldenberg DL, Pereira JX, Abbey S, Choiniere M, Ko G, **Moulin DE** et al. The 2012 Canadian fibromyalgia guidelines: Clinically applicable recommendations for the management of fibromyalgia. American College of Rheumatology Meeting, Washington, DC, November 2012

Lee SM, Landry J, Jones P, **Morley-Forster PK**, Buhrmann O. Effectiveness of a perioperative smoking cessation program: An

RCT. Canadian Anesthesiologists Society Annual Meeting, Quebec City, Quebec 2012 (faculty co-supervisor with Dr. P. Jones)

Morley-Forster PK, Manikandan R, Railton C, Urquhart B, Freeman D. Uptake of topical 10% ketamine gel over 7 days: A pilot study. Canadian Anesthesiologists' Annual Meeting, Quebec City, Quebec 2012 (faculty co-supervisor with Dr. R. Manikandan)

Morley-Forster PK, Pergolizzi, J, Sellers EM. Mitigating the risks of addiction, abuse and diversion: Undergraduate Pain Management Curricula. College on Problems of Drug Dependence. 74th Annual Scientific Meeting, Palm Springs, FL June 2012

Racine M, Thombs BD, Hudson M, Baron M, **Nielson WR** and the Canadian Scleroderma Research Group. Clinical correlates of pain versus itch in scleroderma: An exploratory study. 14th World Congress on Pain, International Association for the Study of Pain (IASP), Milan, Italy. IASP Press (abstract #107800), September 2012

Mehta S, McIntyre A, Salter K, **Teasell R**, Hsich J, Cheung K, Short C, Wolfe D and the SCIRE Research Group. Effectiveness of gabapentinoids in improving neuropathic pain intensity post-SCI: A meta-analysis. RHI Interdependence 2012, May 2012, Vancouver, BC

Janzen S, Mehta S, McIntyre A, **LOH E, Teasell R**. The diagnosis and treatment of pain on a spinal cord rehabilitation unit. American Congress of Rehabilitation Medicine and the American Society of Neurorehabilitation Joint Education Conference (ACRM-ASNR), Vancouver, BC, October 9-13, 2012, poster 100

Mehta S, Janzen S, McIntyre A, **Loh E, Teasell R**. Opioid treatment for chronic pain following spinal cord injury: A systematic review. American Congress of Rehabilitation Medicine and the American Society of Neurorehabilitation Joint Education Conference (ACRM-ASNR), Vancouver, BC, October 9-13, 2012, poster 96

Viana R, Lobo L, Pereira S, Foley N, Miller T, **Teasell R**. A review of the evidence for therapeutic interventions for hemiplegic shoulder initiated more than 6 months post-stroke. Journal of Rehabilitation Medicine 44: 1006, 2012

Janzen S, Mehta S, McIntyre A, **Loh E, Teasell R**. The diagnosis and treatment of pain on a spinal cord rehabilitation unit. Archives of Physical Medicine and Rehabilitation 2012; 93(10): e43

Mehta S, Janzen S, McIntyre A, **Loh E, Wolfe D, Teasell R**. Opioid treatment for chronic pain following spinal cord injury: A systematic review. Archives of Physical Medicine and Rehabilitation 2012; 93(10): e42.

Modolo J, **Thomas AW**, Legros A. The application of neural field theory to understand the effect of exposure to electric and magnetic field stimuli on brain activity. Progress in Neural Field Theory 2012, University of Reading, United Kingdom, Accepted platform, April 19-21, 2012

Legros A, Modolo J, Goulet D, Plante M, Souques M, Deschamps F, **Prato F**, Lambrozo J, **Thomas AW**. Magnetophosphenes and associated brain activation: A study protocol in humans exposed to up to 50 milliTesla 50/60 Hz magnetic fields. ICNIRP Workshop, Edinburgh, May 9-11, 2012

Legros A, Modolo J, Goulet D, Plante M, Souques M, Deschamps F, **Prato F**, Lambrozo J, **Thomas AW**. Threshold for a systematic neurophysiological response to 50 and 60 Hz magnetic fields of up to 50 milliTesla. 34th Meeting of Bioelectromagnetics Society, Brisbane, Australia, Platform, June 17-22, 2012

Prato FS, Robertson J, Desjardins-Holmes D, Keenlside L, DeMoor J, Stodilka R, **Thomas AW**. Nociceptive behavior in mice is affected by exposure to weak ELFMF: 33 nT at 30 Hz, 34th Meeting of the Bioelectromagnetics Society, Brisbane, Australia, June 17-22, 2012

Modolo J, **Thomas AW**, Stodilka RZ, Legros AL. Evidence for changes in brain synaptic plasticity induced by exposure to extremely low-frequency

magnetic fields. 34th Meeting of the Bioelectromagnetics Society, Brisbane, Australia, Platform, June 17-22, 2012

Modolo J, **Thomas AW**, Legros A. Changes in EEG activity during deep brain stimulation support antidromic activation of cortical neurons in a biophysical model. Movement Disorders Society 16th International Congress of Parkinson's Disease and Movement Disorders, Dublin, June 2012.

