that is a small region of intense pain on a taut muscular band within the
tissue. Myofascial pain is characterized by a trigger point that
can cause pain in the shoulder, low back, and some other regions. These pain syndromes present as headaches, facial pain, and in the chronic state as demonstrated in the treatment of chronic whiplash syndrome.

BRIEF DESCRIPTION:
This talk will describe the clinical presentations and the known pathophysiology of myofascial pain syndromes. Myofascial pain is pain of muscular origin that is characterized by a variety of referred pain syndromes. Effective treatment must include the identification and correction or treatment of structural and mechanical predisposing factors, such as forward head posture and hypermobility or joint laxity. Metabolic, hormonal and nutritional predisposing factors like vitamin D deficiency, iron deficiency and hypothyroidism must also be addressed. Treatment can be effective in the acute state as shown in the treatment of acute myogenic (muscle tension) headache, and in the chronic state as demonstrated in the treatment of chronic whiplash syndrome.

PAIN EDUCATION DAY
THURSDAY, JUNE 15, 2006

8:15 AM – KEYNOTE SPEAKER
MYOFASCIAL PAIN SYNDROME: MECHANISMS AND DIAGNOSTIC CRITERIA

2
Chair: Norman Thie MSc DDS
Diplomate-American Board of Orofacial Pain; Fellow-American
Academy of Oral Medicine Associate Professor and Director,
TMD/Orofacial Pain Clinic, University of Alberta, Edmonton, Alberta
Speaker: Robert Gerwin MD
President/Medical Director, Pain & Rehabilitation Medicine;
Janet G Travell MD, Seminar Series, Bethesda, Maryland, USA

BRIEF DESCRIPTION: This talk will describe the clinical presentations and the known pathophysiology of myofascial pain syndromes. Myofascial pain is pain of muscular origin that is characterized by a variety of referred pain syndromes. Effective treatment must include the identification and correction or treatment of structural and mechanical predisposing factors, such as forward head posture and hypermobility or joint laxity. Metabolic, hormonal and nutritional predisposing factors like vitamin D deficiency, iron deficiency and hypothyroidism must also be addressed. Treatment can be effective in the acute state as shown in the treatment of acute myogenic (muscle tension) headache, and in the chronic state as demonstrated in the treatment of chronic whiplash syndrome.

COMMUNITY PUBLIC EVENT
WEDNESDAY JUNE 14, 2006

7:30 PM – VOICES OF PEOPLE WITH PAIN

1
Chair: Helen Hays MD CCFP FCP
Associate Professor, Department of Family Medicine, University of
Alberta, Edmonton, Alberta
Speakers: Heather Divine RN, Catherine Ireland RN, Claude Roberto PhD

BRIEF DESCRIPTION: Voices of People with Pain is a public event open to pain sufferers, their families, their caregivers and the general public. This event features the stories of people living with pain as told in their own words and will put a face to the serious nature of pain. Untreated or undertreated pain is our nation’s leading public health problem and the only way to move forward is to heighten the public’s awareness about the impact pain has on those who suffer, their families and our health care leaders. The presentation covers three basic areas that pain sufferers experience on their journey through pain. As Thomas Jefferson said, “The art of life is the art of avoiding pain; and he is the best pilot, who steers clearest of the rocks and shoals with which it is beset.” This leads to the premise of the presentation as follows:

• Chronic pain can happen to anyone. It does not discriminate. It affects people of all stages of life – the young, the middle-aged and the elderly.
• Not treating pain or believing it does not exist causes serious problems. Pain weakens the immune system and slows recovery from disease or injury. It diminishes quality of life and impacts almost every aspect of a person’s life.
• People in pain can lead a productive life and contribute to society.

ABSTRACTS

Canadian Pain Society Conference
June 14 – 17, 2006, Edmonton, Alberta

INTEGRATIVE PAIN MEDICINE

3A
INTRODUCTION OF COMPLEMENTARY AND ALTERNATIVE MEDICINE INTO PAIN MEDICINE

James Dillard MD DC Lac, Celeste Johnston RN DEd, Steven KH Aung MD FAAP

3B
THERAPIES INVOLVING TOUCH FOR PAIN IN CHILDREN

C Celeste Johnston RN DEd, Kathryn McNaughton BScNl,
Jasmine Byron BA BSW MCNII,
School of Nursing, McGill University, Montréal, Québec

Learning Objectives:
1. Appreciate uniqueness of conducting research on pain in children.

Manual therapies include, but are not restricted to, acupuncture, cutaneous stimulation, massage therapy, healing touch, therapeutic touch and passive manipulation of the body by a health care professional, are gaining attention as alternative nonpharmacological pain management techniques in adult populations. Nevertheless, due to the vulnerability of children and lack of rigorous research on adult populations, research conducted into the benefits of manual therapies as they relate to pain in children is limited. Other barriers to the use of manual therapies in children include limited caregiv-
Abstracts

er knowledge and experience as well as fear that techniques will cause dis-

tress in children (Kemper, 2000). However, the few existing studies suggest

that manual therapies may be associated with a reduced pain response in

infant, child and adolescent populations, and merit further investigation.

3C INTEGRATION OF TRADITIONAL CHINESE MEDICINE AND WESTERN MEDICINE APPROACH IN PAIN MANAGEMENT

Steven KH Aung MD FAAFP

Clinical Associate Professor, Faculty of Medicine and Dentistry, University of Alberta; Clinical Associate Professor, New York University College of Dentistry, New York, New York, USA; Adjunct Professor, Faculty of Extension, University of Alberta, Edmonton, Alberta

Learning Objectives:
1. Understanding the Western medicine approach to pain management.
2. Understanding the TCM approach to pain management.
3. Understanding and appreciation of the value of the integrative approach in health care.
4. Using the best of many systems to improve the quality of life in an evidence-based manner for the benefit of all concerned.

Pain is the most common disabling sign and system in any system of medicine. There are many modalities, types and sites of pain throughout our lifetime. The major concern of all health care practitioners is to relieve the pain while at the same time to treat the underlying cause and conditions. Western medicine has many excellent ways of approach to pain management, mainly pharmaceutical products involving narcotics, anti-inflammatory agents and so on. Moreover, Western medicine also provides pain killing injections of drugs through the muscles and veins, sometimes in conjunction with surgical procedures. Sometimes some deleterious side-effects will occur. The ancient and modern traditional Chinese medicine (TCM) approach is a more holistic, naturalistic approach comprising an array of diagnostics and therapies encompassing herbology, nutrition/dietetics, acupuncture and related techniques, massage/manipulation as well as various physical, mental and spiritual exercises such as Qi Gong and Tai Chi Chuan. Our integrative approach provides the best of the Western medicine, TCM and other complementary approaches to help heal the pain and enhance the quality of life of our dear patients.

4C THE ROLE OF INTRAVENOUS LIDOCAINE IN TREATING CHRONIC NONMALIGNANT PAIN

Harry Pollett MD FRCPC

Medical Director, Chronic Non-Malignant Pain Clinic, Northside General Hospital, North Sydney, Nova Scotia

Learning Objectives:
1. Understand the indications and contraindications for using intravenous lidocaine.
2. Understand the methods of administering intravenous lidocaine and the precautions to be observed.
3. Understand the barriers to the use of this technique and how they can be overcome.

Intravenous local anaesthetics have been used for treating chronic pain for over sixty years. There has been a recent upsurge in interest in using intravenous lidocaine in clinics across Canada. Advantages include excellent pain relief, opioid sparing effect and effectiveness in treating otherwise difficult to treat conditions, such as fibromyalgia and myofascial pain syndrome. Disadvantages include the need for parenteral administration and the necessity for frequent repeat administrations. This workshop will describe the experience of over 15,000 administrations since 1996 including techniques and monitoring requirements. The results of using a newer technique of 48 h administration via an elastomeric pump will also be described. This technique, currently being examined, may permit long term pain relief and less frequent administration.

1:45 PM – SESSION 101

UPDATE ON THE MECHANISMS, DIAGNOSIS AND TREATMENT OF HEADACHES AND MIGRAINES

5

Chair: Dan Gray MD FRCPC

Anesthesia, Assistant Clinical Professor, Department of Anesthesiology and Pain Medicine, University of Alberta, Edmonton, Alberta

Speakers: Raquel Feroe MD FRCPC

5A CHRONIC DAILY HEADACHE AND THE ROLE OF OPIOIDS

Raquel Feroe MD FRCPC

Internal Medicine, Lifemark Health, Edmonton, Alberta

Learning Objectives:
1. Understand treatment challenges in chronic daily headache, especially when complicated by medication overuse.
2. Understand how to monitor treatment and improve outcomes when using opioids in CDH.

The incidence of chronic daily headache is 4%. Effective treatment is important but can be difficult, especially when complicated by medication overuse. Relapse rates are as high as 70% in MOH and those compliant with treatment have sometimes been shown to have worse QOL. The best response expected using preventatives is less than 50% and the likelihood of sustained success over three months is likely one-half that. Cognitive- behavioural therapy plus a preventive seems to be the standard treatment and the United States Headache Consortium Guidelines give us options, but as we become more aware of the toxicities of preventatives like paroxetin we need to rethink our strategies. We need to examine drugs not listed in the guidelines. We need to better understand the issue of MOH and the role opioids play. It is now accepted by the ‘experts’ that in a significant minority of treatment refractory CDH, CR opioid treatment will lead to a sustained response with a dramatic reduction in disability. The paper by Super et al (Neurology 2004;62:1687) remains among the best published on the topic of chronic opioid Rx for headache suppression. Others such as Dr J Rothrock are finishing up 10 years of study of methadone Rx for refractory CDH. By the time this talk is given a written commentary on the topic of CDH should be available in Headache Currents. Looking at the numbers needed to treat for neuropathic pain, opioids fair well at 2.5 com-
Gabapentin and Chronic Masticatory Myalgia

Pablo Kinos DDS MSc

Department of Dentistry, TMD/Orofacial Pain Clinic, Orthodontic Graduate Resident, University of Alberta, Edmonton, Alberta

Chronic masticatory myalgia (CMM) can be defined as constant pain in the masticatory muscles for more than six months and is influenced by the central nervous system. The antiepileptic agent gabapentin acts centrally and it is used for managing different types of chronic pain conditions. Historically, opioids and tricyclic antidepressants have been used to control chronic muscular pain in the orofacial region. On the other hand, antiepileptic agents are used for neuropathic pain conditions, but such agents have not been tested for pain problems of muscular origin in the head and face areas. Data derived from a randomized, clinical trial testing the efficacy of gabapentin on CMM will be presented. Clinical applications will be discussed to present gabapentin as a new tested treatment alternative to reduce CMM.

Abstracts

1. TEMPOROMANDIBULAR DEGENERATIVE JOINT DISEASE

Norman Thie BSc MSc DDS MSc

Diplomate-American Board of Orofacial Pain; Fellow-American Academy of Oral Medicine; Associate Professor and Director, TMD/Orofacial Pain Clinic, Department of Dentistry, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, Alberta

Speakers: Norman Thie BSc MSc DDS MSc, Pablo Kinos DDS MSc, Brian Nebbe BDS Mdent FFD(SA)Ortho PhD

3. The role of Methadone in addiction and in the dual pathological condition of chronic pain and addiction.

Currently, there are barriers to the wider acceptance of Methadone as a treatment for chronic pain; partly due to regulatory requirements and partly due to the stigma of Methadone as a treatment for opioid addiction. An examination of the history of Methadone and its evidence for use in chronic pain reveals some compelling reasons for this drug to be included in the armamentarium of the chronic pain physician. Methadone has some peculiar pharmacokinetic and pharmacodynamic properties that confer some notable advantages over other controlled-release opioids. However, there are some cautionary tales associated with its use that may lead to the impression that it is “too hot to handle”. Methadone has an established role in the traditional management of addiction, but we are becoming increasingly aware of the cohabitation of the dual pathways of addiction and chronic pain.

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Diplomate-American Board of Orofacial Pain; Fellow-American Academy of Oral Medicine; Associate Professor and Director, TMD/Orofacial Pain Clinic, Department of Dentistry, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, Alberta

Speakers: Norman Thie BSc MSc DDS MSc, Pablo Kinos DDS MSc, Brian Nebbe BDS Mdent FFD(SA)Ortho PhD

Abstracts

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Norman Thie BSc MSc DDS MSc

Diplomate-American Board of Orofacial Pain; Fellow-American Academy of Oral Medicine; Associate Professor and Director, TMD/Orofacial Pain Clinic, Department of Dentistry, Faculty of Medicine & Dentistry, University of Alberta, Edmonton, Alberta

Learning Objectives:
1. Understand the prevalence of temporomandibular degenerative joint disease.
2. Understand pathological mechanisms and diagnosis.
3. Understand treatment and prognosis.

Osteoarthritis (OA) is one of the most common arthritides affecting the temporomandibular joint (TMJ). The term degenerative joint disease (DJD) is often used synonymously with OA, although DJD is simply a descriptive term that does not identify etiology. TMJ DJD is thought to be a manifestation of an imbalance between adaptive (remodelling) and non-adaptive (degenerative) responses. When active bone degeneration and pain accompany the condition it is often referred to as OA. As bony remodelling occurs, the condition can become stable with the condition referred to as osteoarthritis. Generally, 8% to 12% of temporomandibular disorder patients who present to our clinic will receive a diagnosis of TMJ DJD. A large percentage of these patients are women in the postpubescent to premenopausal age range and the condition can occur unilaterally or bilaterally. Typically, there is an approximate 12 to 18 month destructive phase followed by a 12 to 18 month reparative and healing phase. This is quite different to other joints of the body (eg, knee joint OA) that typically affect older women and men in which the degenerative process can often progress and lead to disability and joint replacement. Etiological factors considered in the pathogenesis of this condition include acute trauma (eg, direct blow), mechanical overloading of the joints and internal derangement (particularly with disc deformation and perforation). Occlusion (bite relationship) remains to be proven as a causal factor, although secondary occlusal changes may accompany TMJ degenerative changes.
Abstracts

7B METHADONE – A PECULIAR DRUG, BUT IS IT TOO DIFFICULT TO HANDLE?
Mark Simmonds FRCA, FRCPC
Assistant Clinical Professor in Anesthesiology and Pain Medicine, University of Alberta Hospital, Edmonton, Alberta

7C IS IT PAIN OR ADDICTION? THE ROLE OF METHADONE IN HANDLING THE TOUGH ONES
Ian Forster MChB, CASAM
Consultant in Addiction Medicine and Medical Director of LifeMark Health Institute, Edmonton, Alberta

1:45 PM – SPECIAL SYMPOSIUM FOR BASIC SCIENTISTS 104
APPROACHES TO TRANSITIONAL RESEARCH: HOW TO GO FROM THE BENCH TO THE BEDSIDE?

8A SIMILARITIES AND DIFFERENCES IN PROCESSING OF NOCICEPTIVE INPUTS IN PRIMATES AND NONPRIMATES: FOCUS ON THE HUMAN THALAMUS
Jonathan Dostrovsky MSc PhD
Professor, Department of Physiology, University of Toronto, Toronto, Ontario

8B THE ANALGESIC ROLE OF PROINFLAMMATORY CYTOKINE INHIBITION IN ANIMALS – POSSIBLE HUMAN APPLICATIONS
Yoram Shir MD
Associate Professor, Department of Anesthesia, Faculty of Medicine, McGill University, Montréal, Québec

8C ANALGESIA DEVELOPMENT: TRANSLATION FROM ANIMAL TO HUMAN
Andy Dray PhD
Chief Scientist, Astra-Zeneca Research and Development, Montréal, Québec

8D MODELLING CLINICAL PAIN
James L Henry PhD
Scientific Director, Michael G DeGroat Institute for Pain Research and Care, McMaster University, Hamilton, Ontario

Learning Objectives:
1. Participants will gain a better understanding of the rationale for developing animal models.
2. Participants will learn about how three different animal models of chronic pain have been studied to learn more about the human condition.

Several animal models of chronic pain have brought us closer to understanding basic mechanisms of the respective types of pain, and this has in turn facilitated the development of therapeutic interventions to treat these pains. Yet, despite our optimism in terms of the impact of animal modelling for chronic pain, a sad fact is that there has not been a new class of drugs that has come on the market for chronic pain during the past two decades. This may be for a number of different reasons, but two issues will be discussed in this presentation. One issue is the relevance of animal testing to predicting effectiveness of a new chemical entity to the human
condition. Thus, questions will be raised concerning some widely used nociceptive tests and whether they relate to chronic pain in humans. The second issue is the types of chronic pain where animal modelling has not yet been achieved. Some types of chronic pain will be described as a starting point for discussion on the specific parameters that need to be included in a particular model. There will also be a call to the medical community to define what it is they want modelled, as in many cases the criticism that a model does not relate to the human condition can be countered by the challenge to come up with a uniform human condition to model.

2:45 PM – SESSION 105
UPDATE ON THE MECHANISMS, DIAGNOSIS AND TREATMENT OF ARTHRITIC PAIN

9
Chair: John Clark MD FRCPC
Director, Chronic Pain Centre, Calgary Health Region and Clinical Professor of Anesthesia, University of Calgary, Calgary, Alberta
Speakers: Kenneth Skeith MD PhD FRCPC, Mary-Ann Fitzcharles MB ChB FRCP, Jennifer Stinson BScN MSC

9A
CLINICAL OVERVIEW OF ARTHRITIS CONDITIONS
Kenneth Skeith MD PhD FRCPC
Associate Clinical Professor of Rheumatology, University of Alberta; Clinical Rheumatologist, Edmonton, Alberta. PhD in NSAID pharmacokinetics/pharmacodynamics, Faculty of Pharmaceutical Sciences, University of Alberta, Edmonton, Alberta

9B
THE SPECTRUM OF ARTHRITIS: TREATMENT STRATEGIES AND CHALLENGES
Mary-Ann Fitzcharles MB ChB FRCP
Department of Medicine, Division of Rheumatology and Montreal General Hospital Pain Centre, Montreal General Hospital, McGill University, Montreal, Quebec

Learning Objectives:
1. To understand treatment options pertinent to the arthritic disease process.
2. To gain insight into current practice strategies for physicians, as well as patient choices.

Pain is a prominent symptom in any arthritic process. Recognition of the disease process as either inflammatory or degenerative determines treatment strategies for arthritis. Disease modification with agents that influence immunity, the disease modifying antirheumatic drugs (DMARDS) are the cornerstone for inflammatory disease treatment. No DMARDS exist for the degenerative arthopathies. DMARDS do not cure, but rather offer suppression of disease and prevention of damage. In routine clinical practice, symptomatic and physician directed treatments for pain have until recently taken a second place. Pharmacological treatments, such as simple analgesics, nonsteroidal anti-inflammatory agents (NSAIDS) and, in recent years, opioids, have been the main physician directed focus for treatment of rheumatic pain. Nonpharmacological treatments, such as over-the-counter preparations, practitioner administered treatments or others such as dietary manipulations, are used extensively by rheumatology patients, without sound scientific basis for most. Topical applications and adjuvant drugs, beyond the simple antidepressants, may eventually play a moderate role in the care of rheumatic problems. Even in the setting of important structural damage, the benefits of continued exercise activity are increasingly recognized. Although barriers to optimum pain control still exist, physicians are now cognizant of the importance of pain relief.
11
Chair: Ian Forster MBChB CASAM
Medical Director and Consultant in Addiction Medicine, Lifemark Health Institute, Edmonton, Alberta
Speaker: Anna Taddio BScPhm MSc PhD
Scientist, Department of Pharmacy and Population Health Sciences, Hospital for Sick Children; Assistant Professor, Faculty of Pharmaceutical Sciences, University of Toronto, Toronto, Ontario
2005 Recipient of the Canadian Pain Society Early Career Award
BRIEF DESCRIPTION: This presentation will focus on clinical trials of analgesics in infants undergoing procedural pain and the challenges of designing and conducting such studies. There will be an emphasis on new data for various therapeutic interventions including systemic opioid analgesics, topical local anesthetics and sucrose. Our experiences with conducting such trials will be highlighted.

13
Chair: Gary B Rollman PhD
Department of Psychology, University of Western Ontario, London, Ontario
Speakers: Roger Fillingim PhD, Patricia McGrath MS PhD, William Maixner DDS PhD
13A
INDIVIDUAL DIFFERENCES IN EXPERIMENTAL PAIN RESPONSES
Roger Fillingim PhD
College of Dentistry, University of Florida, Gainesville, Florida, USA
Pain and analgesic responses are characterized by tremendous interindividual variability. Indeed, an identical noxious stimulus can produce vastly different pain responses across individuals, and equivalent doses of an analgesic can produce highly discrepant effects across patients. Historically, scientists and clinicians have regarded this variability as a nuisance; however, increasing evidence suggests that these individual differences may provide valuable information that can be used to enhance clinical management of pain. Numerous factors contribute to individual differences in pain and analgesia, including demographic (i.e., sex, age and ethnicity), genetic and psychosocial variables. These factors are discussed in the context of the biopsychosocial model of pain, which posits that pain perception is influenced by interactions among biological, psychosocial and sociocultural factors. Finally, the clinical and scientific implications of individual differences in pain are discussed.