Thomas AW. Critical observation: 'data mining' EMF research for potential therapeutic effects. 7th International Workshop on Biological Effects of EMF, University of Malta, Invited platform. October 8-12, 2012.

Modolo J, **Thomas AW**, Legros A. Biophysical mathematical models: A new window on the effects of extremely low-frequency magnetic fields on human brain activity. 7th International Workshop on Biological Effects of EMF, University of Malta, Invited platform, October 8-12, 2012

Thomas AW. Identifying the gaps and proposals for future experiments and theoretical studies: Medical therapy devices. Ettore Majorana Foundation and Centre for Scientific Culture. International School of Bioelectromagnetics "Alessandro Chiabrera". VI COURSE: "Static and Low Frequency Magnetic Fields: "Physical Concepts, Biological Effects, Mechanisms and Limit Setting". Session 6.3. Dec 1, 2012

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

Bellingham GA. Medical School
Lecture: Interventions for Focal Low
Back Pain, February 15, 2012

Bellingham GA. Medical School
Lecture: Integration, Consolidation &
Enrichment (ICE) Pain Lecture
Series: Perioperative Pain Control,
April 12, 2012

Bellingham GA. Interprofessional
Summer Surgery School Lecture:
Postoperative Pain Control, June 13,
2012

Bellingham GA. Anesthesia
Resident Half Day: Pain Pathways:
Neurophysiology of Spinal Cord,
Nerve and Neuromuscular Junction,
January 21, 2012

Bellingham GA. Hand and Upper
Limb Grand Rounds: Update on
Novel Analgesics for Postoperative
Orthopedic Pain, May 9, 2012

Bellingham GA. Ultrasound
Injection Demonstrator for Canadian
Interventional Pain Conference,
Hamilton, ON, March 30-31, 2012

Bellingham GA. Ultrasound
Injection Demonstrator for 9th Annual
International Symposium of
Ultrasound for Regional Anesthesia
and Pain Medicine, Toronto, ON,
June 23, 2012

Bellingham GA. Ultrasound
Injection Demonstrator for
Ultrasound for Pain Medicine
Conference, Toronto Western
Hospital, Toronto, ON, November
30, 2012

Clarke, CF. Making a Mark 2012.
National Anesthesia Board Exam
Review, February 23-25, 2012

Clarke CF. Southwestern Ontario
Postoperative Nursing Conference.
All You Want to Know About
Anesthesia, April 21, 2012

Clarke CF. Palliative Care Grand
Rounds, Western University.
Interventional Techniques for
Management of Refractory Pain,
May 9, 2012

Clarke CF. Oncology Grand
Rounds, Western University.
Beyond Opioids, What Can Palliative
Care Offer, September 19, 2012

Clarke CF. Surgical Grand Rounds,
Western University. Addiction After
Surgery, Strategies for Prevention,
October 17, 2012

Clarke CF. Ontario Pain Fellow
Interventional Review Course.
Review of Interventional Procedures
for Current Pain Fellows in Ontario,
November 17, 2012

Getty H. Understanding the
Longitudinal Course of Depression.
St. Joseph's Health Care, London,
ON, January 27, 2012

Annual Report
2012
Interdisciplinary Pain Program

Getty H. Nonpharmacological Approaches to Pain Management. Integration, Consolidation & Enrichment Course in Pain Medicine, Schulich School of Medicine, April 12, 2012

Getty H. Psychological Assessment and Treatment of the Chronic Pain Patient. St. Joseph's Health Care, London, ON and InMedic Pain Management Centres 2012 Conference, A Balanced Approach to Pain Management, March 23, 2012

Getty H. Cognitive Behavioural Treatment of Individuals with Persisting Pain. Department of Psychiatry, Schulich School of Medicine & Dentistry, June 19, 2012

Loh E. InMedic – A Balanced Approach to Pain Management – “An Approach to Whiplash and Chronic Neck Pain”, London, ON, April 2012

Loh E. InMedic – A Balanced Approach to Pain Management -- “An Approach to Chronic Low Back Pain”, London, ON, April 2012

Loh E. HULC Rehab Rounds – “A Pain in the Neck”, St. Joseph's Health Care, London, ON, April 2012

Loh E. IRDPQ Rehabilitation Rounds. “Developing Clinical Practice Guidelines in SCI Pain” IRDPQ, Quebec City, PQ, June 2012

Teasell R. Opioids in Management of Chronic Pain: Analgesia and

Misuse. Royal College of Physicians and Surgeons of Canada McLaughlin-Gallie Visiting Professorship, Vancouver, BC, October 29-30, 2012