13B
WHAT CAN WE LEARN FROM PEDIATRIC PAIN RESEARCH
Patricia McGrath MS PhD
Divisional Centre for Pain Management and Pain Research, Anesthesia, Hospital for Sick Children, Toronto, Ontario
13C
WHAT CAN WE LEARN FROM PEDIATRIC PAIN RESEARCH IN HUMANS
William Maixner DDS PhD
Center for Neurosensory Disorders, UNC Chapel Hill School of Dentistry, Chapel Hill, North Carolina, USA

India has been a global leader in the field of anxiety research and treatment, with significant contributions to understanding the role of anxiety in children's pain and the role of immunization pain. The authors report on their findings from a large-scale, randomized controlled trial of a novel, non-pharmacological intervention for anxiety management in children with chronic pain. The intervention, which combines cognitive-behavioral therapy and mindfulness training, showed promising results in reducing anxiety levels and improving pain management outcomes. These findings have important implications for clinical practice and further research in this area.

Anecdotal and clinical reports indicate that there is significant variation in the amount of pain children experience during routine medical procedures. This variation may be due to a combination of biological, psychological, and environmental factors. Understanding the underlying mechanisms of pain and analgesia is crucial for improving pain management in children. The role of anxiety in pain perception and the impact of immunizations on pain are areas of active research, and the findings from this study offer valuable insights into these complex interactions.
AIM: To examine the influence of individual differences in anxiety on young children's prediction, experience, and recall of immunization pain intensity.

METHOD: Participants included 95 children (47 boys, 48 girls) between the ages of 4.00 years and 7.83 years (M=6.38 years, SD=1.08 years), presenting to the local public health unit for routine immunization (Diphtheria, Pertussis, Tetanus, Polio (DPTP) and/or Measles, Mumps, Rubella (MMR) vaccinations). Children and their parents completed ratings of anxiety and predicted pain intensity prior to the needles. Ratings of experienced pain (self-report and behavioral) were obtained immediately following the procedure. Recalled pain was assessed by telephone approximately six weeks later.

RESULTS: Girls were more anxious than boys before having the needle and older children reported less anticipatory anxiety. Children's anxiety was positively correlated with the intensity of immunization pain predicted, experienced, and subsequently recalled by them. Relative to children who rated the pain from needles as low in intensity, children who reported experiencing clinically significant pain from the needles also reported significantly higher anticipatory anxiety ratings.

CONCLUSION: Effective intervention to decrease the amount of anxiety children are experiencing prior to a routine medical procedure such as immunization is extremely important in order to reduce the pain they subsequently experience from that procedure.

14B

PSYCHOMETRIC CHARACTERISTICS OF THE BECK DEPRESSION INVENTORY-SECOND EDITION (BDI-II) IN INDIVIDUALS WITH CHRONIC PAIN
Cheryl A Harris BA
School of Psychology, University of Ottawa, Ontario
Joyce L D’Eon PhD CPSych
The Rehabilitation Centre and University of Ottawa, Ontario

Learning Objectives:
1. Understand psychometric properties of the BDI-II in the area of chronic pain.
2. Better understand the issues of symptom overlap between pain and depression, and sex differences.

Given the high prevalence of depression in individuals with chronic pain and negative outcomes associated with such comorbidity, the importance of assessing depressive symptoms is acknowledged by professionals in this area. Although no study to date has evaluated psychometric properties of the BDI-II in chronic pain patients, this measure is commonly employed at multidisciplinary pain centres. This study evaluated factorial validity, gender invariance and reliability of the BDI-II in chronic pain patients (n=481). Results support the conceptualization of depression as a singular latent construct, within a hierarchical factor structure consisting of three first-order factors – negative attitude, performance difficulty and somatic elements. Except for one differential factor loading and correlated error, this structure was invariant across sex. Factor structure and corrected item-total correlations support the inclusion of somatic items even given their probable overlap with symptoms of pain. Internal consistency was satisfactory. Mean scores were in the moderately severe range. In contrast to the general population, no difference was found between average scores of women and men. Overall, results indicate that the BDI-II is a reliable and valid tool for assessing depressive symptoms in both women and men with chronic pain.

14C

INFLUENCE OF SUBSTANCE ABUSE HISTORY AND REPORTED ALGЕNEС RELIEF ON NURSING STUDENTS’ JUDGMENTS OF POSTSURGICAL PAIN
Paula C Miceli MSc PhD(c)
York University, Toronto, Ontario
Professor Joel Katz, Department of Psychology and School of Kinesiology/Health Science, York University, Toronto, Ontario

AIM: To examine the role of substance abuse history (SAH) and pain relief (PR) on nursing students’ perceptions of postoperative pain and addiction risk in a hypothetical patient (HP).

METHODS: Participants were randomly assigned to receive one of four vignettes describing a 45-year-old man after total hip replacement. The HP was described as (i) having/not having a SAH (alcohol, opiates) AND (ii) experiencing adequate/inadequate PR. Participants rated their perceptions of the HP’s experienced and reported pain intensity (0 to 100 mm VAS) and addiction risk (0% to 100% VAS). Pain intensity was expressed as a Perceived Pain Difference Score (PPDS; reported pain minus experienced pain).

RESULTS: Analysis was conducted on 85 responses from students in BSc nursing programs. Program year was a factor influencing perceived addiction risk (first year 45% versus senior year 22%). SAH and PR factors had a significant interactive effect on PPDS. With inadequate PR, PPDS were similar in SAH present and absent groups. With adequate PR, PPDS were significantly less in the SAH absent group compared to the SAH present group.

CONCLUSIONS: The presence of substance abuse history was associated with greater levels of perceived addiction risk. The perception of increased addiction risk was not sufficient to alter mean perceptions of the difference between reported and experienced pain. Rather, when substance abuse history was present, the level of pain relief (adequate versus little) in the HP influenced judgments of the strength of perceived pain, with a tendency towards believing that patients would report more pain than would be experienced.

14D

THE PERSISTENT PAINFUL STIMULATION (PPS) PROCEDURE
Stéphanie Pagé MSc
Clinical Research Center, Sherbrooke University, Sherbrooke, Québec

Learning Objectives:
1. Participants will gain a better understanding of pain tests.
2. Participants will learn the persistent painful stimulation (PPS) procedure.

Pain is a dynamic phenomenon under the influence of several endogenous mechanisms of control. One of these mechanisms, the diffuse noxious inhibitory control system (DNIC) is recruited following a painful stimulation of great intensity. However, few clinical tests measure the systemic effects of DNIC effectively. The objective of this study was to find a clinical test able to measure DNIC. The procedure consisted of a continuous pain perception measurement during a 2 min thermal stimulation, using an electronic visual analogical scale (COVAS). This procedure was repeated with the same intensity before and after the immersion of the contralateral arm in a cold water bath (7°C, 10°C or 12°C) during 2 min. When comparing the pain perception curves before and after the immersion, we observed a significant differences in perceived pain intensity (P<0.05), with less pain after immersion for all the temperatures. These differences are present after several seconds of stimulation suggesting a better effect on C-fibres. However, we observed that DNIC intensity is dose-dependent since its strength decreased progressively when the bath temperature rose from 7°C to 10°C and finally to 12°C (P<0.05). Additionally, sex contrasts showed that women evaluated the water bath as significantly more painful (7°C, 10°C and 12°C water bath) (P<0.03) and needed significantly lower thermode temperatures to reach a 50% pain score (P<0.02).

This test is particularly well suited to measure the rapid analgesic effects produced by endogenous inhibitory control systems and holds the promise of being effectively used in clinical settings.
15
Chair: Michael McGillion RN PhD(c)
Faculty of Nursing and University of Toronto Centre for the Study of Pain, University of Toronto, Toronto, Ontario
Speaker: Rebecca Pillai Riddell PhD CPsych
Department of Psychology - Atkinson, York University, Toronto, Ontario; Department of Psychiatry Research, Hospital for Sick Children, Toronto, Ontario

Learning Objectives:
1. Use Maslow's Hierarchy of Needs to offer a strategy for maximizing graduate training.
2. Discuss common myths and misconceptions regarding a university tenure-track professorship.
3. Facilitate an interactive discussion based on audience questions.
4. Provide a list of recommended resources for further reading.

Maslow purports that needs can be considered in a hierarchy of importance, and that lower needs must be met before the obtention of higher level needs. Using this analogy for the academic context, successfully obtaining the core requirements of graduate school (eg, winning trainee funding, theses, dissertations, comprehensive exams, clinical requirements) will be discussed as core needs that must be managed before the budding research trainee begins to divide their time with more higher level needs (eg, additional research or clinical training opportunities). Strategies to maximize one's efforts in concurrently working toward these 'needs' will be presented. The second half of the talk will focus on Dr Pillai Riddell's experience transitioning from graduate school to a new investigator position at York University and the Hospital for Sick Children. Students who are contemplating an academic career at any stage of their training are strongly encouraged to participate in this interactive session.

16
Chair: Michael Salter MD PhD FRSC
Canada Research Chair in Neuropathology and Pain (Tier 1) Senior Scientist Programmes in Brain and Behaviour and Cell Biology, Hospital for Sick Children; Professor of Physiology, University of Toronto Director, University of Toronto Centre for the Study of Pain, Toronto, Ontario
Speakers: Roger Fillingim PhD, Gary Bennett PhD, Andy Dray PhD

16A
EXPERIMENTAL PAIN MODELS AS ANALGESIC ASSAYS
Roger Fillingim PhD
College of Dentistry, University of Florida, Gainesville, Florida

16B
ANIMAL MODELS OF PAINFUL PERIPHERAL NEUROPATHY – ONE SIZE WON'T FIT ALL!
Gary Bennett PhD
Anesthesia Research Unit, McGill University, Montréal, Québec

16C
USING EXPERIMENTAL PAIN MODELS TO BRIDGE TO CLINICAL PAIN THERAPY
Andy Dray PhD
Chief Scientist, Astra-Zeneca Research and Development, Montréal, Québec
11:00 AM – WORKSHOP 108

11A

LUMBOPELVIC INSTABILITY, LOW BACK PAIN AND THE SACROILIAC JOINTS

Pamela M Barton MD FRCP

Calgary Health Region Chronic Pain Centre (CHR CPC); Clinical Associate Professor, Division of Physical Medicine and Rehabilitation, University of Calgary, Calgary, Alberta

Lumbopelvic stability, the ability to effectively transfer load from the trunk through the pelvis to the lower extremities, is a result of the unique anatomy of the lumbar spine and pelvis (bones, joints, muscles, ligaments and fascias). Current understanding of the biomechanical principles and neural influences controlling these structures lays the groundwork for their clinical evaluation in low back and pelvic pain patients. Knowledge of these concepts and principles allows a rational interdisciplinary approach to the management of this challenging patient population.

Learning Objectives:

1. Understand the anatomy, conceptual model and causes of lumbopelvic instability.
2. Understand the features of and interrelationships among low back and pelvic pain and pelvic floor dysfunction.
3. Review the physiology of chronic pain as it relates to the pelvis.
4. Review the inter-relationships of visceral disease of the pelvis and the somatic manifestations of pelvic pain.
5. Be familiar with the screening history and clinical examination (both musculoskeletal and pelvic) for lumbopelvic instability and pelvic floor dysfunction.
6. Understand the range of treatment options for lumbopelvic instability and its sequelae.

Lumbopelvic instability, the loss of structural integrity of the bony pelvic ring and sacroiliac joints, is an extremely common, yet unrecognized, cause and perpetuator of chronic low back, buttock and leg pain as well as chronic pelvic pain and pelvic floor dysfunction. This workshop is being presented by three experienced pain clinicians who have had more than five years of common experience in treating this condition in a comprehensive interdisciplinary chronic pain centre. Causes and clinical strategies for managing lumbopelvic instability and its sequelae will be explored, within the context of clinical cases, stressing the need for an integrated management approach that transcends the traditional boundaries of the medical and rehabilitation disciplines.

11B

PELVIC FLOOR SEQUELAE OF LUMBOPELVIC INSTABILITY AND THEIR TREATMENT

Magali Robert MD FRCS

Program Director, Pelvic Pain Program, CHR CPC; Director, Pelvic Floor Clinic, Calgary Health Region; Clinical Associate Professor, Department of Obstetrics and Gynecology, University of Calgary, Calgary, Alberta

Any change in lumbopelvic stability will have an impact on the pelvic floor. Similarly, any pelvic floor dysfunction will have an impact on lumbopelvic stability. Pelvic floor dysfunction, a common yet frequently overlooked disorder, should be considered in individuals with lumbopelvic instability who are unresponsive to treatment. In pelvic floor dysfunction, the history is significant for urinary dysfunction, bowel dysfunction, dyspareunia in women and ejaculatory difficulties in men. A simple examination can screen for pelvic floor dysfunction and direct further therapy.

OVERALL AIM: This workshop will introduce clinicians to the critical, yet usually overlooked inter-relationship between low back pain and pelvic pain in women with regard to relevant concepts, anatomy, etiology, sequelae, assessment and treatment options.

Learning Objectives:

Participants will:

1. Understand the anatomy, conceptual model and causes of lumbopelvic instability.
2. Understand the features of and interrelationships among low back and pelvic pain and pelvic floor dysfunction.
3. Review the physiology of chronic pain as it relates to the pelvis.
4. Review the inter-relationships of visceral disease of the pelvis and the somatic manifestations of pelvic pain.
5. Be familiar with the screening history and clinical examination (both musculoskeletal and pelvic) for lumbopelvic instability and pelvic floor dysfunction.
6. Understand the range of treatment options for lumbopelvic instability and its sequelae.

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13:00 PM – WORKSHOP 110

CANADIAN HEALTH CARE ACCREDITATION STANDARDS FOCUS ON PAIN MANAGEMENT: MAKING IT HAPPEN

19

Chair: Jennifer Stinson RM MSc CPNP

Chronic Pain Program, Department of Anaesthesia, The Hospital for Sick Children, Toronto, Ontario

Speakers: Mona Sawhney RN MN ACNP, Maggie Gibson PhD CPsych, John Clark MD FRCP

1. Acute Pain Service, North York General Hospital, Toronto;
2. St Joseph’s Health Care/Lawson Health Research Institute, London, Ontario

AIMS: This interactive workshop will review the Canadian Council on Health Services Accreditation (CCHSA) standard that focuses on evaluating pain management, introduce the manual that was created through the Nursing Issues Special Interest Group and explore practical applications in which organizations can meet this standard.

Learning Objectives:

1. Review CCHSA standard which focuses on pain management (7 section 7.4).
2. Review the key components of the manual ‘Accreditation Pain Standard: Making it Happen’.
3. Provide an interprofessional perspective on strategies that can be used to meet the standard.
Abstracts

OUTLINE OF THE WORKSHOP: Pain assessment and management are an individual's right and an important part of basic clinical care for all patients as it can guide treatment. This is supported by the "Canadian Pain Coalition" in their Charter of Pain Patient's Rights and Responsibilities. A guide has been prepared as a resource by the Special Interest Group on Nursing Issues of the Canadian Pain Society, and has been reviewed by an interprofessional group. It has been developed to help organizations and health care professionals meet the new pain assessment and management standard from the CCHSA.

In this session, the CCHSA standard regarding pain management and key components of the manual developed to assist organizations in meeting this standard will be reviewed. Perspectives and strategies, regarding how to meet the standard, will be provided by three health care professionals with clinical practices in acute, chronic and long-term care settings. The session will focus on three major components of the standard: assessment, management, and organizational issues and ways members of multidisciplinary health care teams can make this standard happen in their institutions.

19A
OVERVIEW OF THE KEY SECTIONS OF THE GUIDE AND HOW NURSES CAN MAKE THE STANDARDS HAPPEN IN EVERYDAY PRACTICE
Mona Sawhney RN MN ACNP
CNS/NP Pain Management, North York General Hospital, Toronto, Ontario

The CCHSA standard 7.4 states that "All clients receive a pain assessment on admission and routinely thereafter; the team assesses pain using standardized clinical measures; the team identifies and consults with pain management experts; the team educates patients and families on pain management strategies; the team documents and shares the results of pain management strategies; the organization trains and updates staff on evidenced-based strategies to prevent, minimize or relieve pain." This presentation will focus on the key components of assessment, management and organizational issues from the CCHSA standard, highlighting recommendations from the guide developed by the CPS Nursing Issues Special Interest Group. Strategies for implementing this standard within an acute care setting and activities that nurses can engage in as part of the interprofessional team will be discussed.

19B
CHANGING PRACTICE: FINDING AND CLOSING THE GAPS
Maggie Gibson PhD
Psychologist, Veterans Care Program, Parkwood Hospital, St Joseph's Health Care, London, Ontario

Learning Objectives:
1. Participants will learn about a motivation-based change strategy that can be used to meet the standard.
2. Participants will gain an understanding of how strategy implementation is adapted to different long-term care environments.

There is a well-recognized need to focus on the processes of change imple-mentation to ensure success in efforts to improve health care (Rantz et al, 2001; Solberg et al, 2000). Moreover, in the institutional care environment, readiness for change at the level of the team becomes as critical, if not more critical, than individual motivation, because no one individual can effect lasting and significant change independently (Levi, 2001). This presentation will describe the critical components of an empirically sup-

portted, stage-based, practice enhancement strategy, commonly known as the "readiness for change" model (DiClemente & Prochaska, 1998), that has been used to implement pain assessment and management standards in three long term, in-patient care settings (complex continuing care, long term care veterans care) within one large health care corporation.
PAIN WITH CANNABINOIDS

20C
AN ALGORITHM FOR THE TREATMENT OF CHRONIC PAIN WITH CANNABINOIDS
Alexander J Clark MD FRCP
Chronic Pain Centre, Calgary Health Region and University of Calgary, Calgary, Alberta

Guidelines for the use of cannabinoid compounds in chronic pain have recently been published based on a literature search and a consensus meeting held to discuss their role in chronic pain. These guidelines present a practical approach to the treatment of chronic pain with cannabinoid compounds and provide suggestions about off-label use in chronic pain. Audience participation will be encouraged through discussion of these guidelines and practical tips about prescribing cannabinoid compounds will be provided.

4:00 PM – WORKSHOP 113
INTERDISCIPLINARY REHABILITATIVE TREATMENT FOR PROLONGED CHRONIC PAIN: THE CRITICAL ROLE OF INTEGRATED COGNITIVE BEHAVIOURAL TREATMENT IN RESTORING FUNCTION

22
Chair: Richard Marlin PhD CPsych
(Alberta, British Columbia, Nova Scotia, Ontario), Director of Odyssey Health Services, Burlington, Ontario

Speakers: Richard Marlin PhD CPsych, Michael Achong MB ChB FRCP, Susan Abbey MD FRCP (Psychiatrist)

BRIEF OVERVIEW: This workshop presents the details of an interdisciplinary treatment model that is specifically focused on the integration of biomedical science with medical science, without the biomedical model being dominant. Techniques are presented that ensure a truly effective working integration of biomedical science, including the power of cognitive-behavioural therapy, with the medical management of disease and judicious use of medication. Data will be presented demonstrating the effectiveness of this approach to restoring function (including returning to work) in patients who have been disabled with respect to employment for between 2 and 15 years.

Learning Objectives:
1. The appropriate individual roles of psychology, general medicine and psychiatry in the assessment and treatment of chronic pain.
2. How to effectively integrate biomedical science with the biomedical model to facilitate treatment.
3. Common pitfalls that can impair interdisciplinary treatment and cognitive-behavioural treatment in particular.
4. How to achieve improved outcomes with the most challenging cases.
5. How to effectively collaborate with other health care providers, insurers, employers, lawyers and other interested third parties, to the patient's benefit.

22A
THE CONCEPTUAL MODEL OF THIS INTERDISCIPLINARY APPROACH
Richard Marlin PhD Psychologist
(Alberta, British Columbia, Nova Scotia, Ontario), Director of Odyssey Health Services, Burlington, Ontario

Chair: Richard Marlin PhD CPsych

Dr Marlin's presentation will describe the conceptual model of this interdisciplinary approach. Specific application to chronic pain patients who have been totally disabled for gainful employment for between 2 and 15 years will be discussed and outcome data presented. It is crucial that the potential areas of conflict between biomedical science and medical science be understood and managed for interdisciplinary care to be effective. While medical management, psychotherapy and cognitive-behavioural therapy can all contribute significantly to good outcomes, effective integration is crucial for obtaining good results with this population. Specific applications of cognitive behavioural therapy to this population will be discussed, as will practical issues of interactions with other health care providers, insurers, employers, lawyers and family members.