Teasell R. Opioids in Management of Chronic Pain: Analgesia and Misuse. Royal College of Physicians and Surgeons of Canada McLaughlin-Gallie Visiting Professorship, Kingston, ON, November 19, 2012

Teasell R. Management of Opioids in Chronic Pain. Royal College of Physicians and Surgeons of Canada McLaughlin-Gallie Visiting Professorship, Kingston, ON, November 19, 2012

Merskey H. Pain Rounds, University of Western Ontario. Pain and the medicolegal assessment of catastrophic impairment in Ontario, St. Joseph's Health Care, London, ON, April 25, 2012

Merskey H. Anticonvulsants, antidepressants, neuroleptics and muscle relaxants in complex regional pain syndrome: Seminar update on Complex Regional Pain Syndrome. 13th World Congress, Milan, Italy, International Association for the Study of Pain, Invited Contribution, August 26, 2012

Miller TA. How do you know the patient is better: Outcome measures in spasticity. CBTC, Vancouver, BC, February 2012

Miller TA, Ross DC. Upper limb surgical management in spasticity. CBTC, Vancouver, BC, February 2012

Miller TA. Myofascial pain syndrome. A balanced approach to pain management. London, ON, March 2012

Morley-Forster PK. Neurobiology of chronic pain: Factors influencing transition from acute to chronic pain. Conference: A Balanced Approach to Pain Management. London, ON, March 23-25, 2012

Morley-Forster PK. How to utilize NOUGG guidelines in your practice. Conference: A Balanced Approach to Pain Management, London, ON, March 23-25, 2012

Morley-Forster PK. Chronic abdominal and pelvic pain. Conference: A Balanced Approach to Pain Management, London, ON, March 23-25, 2012

Morley-Forster PK. Intravenous lidocaine infusion for chronic neuropathic pain. OMA Section on Chronic Pain Annual Meeting, Toronto, ON, May 4, 2012 (invited speaker)

Morley-Forster PK. What is chronic pain? Patient Education Day Theme: Effective Pain Self-Management, St. Joseph's Health Care, London, ON, June 8, 2012 (invited speaker)

Moulin DE. The hottest things in pain management – Keynote address. Canadian Pain Society Meeting, Whistler, B.C., May 26, 2012

Moulin DE. Pharmacotherapy of neuropathic pain. InMedic – St. Joseph's Health Care, London, ON, March 23, 2012

Ower K. Infusion techniques. Invited speaker at "A balanced approach to pain management" conference, March 25, 2012

Prato FS. Magnetic field exposure from MRI now and in the future. International School of Bioelectromagnetics, Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Sicily, Italy, November 26, 2012

Prato FS. Human protocols using medical imaging. International School of Bioelectromagnetics, Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Sicily, Italy, November 30, 2012

Prato FS. Past, present and future of ELF and static MFs. International School of Bioelectromagnetics, Ettore Majorana Foundation and Centre for Scientific Culture, Erice, Sicily, Italy, December 1, 2012

Mehta S, McIntyre A, Salter K, **Teasell R**, Hsieh J, Cheung K, Short C, Wolfe D and the SCIRE Research Group. Effectiveness of gabapentinoids in improving neuropathic pain intensity post SCI:

A meta-analysis. RHI
Interdependence 2012, Vancouver,
B.C., May 2012

Viana R, Lobo L, Pereira S, Foley N,
Miller T, **Teasell R**. Evidence for
treatment of hemiplegic shoulder
more than 6 months post-stroke.
60th Annual Scientific Meeting of the
Canadian Association of Physical
Medicine and Rehabilitation,
Toronto, ON, June 20-23, 2012, A14
Teasell R. Opioids in management
of chronic pain: Analgesia and
misuse. Royal College Physicians
and Surgeons of Canada
McLaughlin-Gallie Visiting
Professorship, Vancouver, B.C.,
October 29-30, 2012

Teasell R. Opioids in management
of chronic pain: Analgesia and
misuse. Royal College Physicians
and Surgeons of Canada
McLaughlin-Gallie Visiting
Professorship, Kingston, ON,
November 19, 2012

Teasell R. Management of opioids
in chronic pain. Royal College
Physicians and Surgeons of Canada
McLaughlin-Gallie Visiting
Professorship, Kingston, ON,
November 19, 2012

Thomas AW. Critical observation:
'data mining' EMF research for
potential therapeutic effects. 7th
International Workshop on Biological
Effects of EMF. University of Malta,
October 8-12, 2012

Thomas AW. Critical Observation:
'data mining EMF research for
potential therapeutic effects. 7th
International Workshop on Biological
Effects of EMF, University of Malta,
Invited platform, October 8-12, 2012