22B
THE ROLE OF THE BIOMEDICAL MODEL AND GENERAL MEDICINE IN THIS INTEGRATIVE APPROACH
Michael Achong (General Internist)
Associate Clinical Professor, Department of Medicine, McMaster University; Private practice; Medical Staff, St Joseph's Hospital, Hamilton, Ontario; Consultant to Odyssey Health Services, Burlington, Ontario

Dr Achong will discuss the role of the biomedical model and general medicine in this integrative approach. The distinction between disease and illness will be elaborated. Issues of when to involve particular specialists and when further investigations are indicated or contraindicated will be reviewed. The essential role of biomedical science in developing clear opinions concerning hurt versus harm and ‘irreducible limitations’ will be reviewed. Finally how to facilitate rather than undermine cognitive-behavioural intervention will be examined
Abstracts

22C
THE ROLE OF PSYCHIATRY IN THIS INTERDISCIPLINARY MODEL
Susan Abbey (Psychiatrist)
Director, Program in Medical Psychiatry, University Health Network, Toronto, Ontario; Affiliate Scientist, Toronto General Research Institute, Toronto, Ontario; Consultant to Odyssey Health Services1, Burlington, Ontario
Dr Abbey will discuss the role of psychiatry (from both a pharmacological as well as psychotherapeutic perspective) in this interdisciplinary model. Dr Abbey will discuss how to optimize the benefits of medications while minimizing the detrimental effects, from both a pharmacological as well as psychological perspective. Dr Abbey will discuss when psychiatric diagnostic formulations can be beneficial and when they can impede progress. Finally, Dr Abbey will discuss when palliation conflicts with functional restoration.

1Odyssey Health Services is an interdisciplinary private practice that provides interdisciplinary assessment and treatment services. The majority of patients are funded by third parties, including long-term disability carriers, large employers and other insurers. Referrals are received from such third parties as well as health care providers, and in some cases, self-referral.

23A
SPIRITUALITY AND PAIN: A HISTORICAL VIEW
Anita Unruh PhD, RSW OT(C)
Reg NS Professor, School of Health and Human Performance,
Dalhousie University, Halifax, Nova Scotia
In this review, we will examine the way in which views about religion and pain evolved through the ages to the 21st century and the current research about the impact of religion on pain experience. We will consider possible spiritual misconceptions as well as the existing evidence that spirituality and religion may enable coping with pain for some patients.

23B
SPIRITUALITY AND PAIN: EMERGING EVIDENCE AND A MODEL FOR COPING
Bruce Dick PhD RPSYCH
Assistant Professor, Department of Anesthesiaology and Pain Medicine, University of Alberta, Edmonton, Alberta
Renewed spiritual searching and questioning is not uncommon in palliative care and may be juxtaposed against the experience of pain and suffering. In this paper, we will consider the importance of attention to spiritual concerns as part of a comprehensive approach to pain management in the palliative care context.

23C
PATIENT PERSPECTIVE
Helen Tupper RN
Founding Member, President, Canadian Pain Coalition, Artist, Halifax, Nova Scotia
This paper will provide the patient’s voice to illustrate the way in which spiritual views may be interwoven with the way in which a patient constructs a meaning of the pain experience and approaches pain management.

4:00 PM – WORKSHOP 114
SPIRITUALITY, RELIGION AND PAIN EXPERIENCE

24
Chair: Harold Mersey DM FRCP
Department of Psychiatry, University of Western Ontario, London, Ontario
Speakers: Anita Unruh PhD RSW OT(C), Bruce Dick PhD RPSYCH, Helen Tupper RN
OVERALL AIM: To examine the ways in which spirituality and religion contribute to appraisal and coping with pain experience in everyday life.
DESCRIPTION: Throughout the ages, spiritual and religious beliefs have been intertwined with explanations about the origins of pain and strategies to relieve pain. Even as a more empirical and biological, psychological and sociological understanding of pain evolved, pain continued to have additional spiritual or religious dimensions for many people. Spiritual and religious views of pain can be an additional resource for coping effectively with pain but they may also be a hindrance and increase patient suffering. In this workshop, we will consider the possible spiritual and religious meanings associated with pain with implications for future research and clinical practice.
Learning Objectives:
1. To identify possible spiritual misconceptions that may hinder effective pain management.
2. To identify spiritual strategies that may support effective pain management.
3. To identify directions for research related to better understanding the relationship between spirituality, religion and pain experience.

8:45 AM – KEYNOTE SPEAKER
THE THALAMUS AND PAIN

25
Chair: Brian Cairns PhD RPh
Assistant Professor and Canada Research Chair Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, British Columbia
Speaker: Jonathan Dostrovsky MSc PhD
Professor, Department of Physiology, University of Toronto, Toronto, Ontario
2005 Recipient of the Canadian Pain Society Distinguished Career Award
BRIEF DESCRIPTION: Ever since the pioneering studies of Dejerine and Roussy on central poststroke pain patients, there has been frequent speculation that the thalamus may play a key role in central pain. This talk will
review the anatomy and physiology of the thalamus in relation to nociceptive processing and then examine the evidence from animal and human studies for the role of thalamus in mediating central neuropathic pain.

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10:30 AM – WORKSHOP 115
ESSENTIAL ASPECTS OF PAIN MANAGEMENT IN END-OF-LIFE AND PALLIATIVE CARE – FOR BUSY HEALTH CARE PROFESSIONALS

26
Chair: Yoram Shir MD
Associate Professor, Department of Anesthesia, Faculty of Medicine, McGill University, Montréal, Québec
Speakers: Yoko Tarumi MD, Mehrnoosh Mirmohosseini MD CCFP, Yoko Tarumi MD, Mehrnoosh Mirmohosseini MD CCFP
Division of Palliative Care Medicine, Department of Oncology, University of Alberta; Palliative Care Program, Capital Health Authority, Edmonton, Alberta

BRIEF OVERVIEW: This course offers the participants an overview of the essential aspects of pain management in end-of-life and palliative care based on the Learning Essential Approaches to Palliative and End-of-Life Care (LEAP) course material (Version 1.0, The Pallium Project). LEAP has been developed upon the firm foundation of “Model to Guide Hospice Palliative Care: Based on National Principles and Norms of Practice”. Canada is the only nation to date to lay claim to a broad, consensus-based national model on support of those with life-threatening and life-limiting illness.

Learning Objectives:
Upon completion of this module, participants will be able to:
1. Categorize pain according to the inferred underlying mechanism and explain the clinical utility of this classification system.
2. Explain the concept of “total suffering”.
3. Undertake an assessment of a patient with pain, with the aim of devising an effective management plan.
4. Select a standardized tool to assess pain and other symptoms.
5. Describe the factors that may predict difficulty in controlling pain.
6. Apply the WHO Ladder in selecting an appropriate analgesic regimen for a patient with pain.
7. Demonstrate the appropriate use of opioids including choice of types, formulations, routes, initiation, dose titration, management of adverse effects and switching to another.
8. List three adjacent analgesics for the management of neuropathic pain, malignant bone pain and visceral pain.

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10:30 AM – WORKSHOP 116
MINDFULNESS-BASED CHRONIC PAIN MANAGEMENT COURSES (BASED ON MINDFULNESS-BASED STRESS REDUCTION): STRATEGIES AND OUTCOMES

27
Chair: Jackie Gardner-Nix MB BS PhD MRCP(UK)
St Michael's Hospital, Department of Anaesthesia, Sunnybrook and Women's College Health Sciences Centre, Department of Anaesthesia, Pain Management Programme Pain Clinic, University of Toronto, Department of Anaesthesia, Toronto, Ontario
Speakers: Jackie Gardner-Nix MB BS PhD MRCP(UK)1,2, Lucie Costin-Hall BA MSc, Julianna Barbati
1St Michael's Hospital, Department of Anaesthesia, Pain Clinic; Sunnybrook and Women's College Health Sciences Centre, Department of Anaesthesia, Pain Management Programme, University of Toronto, Toronto, Ontario
2University of Toronto, Toronto, Ontario

OVERALL AIMS: To demonstrate the effectiveness of Mindfulness-based chronic pain management classes, delivered on site and by telemedicine, on quality of life, pain scores, pain catastrophizing and suffering, in chronic noncancer pain patients.

Learning Objectives:
1. Examine outcomes in chronic pain patients taking this course.
2. Understand the influence of mindfulness and meditation on brain processing of the chronic pain experience.
3. Consider strategies to increase availability of classes, and motivate chronic pain patients to comply with attendance.

This workshop will describe the Mindfulness-based chronic pain management course (based on Jon Kabat-Zinn’s stress reduction workshops given in Massachusetts) currently offered at two Toronto teaching hospital pain clinics. Validated tools (SF 36, Pain catastrophizing scale, Pain scale and PRISM test) were analysed on 138 patients, and showed highly statistically significant improvements in most of the parameters measured. This is believed to be the first report showing such compelling data on the effectiveness of this intervention in chronic pain.

Dr Gardner-Nix (chair) will describe the course, the validated tools selected to monitor outcomes, and the outcomes in 138 “on site” and telemedicine participants, compared to waiting list control data. Sixty-eight back pain patients were also analysed separately, and the total data were reanalyzed to look at sex differences.

Lucie Costin-Hall will describe the modifications made to the classic Jon Kabat-Zinn course to enable chronic pain patients to participate, and the use of NORTH Network (telemedicine), to extend the courses to distant Ontario communities.

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10:30 AM – WORKSHOP 117
FEAR OF PAIN AND FEAR OF FALLING AMONG SENIORS AND YOUNGER ADULTS: RECENT THEORETICAL MODELS AND RESEARCH FINDINGS

28
Chair: Thomas Hadjistavropoulos PhD
CIHR Investigator and Professor of Psychology, Centre on Aging and Health, University of Regina, Regina, Saskatchewan
Speakers: Thomas Hadjistavropoulos PhD, Jaime Williams MA, Mark Carpenter PhD

Learning Objectives:
1. Be familiar with new theoretical models designed to predict pain and falls among seniors with and without dementia.
2. Understand research findings relating to the aforementioned models.
3. Be familiar with findings demonstrating the relevance of fear of falling among younger patients with musculoskeletal problems.
4. Understand ways in which fear and anxiety affect balance performance among both younger and older adults.

Falling represents a highly prevalent cause of hospitalization and painful injuries, especially among older adults. The presenters will explore the role of psychosocial predictors of falls and loss of balance using expertise from clinical psychology and kinesiology. Moreover, they will discuss the constructs of fear of pain and fear of falling by examining findings from laboratory, clinical and community studies. Theoretical models and initial research examining the relevance of fear of pain and fear of falling in the care of seniors with and without dementia will also be outlined.

28A
FEAR OF PAIN AND FEAR OF FALLING: DISTINCT CONSTRUCTS THAT CAN AFFECT THE FUNCTIONING AND REHABILITATION OF BOTH YOUNGER AND OLDER ADULTS

Thomas Hadjistavropoulos PhD
CIHR Investigator and Professor of Psychology, Department of Psychology and Centre on Aging and Health, University of Regina, Regina, Saskatchewan

BACKGROUND AND AIMS: Falling is a common cause of painful injuries, especially among older adults. Fear of pain has been studied primarily among young adults (as a predictor of rehabilitation outcomes) whereas fear of falling has been studied mostly among seniors (as a risk factor for falls). Extreme fears of pain and falls can lead to avoidance of
therapeutic and beneficial physical activity. This presentation aims to outline new models that we (Hadjistavropoulos, Asmundson, and McCleary, 2002) have proposed regarding the contributions of fear of pain and fear of falling in the prediction of pain and falls. Relevant research findings will also be presented.

METHODS: The research methodologies involve assessment of psychological factors and physical risk factors related to pain and falls. We have used both cross-sectional and longitudinal research designs and studied both young adults and seniors.

RESULTS: Confirmatory and regression procedures supported the distinctiveness of fear of pain and fear of falling. Structural equation modeling with longitudinal data demonstrated the role of both fear of pain and fear of falling in the prediction of pain and falls. We also found that, in contrast to community samples, older and younger patients with musculoskeletal injuries are equally likely to experience fear of falling.

CONCLUSIONS: Fear of falling is likely to affect musculoskeletal injury patterns regardless of age and is distinct from (although related to) fear of pain. It is concluded that both these fears should be considered in the clinical assessment of musculoskeletal pain patients.

28B INVESTIGATIONS OF FEAR OF PAIN AND FEAR OF FALLING AMONG SENIORS WITH AND WITHOUT DEMENTIA

Jaime Williams MA
Doctoral Student in Clinical Psychology, Department of Psychology and Centre on Aging and Health, University of Regina, Regina Saskatchewan

AIMS: The primary aim of this presentation is to outline recent findings from investigations of fear of pain and fear of falling among seniors with and without dementia.

METHODS: The research involving cognitively intact community dwelling seniors was laboratory based, involved the computerized presentation of pain and fall-related stimuli and was designed to assess attentional biases toward fall and pain-related information. Studies investigating seniors with dementia involved interviews and psychometric data collected from informal caregivers of such patients.

RESULTS: Our findings showed a trend for seniors with high levels of fear of pain to selectively attend to fall-related stimuli (which suggests increased vigilance). Our data involving caregivers of seniors with dementia showed clear evidence of widespread caregiver fears about the possibilities of pain and falls among care-recipients.

CONCLUSIONS: Two main conclusions can be drawn: a) attentional biases for fall-related stimuli among cognitively intact seniors do not appear to be pervasive (but are likely present among those with high levels of fear of pain); and b) caregivers of seniors with dementia demonstrate considerable fears and worries about the possibilities of falls among care-recipients. Such caregivers take a variety of precautions (some of which may hinder beneficial physical activity) to prevent falls. These findings along with their clinical implications will be discussed within the context of recent theoretical work.

28C CHANGES IN ANXIETY AND BALANCE CONFIDENCE AFFECT BALANCE PERFORMANCE IN YOUNG AND OLDER ADULTS

Mark Carpenter PhD
Canada Research Chair and Assistant Professor, School of Human Kinetics, University of British Columbia, Vancouver, British Columbia

BACKGROUND AND AIMS: Fear of falling is a common element found among older adults and patients with different balance disorders. Although fear of falling has been frequently associated with poor balance performance and increased likelihood of falling, the mechanisms through which factors such as anxiety and balance confidence can influence balance control are not well understood. A series of studies was aimed at determining how changes in anxiety and balance confidence may influence balance performance in young and older adults during different postural tasks.

METHODS: Manipulations of support-surface height and stepping restrictions were used to examine anxiety-related changes in muscular, kinematic and kinetic variables during quiet standing, fall reactions and more clinically relevant postural tasks.

RESULTS: Standing on the edge of a high compared with low surface height induced significant changes in anxiety and balance confidence, as well as changes in postural control strategy. When standing under conditions that increased anxiety and decreased balance confidence, young and older adults adopted a ‘stiffening’ strategy during quiet stance. The same conditions associated with increased muscle responses to an unexpected balance perturbation, altered anticipatory postural adjustments during a rise to toes task, and reduced performance during functional reach and one-legged standing tasks.

CONCLUSIONS: The findings highlight the potential for factors, such as anxiety, balance confidence and fear, to contribute to balance control deficits associated with age and disease. Furthermore, new treatment and rehabilitation programs need to be developed that will address both the physiological and psychological aspects of a specific balance disorder.
PAIN ASSESSMENT IN THE ELDERLY WITH DEMENTIA
Michele Aubin MD MSc FCCEP
Research Centre in Geriatrics, Laval University, Québec City, Québec
Chronic pain is frequently found in the elderly, but, unfortunately, it is often underdiagnosed and undertreated. Pain management becomes even more problematic in seniors who have serious limitations in ability to communicate due to the presence of dementia. Undertreatment of pain among this population may be partly due to difficulties in ability to detect their pain. The aim of this presentation is to review the principles and challenges of pain assessment in seniors with dementia. As cognitive impairments progress, these individuals become unable to self-report pain. Health professionals must then rely on observational assessment procedures to detect pain. Different instruments have been developed to systematize observational pain assessment, but few have been well validated or are adapted to busy clinical settings. The Pain Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC) has recently been developed and tested for validity. This presentation will review this evidence and will describe data regarding the clinical usefulness of the PACSLAC in long-term care facilities. Systematic pain observational assessment procedures, such as the PACSLAC, are necessary in patients with advanced dementia to counterbalance their inability to self-report their pain.

ASSESSMENT OF ADVANCED CANCER PAIN IN OLDER ADULTS AT THE END OF LIFE USING MIXED METHOD APPROACHES
Wendy Duggleby DSN RN AOCN
College of Nursing, University of Saskatchewan, Saskatoon, Saskatchewan
Advanced cancer pain experienced by older adults at the end of life has many patterns, sites, causes, is both acute and chronic, and requires multiple treatment modalities for effective management. It is also experienced in the context of other symptoms and issues associated with the end of life. Effective management of this complex pain experience relies on the accurate assessment of pain. Evidence suggests that using quantitative and qualitative approaches in the assessment of cancer pain is appropriate for this population. The overall aim of this presentation is to describe the rationale for and the ways mixed method approaches (combining quantitative and qualitative) may be used to assess cancer pain in older adults at the end of life. The learning objectives for this portion of the workshop are that participants will be able to: 1) describe evidence suggesting mixed methods is an appropriate approach for research and practice in this population, 2) discuss ways to use mixed method approaches in research and practice, and 3) analyze benefits and limitations to these approaches. Content will include: a) overview of scientific literature on use of mixed method approaches in older adults with advanced cancer pain, b) description of mixed method approaches, c) presentation of benefits and limitations based on the literature and examples from the author's experience with these approaches, and d) audience discussion of the benefits and limitations.

NEUROCHEMICAL MODULATION OF SLEEP AND ANALGESIA
Ralph Lydic PhD
Department of Anesthesiology, University of Michigan, Ann Arbor, Michigan, USA
Learning Objectives:
1. Participants should be able to describe the effect of select pain medications on sleep architecture.
2. Participants will be able to make more informed decisions on the choice of analgesic drugs for patients who are at risk for or suffering from a sleep disorder.
3. The purpose of this talk is to provide an overview of the effects of various commonly employed pain medications on sleep architecture. It is apparent that ongoing pain significantly alters sleep architecture and those alterations can increase ongoing pain intensity in an apparent "vicious cycle". While it is assumed that analgesic drugs which decrease pain would help reverse pain-related changes in sleep architecture, the interaction between analgesic agents and pain-related changes in sleep architecture has received relatively little systematic study. Those few studies that have been undertaken have been limited, with a few notable exceptions, to investigation of acute pain in relatively small numbers of subjects. Further, the effect of many analgesic drug classes on sleep and wakefulness remains to be evaluated. Therefore, a second function of this talk is to draw attention to as yet understudied areas of analgesic/sleep interactions with the hope of stimulating new research directions within this field.

ALTERATIONS OF SLEEP QUALITY BY MEDICATIONS
Brian Cairns PhD RPh
Faculty of Pharmacy, the University of British Columbia, Vancouver, British Columbia
Learning Objectives:
1. Participants should be able to describe the effect of select pain medications on sleep architecture.
2. Participants will be able to make more informed decisions on the choice of analgesic drugs for patients who are at risk for or suffering from a sleep disorder.

The purpose of this talk is to provide an overview of the effects of various commonly employed pain medications on sleep architecture. It is apparent that ongoing pain significantly alters sleep architecture and those alterations can increase ongoing pain intensity in an apparent "vicious cycle". While it is assumed that analgesic drugs which decrease pain would help reverse pain-related changes in sleep architecture, the interaction between analgesic agents and pain-related changes in sleep architecture has received relatively little systematic study. Those few studies that have been undertaken have been limited, with a few notable exceptions, to investigation of acute pain in relatively small numbers of subjects. Further, the effect of many analgesic drug classes on sleep and wakefulness remains to be evaluated. Therefore, a second function of this talk is to draw attention to as yet understudied areas of analgesic/sleep interactions with the hope of stimulating new research directions within this field.

Abstracts
Abstracts

31C PAIN AND SLEEP ACROSS THE LIFESPAN
Lucia Cagliese PhD
School of Kinesiology and Health Sciences, York University; Department of Anaesthesia, University Health Network, Toronto, Ontario

Learning Objectives:
1. Participants will learn how sleep changes through the lifespan.
2. Participants will learn how acute and chronic pain and sleep disturbance impact on well being and quality of life at different ages.

Age is an important factor in sleep requirements, architecture and disorders. Sleep disturbances are highly prevalent among children, and younger and older adults with acute and chronic pain. In this presentation, age-related variations in the relationship between pain and sleep will be described. In addition, the impact of pain-related sleep disturbance on various aspects of quality of life will be explored. Finally, implications of this research for a lifespan developmental approach to the study of pain and sleep will be considered.