Modolo J, **Thomas AW**, Legros A.
Biophysical mathematical models: A
new window on the effects of
extremely low-frequency magnetic
fields on human brain activity. 7th
International Workshop on Biological
Effects of EMF, University of Malta,
October 8-12, 2012

Thomas AW. Identifying the gaps
and proposals for future experiments
and theoretical studies: Medical
Therapy Devices. Ettore Majorana
Foundation and Centre for Scientific
Culture. International School of
Bioelectromagnetics "Alessandro
Chiabrera". VI COURSE: "Static and
Low Frequency Magnetic Fields:
"Physical Concepts, Biological
Effects, Mechanisms and Limit
Setting". Session 6.3, Erice Sicily,
December 1, 2012

- UNDERGRADUATE EDUCATION PROGRAM -

The pain program continues to be very active in pain education at the undergraduate level. This includes a Year 4 selective on Pain Medicine which was attended by approximately 100 students. This is a 12-hour multi-disciplinary course provided by neurologists, anesthesiologists, a psychiatrist, a psychologist, a palliative care specialist and a pharmacist. The evaluations for this Year 4 course have consistently been excellent. Small group one hour seminars on management of cancer pain are also provided to all the Clinical Clerks rotating through Oncology. Many medical students attend various pain clinics throughout the city.

- POSTGRADUATE / FELLOW EDUCATION PROGRAM -

Anesthesiology residents have a one-month mandatory rotation in the SJHC Interdisciplinary Pain Clinic. Neurology and psychiatry residents also attend this clinic on a selective basis. Fellows in the Pain Program for 2012 were Dr. Wilson Tay from Singapore and Dr. Maan Kattan from Saudi Arabia. Dr. Tay devised a care pathway for the management of complex regional pain syndrome for the pain program. Dr. Kattan carried out a study on the management of cancer pain at the London Regional Cancer Program and he also authored a book chapter on the management of central post-stroke pain..

The Royal College Pain Medicine Subspecialty Program is now in Phase 3 with approval of the curriculum and accreditation standards by the Royal College. This 2-year fellowship in Pain Medicine is scheduled to start July 2014. Dr Geoff Bellingham has taken on the role of program director for Western and he will require input from various stakeholders including Psychology, Psychiatry, Pediatrics, Neurology and Rheumatology to define the curriculum.

- CONTINUING MEDICAL EDUCATION PROGRAM -

A 3-day conference on pain management, chaired by Dr. Pat Morley-Forster and supported by the faculty of the St. Joseph's Health Care Pain Clinic, was held in March at the InMedic Pain Centre in London. There were approximately sixty registrants for this conference and the evaluations were excellent.

Interdisciplinary Pain Rounds and Conferences continue to be very popular at Western. A list of seminar topics and lectures follows on the next page.

Annual Report
2012
Interdisciplinary Pain Program

- INTERDISCIPLINARY PAIN ROUNDS AND CONFERENCES 2012 -

- January 25 Epidural Injections, Evidence and Intrigue. **Dr. Collin Clarke**, Assistant Professor Department of Anesthesiology & Perioperative Medicine, Western University, London, Ontario
- March 8 Some Thoughts on Opioid Therapy for Chronic Pain. **Dr. Jennifer Haythornthwaite**, Professor Department of Psychiatry & Behavioural Sciences, John Hopkins Hospital, Baltimore, Maryland, USA
- March 23-25 Pain Conference—A Balanced Approach to Pain Management. InMedic Pain Centre, London, Ontario
- March 28 The Use of Opioids in Pregnancy and the Effects on the Newborn. **Dr. Laura Lyons**, Medical Centre Director St. Joseph's Family Medical Centre, Assistant Clinical Professor Department of Family Medicine, Western University, London, Ontario
- April 25 Pain and the Medicolegal Understanding of Catastrophic Impairment in Ontario. **Dr. Harold Merskey**, Professor Emeritus, Schulich School of Medicine & Dentistry, Western University, London, Ontario
- May 30 Unraveling the Puzzle of Sex, Gender and Pain: Are We So Different? **Dr. Melanie Racine**, Postdoctoral Fellow, Western University, London, Ontario
- September 26 Headache Management – The Good, The Bad and The Ugly. **Dr. Paul Cooper**, Professor Department of Clinical Neurological Sciences, Schulich School of Medicine & Dentistry, Western University, London, Ontario
- October 31 Life After Oxycontin – Recent Trends in Abuse and Division of Prescription Analgesics in the USA. **Dr. Richard Dart**, Director Rocky Mountain Poison and Drug Centre, Professor Emergency Medicine, University of Colorado, Boulder, Colorado, USA
- November 28 Opioid-Induced Hyperalgesia – Presentation, Mechanisms and Treatment. **Dr. Ronald Wasserman**, Director Back and Pain Centre, Chief Pain Services, Assistant Professor Department of Anesthesiology, University of Michigan, Ann Arbor, Michigan USA