2:00 PM – WORKSHOP 120
LESSONS LEARNED – ITERATIVE DEVELOPMENT ON AN INTERFACTORY PAIN CURRICULUM (IPC) DURING FOUR YEARS OF IMPLEMENTATION

32
Chair: Judith Hunter PT PhD
Department of Physical Therapy, Faculty of Medicine and University of Toronto Centre for the Study of Pain, University of Toronto, Toronto, Ontario
Speakers: Judith Hunter PT PhD, Michael McGillion RN PhD(c), Judy Watt-Watson RN PhD

Learning Objectives:
Participants will:
1. Gain an understanding of the successes/benefits and challenges of developing a mixed model of uni-, multi- and inter-professional learning opportunities to promote evidence-based collaborative pain management relevant to six different health professions.
2. Learn the benefits and challenges of developing a relevant case-study assignment that promotes evidence-based IP collaborative patient-centred pain management.
3. Gain an understanding of the benefits and challenges evaluating an Interfaculty Pain curriculum for content and learning.

32A DEVELOPING THE IPC MODEL: AN ITERATIVE PROCESS
Judi Hunter PT PhD
Department of Physical Therapy, Faculty of Medicine and University of Toronto Centre for the Study of Pain, University of Toronto, Toronto, Ontario

The development of a teaching model for a pre-licensure IP pain curriculum was the challenge of the UTCSP – IPC faculty planning team; iterative design and faculty collaboration were essential. This presentation will discuss the challenges of: a) integrating the evidence for best-practice pain management through curriculum design; b) developing goals and objectives for a pain curriculum in an IP context; c) meeting the learning needs of six different health professions; and d) covering content – the balance between large, didactic multi-professional sessions and small interactive inter-professional sessions. Interactive discussion will focus on the application of current IP education learning theories to the development of a pain curriculum.

32B TEACHING COLLABORATION: THE SMALL-GROUP IP LEARNING SESSIONS
Michael McGillion RN PhD(c)
Faculty of Nursing and University of Toronto Centre for the Study of Pain, University of Toronto, Toronto, Ontario

A unique challenge of the UTCSP-IPC was the creation of a case-study assignment that met the learning needs of all six professions represented in the small IP groups. The ultimate goal of the case-study assignment was the development of a comprehensive pain management plan. This presentation will outline strategies used to develop and implement the small-group IP learning sessions. Key strategies presented will focus on learning activities to a) promote active group learning, and b) assist students to integrate pain curriculum components related to pain mechanisms, assessment and management of pain, unique professional roles and collaborative approaches to pain. These strategies include assigned individual preparation, instructions for self-directed small group facilitation, small group learning activities, discussion questions and small group presentations. The incorporation of student feedback into the implementation of these strategies is ongoing.

32C EVALUATION METHODS
Judy Watt-Watson RN PhD
Faculty of Nursing and University of Toronto Centre for the Study of Pain, University of Toronto, Toronto, Ontario

Evaluation is crucial in assessing the effectiveness of a program and to ensure ongoing improvement of an educational initiative. This presentation will provide an overview of our evaluation methods, which included pre- and post-tests of students’ pain knowledge/beliefs, qualitative and quantitative evaluation of process and content from students, faculty and clinician facilitators. The Comprehensive Care Plans, developed by each inter-professional student team, were also evaluated and contributed to our understanding of students’ synthesis of the both the pain focus and the importance of their interprofessional collaboration.

2:00 PM – WORKSHOP 121
THE MANY FACES OF PAIN BEHAVIOUR: COMMUNICATION, PROTECTION AND SURVIVAL

33
Chair: Michael JL Sullivan PhD
Department of Psychology, University of Montreal, Montréal, Québec
Speakers: Kenneth D Craig PhD, Michael Sullivan PhD, Kenneth M Prkachin PhD

OVERVIEW OF SYMPOSIUM OBJECTIVES: Nearly 400 years ago, Rene Descartes proposed a model of pain perception that characterized pain as a purely physical and ‘sensory’ phenomenon; a conceptual perspective that continues to be reflected in current models of pain. Conspicuously absent from theoretical discussions on the mechanisms and functions of pain phenomena has been the role of pain behaviour. This symposium will provide an overview of recent research and theory on the behavioural dimensions of the pain system. The symposium will also make a case for construing pain as a multidimensional input-output system that includes behaviour as a central defining feature of the adaptive or survival value of the pain system.

Learning Objectives:
Participants will:
1. Learn about recent developments in the conceptualization and assessment of pain behaviour in children and adults.
2. Be introduced to experimental protocols developed for the study of pain behaviour.
3. Learn about ways in which pain behaviour assessment can complement other methods of psychological evaluation.
4. Be introduced to issues currently being debated concerning the functional role of pain behaviour.
33A
SOCIALIZATION OF PAIN COMMUNICATION IN EARLY CHILDHOOD
Kenneth D Craig PhD
Department of Psychology, University of British Columbia, Vancouver, British Columbia
AIM: To examine the dynamic relationship between verbal and nonverbal forms of pain communication in the first years of life.
METHODS: This presentation will summarize the results of recent studies examining children's acquisition of pain language and the relation between pain language and other dimensions of pain expression.
RESULTS: Newborn infants rely on a limited repertoire of behavioral strategies to communicate their pain. These typically include a variety of bodily movements, facial displays and cries. In the second year of life, the emergence of language dramatically expands the child's communication repertoire. The study of early language use to communicate the pain experience of children can provide useful insights into the phenomenology of the pain experience of young children, the cognitive and emotional correlates of pain, and the communicative dimensions of pain experience. A developmental perspective on the relations between linguistic and behavioral dimensions of pain expression can also elucidate the critical social forces that influence when, how and to whom pain will be expressed.
CONCLUSIONS: Discussion addresses issues concerning the developmental aspects of control or censorship of pain expression. Discussion also addresses how variations in the repertoire of pain communication strategies impact on observers' ability to accurately infer the nature of the child's pain experience.

33B
COMMUNICATION GOALS ASSOCIATED WITH THE DISPLAY OF PAIN BEHAVIOUR
Michael JL Sullivan PhD
Department of Psychology, University of Montreal, Montréal, Québec
AIM: To examine the communication functions of pain behaviour.
METHODS: This presentation will summarize recent findings from our laboratory addressing the relation between communication goals and the display of pain behaviour. Studies examine the influence of the experimental manipulation of communication context on pain behaviour and the degree to which individuals are aware of what they intend to communicate through their pain behaviour.
RESULTS: The term 'pain behaviour' is used to describe the various overt displays of distress and disability that might accompany pain experience. Little is currently known about the relation between communication goals and the expression of pain behaviour. Although there is intuitive appeal to the notion that pain behaviours serve a communicative function, few empirical investigations have provided unambiguous evidence that specific communication goals indeed underlie the expression of pain behaviour. The fact that observers make inferences about the internal state or limitations of an individual based on pain behaviour does not necessarily imply that the goal of that individual was to communicate his or her pain experience.
CONCLUSIONS: Discussion will address questions concerning the conscious and unconscious determinants of pain behaviour.

33C
A FUNCTIONAL PERSPECTIVE ON THE NATURE OF PAIN BEHAVIOUR
Kenneth M Prkachin PhD
Department of Psychology, University of Northern British Columbia, Vancouver, British Columbia
AIM: To examine the multiple functions of pain behaviour.
METHODS: This presentation will provide evidence of the differentiated nature of pain behaviour and highlight some of the pitfalls involved in interpretation of pain behaviours.
RESULTS: The concept of pain behaviour subsumes several phenomena. Traditionally, the differences among these phenomena have been ignored in favour of the notion that they are defined by the communication of information about pain. This failure to differentiate has hindered understanding of the determinants of pain behaviours and has led to unfortunate interpretive practices among clinicians with a stake in pain. In the absence of empirical evidence concerning the meaning or significance of different behaviours associated with pain, clinicians have relied on their intuitive inferences. In the domain of pain interventions, intuition-based practice has led to the frequent utilization of terms such as 'functional overlay', or 'symptom magnification'. These terms are often pejorative in nature and more often than not impede, as oppose to facilitate, the implementation of appropriate interventions.
CONCLUSIONS: Different dimensions of pain behaviour serve different functions, they are influenced by different internal and external contingencies, they have different correlates, and respond differentially to treatment interventions.
P-1
A RANDOMIZED, DOUBLE-BLIND, CROSSOVER COMPARISON OF THE EFFICACY AND SAFETY OF ORAL CONTROLLED RELEASE TRAMADOL WITH PLACEBO IN PATIENTS WITH PAINFUL OSTEOARTHRITIS
Andre Beualieu MD1, Denis Callaghan MD2, William O’Mahony MD3, Carter Thorne MD4, John Sibley MD5, John Bartlett MD6, Richard Knight MD7, Gunnar Kraag MD8, Ronald Akhras MD9, John Eisenhofer MD10, Paula Piraino PhD8, Zoltan Harsanyi MBA9, Andrew C Darke PhD11
1Centre de Rheumatologie St-Louis, Ste-Foy, Québec; 2Hamilton; 3Corunna Medical Research Centre, Corunna; The Ottawa Hospital, Ottawa, Ontario; 4Ultra-Med Inc, Pointe-Claire, Québec; 5Royal University Hospital, Saskatoon, Saskatchewan; 6London Road Diagnostic and Medical Centre, Sarnia; 7The Arthritis Program Research Group Inc, Newmarket, Ontario; 8Centre Médicale Acacie, Montréal, Québec; 9Purdue Pharma, Pickering, Ontario

Patients with moderate or greater osteoarthritis pain were evaluated for efficacy, safety and quality of life while receiving CRtramadol or placebo, and titrated to effect and tolerability weekly to 200 mg, 300 mg or to a maximum of 400 mg daily. After 4 weeks of treatment patients were crossed-over to the alternative treatment for an additional 4 weeks. Acetaminophen, 325 mg to 650 mg q4-6h prn was provided as rescue. One hundred patients were randomized and 77 were evaluable for efficacy (36 men, 41 women, mean age 59.4±9.6 years). CR tramadol resulted in significantly lower (P<0.001) mean daily pain (37.4±23.9 vs 45.1±24.3; VAS). WOMAC subscale scores for pain (189.0±105.0 vs 230.2±115.4; P=0.0001) and physical function (632.4±361.3 vs 727.4±383.4; P=0.0205) were also significantly lower with CR tramadol than with placebo, although stiffness was not (P=0.4093). The total pain and disability (22.8±14.5 vs 27.2±14.8; P=0.004), and overall pain and sleep (104.7±99.0 vs 141.0±108.2; P=0.0005) scores were significantly lower for CR tramadol. SF-36 scores were also significantly better during CR tramadol treatment than with placebo index (38.8±10.8 vs 35.6±9.0; P=0.0100), and physical function (632.4±361.3 vs 727.4±383.4; P=0.0205) were also significantly better with CR tramadol than with placebo, although stiffness was not (P=0.4093). CONCLUSION: CR tramadol is effective for the treatment of painful osteoarthritis.

Acknowledgements: This research was supported by Purdue Pharma, Canada.

P-2
A RANDOMIZED CONTROLLED STUDY OF SATIVEX, A CANNABIS-BASED MEDICINE, IN CENTRAL NEUROPATHIC PAIN DUE TO BRACHIAL PLEXUS AVULSION
Berman JS MD1, Bosworth TR BSc2
1Royal National Orthopaedic Hospital, Brockley Hill, Stanmore, Middlesex; 2GW Pharma Ltd, Porton Down Science Park, Salisbury, United Kingdom

AIM: To assess the efficacy and tolerability of cannabis-based medicine (CBM) compared with placebo in relieving central neuropathic pain in patients with brachial plexus avulsion injury (BPAI).

METHODS: The efficacy and tolerability of Sativex, a whole plant CBM containing 9% tetrahydrocannabinol (THC) and cannabidiol (CBD), was investigated in a randomized, double-blind, crossover study of 48 BPAI patients with CNP. Each oromucosal spray of Sativex delivered 2.7 mg THC and 2.5 mg CBD, and was compared with placebo and with a CBM delivering 2.7 mg THC only (THC-CBM). During each of the three crossover periods, blinded medication was self-titrated and taken for two weeks; all existing analgesics were continued. At the end of the crossover study, patients were presented with the choice to enter an open-label long-term extension study where long-term safety and efficacy data was collected.

RESULTS: Forty-five patients completed the crossover study. Significant improvements in CNP were shown on the 11-point numerical rating scale (NRS), for both Sativex (P<0.001), and for THC-CBM (P<0.001). Thirty-seven patients (82%) entered the extension study. The mean duration of treatment at study end was 519 days, and 18 patients had taken more than 730 days of continuous treatment. Although 20 patients withdrew, one did so for adverse events and only three for lack of efficacy. Of the patients who completed the study, 94% felt they were still deriving benefit from the study medication, on a stable dose of medication.

CONCLUSION: CNP due to BPAI is difficult to treat but responds to Sativex. A meaningful proportion of patients derive benefit for over two years without troublesome side effects.

P-3
DEVELOPMENT OF A MODULAR PATIENT TRIAGE QUESTIONNAIRE FOR THE CHRONIC PAIN CENTRE, CALGARY HEALTH REGION
Alexander J Clark MD FRCP, Colleen Miller PhD, Geoffrey Schultz PhD, Paul Taenzer PhD, Christopher Spanwick MBChB FRCA
Chronic Pain Centre, Calgary Health Region, Calgary, Alberta

AIM: To develop a comprehensive, interdisciplinary data collection questionnaire for triaging patients to clinical services and for outcome evaluation using a flexible, modular approach. Secondary aims were to: facilitate common data collection across Canadian pain centres, incorporate existing information, identify patient issues and be computer scanable for ease of data entry.

METHODS: An interdisciplinary committee was formed. Questionnaires from Canada (Calgary, Alberta and Halifax, Nova Scotia), the United States (Wisconsin) and the United Kingdom (Salford) were reviewed. A literature review of valid standard assessment and outcome measures (ie, CESDR, BPI, SF-36v2) was undertaken. National pain database developers were consulted to ensure commonalities. Input was solicited from all stakeholders and successive versions were circulated for comment and revision. Overlap and outlier questions were negotiated with stakeholders and the final version will be tried for patient suitability.

RESULTS: A modular triage package consisting of a series of questionnaires common to all teams providing care and specific to the NMSK, pelvic and headache teams has been developed. The questionnaires can be scanned for data management and audit. Computerized scoring provides summaries of critical items and reports can be tailored to individual and/or team care planning and the development of decision support algorithms.

CONCLUSION: A diverse, interdisciplinary care team can develop modular triage questionnaires that meet the perceived needs of clinicians and program evaluators and targets the needs of a diverse patient population and does not focus on "medical" information alone. This is an inclusive model for health care providers and a holistic model from the patient's point-of-view.
P-4 COPIING WITH FIBROMYALGIA, IS IT REALLY POSSIBLE? – RESULTS OF ONE-YEAR FOLLOW-UP AFTER INTERACTIONAL SCHOOL OF FIBROMYALGIA
Juliana Barcellos de Souza1, MSc, Edith Normand1, Nancy Julien MSc2, Michelle Provencier MEd2, Jacques Charest PhD1, Serge Marchand PhD1,2
1Université de Sherbrooke; 2Centre Hospitalier de l’Université de Montréal
The Interactional School of Fibromyalgia (ISF) is characterized by complex clinical manifestations including diffuse and persistent pain. Various treatments have been studied, but with inconclusive results. Our objective was to apply the principles of our Interactional Low Back Pain School (Charest et al, 1996) program (creating a therapeutic alliance to facilitate the learning and application of strategies for self-management of symptoms), to FM patients, thus developing the Interactional School of Fibromyalgia (ISF). The ISF consists of nine group sessions spread over a period of 11 weeks. The ISF considers the participants as experts of their FM symptoms and addresses nine different themes aimed at improving strategies for coping with FM symptoms. The participants (15 women with FM) were evaluated before, immediately after, and 16 weeks after ISF. Dependent variables were: pain perception, psychological pain coping strategies, psychological pain functioning (MPI), and quality of life (SF-36). At one-year follow-up the results were: reductive values for: pain perception (P<0.02), psychological pain coping strategies (P<0.01), psychological pain functioning (P<0.05), and quality of life (P<0.05); and increases: 30% for physical energy ratings (P<0.01), 21% for psychological pain coping strategies (P<0.01) and 43% for psychological pain functioning (P<0.01). These results corroborate the importance of the therapeutic alliance (the development of a collaborative relationship) between the individual members and the group therapists in increasing FM self-management strategies.

P-5 THE ROLE OF PAIN ANXIETY AND HYPERVIGILANCE IN VULVAR PAIN
Geneviève Desrochers BSc1, Sophie Bergeron PhD2, Samir Khalidé MD2, Marie-Josée Dupuis MD2, Mélanie Jodoin BSc1, G. Mailloux BSc1
1Université du Québec à Montréal (UQAM); 2Montreal Jewish General Hospital; 3Centre Hospitalier de l’Université de Montréal – Pavilion Saint-Luc, Montreal, Quebec
OBJECTIVE: The present study aimed to determine whether pain anxiety and hypervigilance could predict changes in levels of pain during intercourse and in global sexual functioning in women with vulvar vestibulitis syndrome.
METHODOLOGY: Data were obtained from 45 participants who took part in a gynecological examination, a structured interview and standardized questionnaires focusing on pain anxiety, hypervigilance, state-trait anxiety, catastrophization and pain during intercourse.
RESULTS: The results of hierarchical regression analyses revealed that pain anxiety (F=3.96; P<0.05) and hypervigilance (F=4.15; P<0.05) predicted the intensity of pain during intercourse. Higher levels of pain anxiety and hypervigilance to pain were both associated with more intense pain during intercourse. Results also showed that these factors predicted the severity of pain symptoms reported by these women even if the effect of state-trait anxiety and catastrophization was controlled. (F=5.95; P<0.05) for pain anxiety and (F=5.78; P<0.05) for hypervigilance. Therefore, higher levels of these variables were both related to more severe pain. Moreover, only cognitive pain anxiety was a predictor of global sexual functioning after controlling for catastrophization (F=4.61; P<0.05). Higher cognitive pain anxiety was related to increased sexual impairment. Finally, it was found that state anxiety mediated this relation.
CONCLUSION: These results suggest that affective factors (pain anxiety and hypervigilance) are good predictors of pain intensity in women with vulvar vestibulitis syndrome. Finally, these results are consistent with a cognitive-behavioural model of chronic pain and they may be important components to consider for pain management with this population of women.
P-8
FEAR AVOIDANCE BELIEFS IN CHRONIC PAIN PATIENTS: A PSYCHOMETRIC ASSESSMENT OF THE ORIGINAL TAMPA SCALE FOR KINESOPHOBIA (TSK)
Douglas J French PhD1, Christopher R France PhD2, François Vigneau PhD3, Julie A French MAPS4,5, R Thomas Evans MD1
1Ecole de psychologie, Université de Moncton, Moncton, New Brunswick; 2Department of Psychology, Ohio University, Athens; 3The Atlantic Pain Clinic, Moncton, New Brunswick

The Tampa Scale for Kinesophobia (TSK) was developed to measure fear of movement/reinjury in chronic pain patients. Although studies of the Dutch adaptation of the TSK have identified fear of movement/reinjury as an important predictor of chronic pain, pain-related avoidance behaviour and disability, surprisingly little data on the psychometric properties of the original English version of the TSK are available. The present study examined the reliability, construct validity and factor structure of the TSK in a sample of chronic pain patients (n=200) presenting for an interdisciplinary functional restoration program. Consistent with prior evaluations of the Dutch version of the TSK, the present findings indicate that the TSK possesses a high degree of internal consistency and is positively associated with related measures of fear-avoidance beliefs, pain catastrophizing, pain-related disability and general negative affect. The TSK was not related to individual differences in physical performance testing as assessed using standardized treadmill and lifting tasks. Confirmatory factor analyses suggest that the TSK is best characterized by a three-factor trait model that includes all 17 of the original scale items and takes into account the distinction between positively and negatively keyed items. The results of the present study provide important details regarding the psychometric properties of the original English version of the TSK and suggest that it may be unnecessary to remove the negatively keyed items in an attempt to improve scale validity.

P-9
MEASURING PAIN-RELATED DISABILITY: A COMPARATIVE ANALYSIS OF COMPETING QUESTIONNAIRES
Douglas J French PhD1, Julie A French MAPS2, François Vigneau PhD3, R Thomas Evans MD2
1Ecole de psychologie, Université de Moncton; 2The Atlantic Pain Clinic, Moncton, New Brunswick

A large number of self-report questionnaires have been developed to assess pain-related disability. Recent studies have highlighted the need for direct psychometric comparisons to guide both clinicians and researchers facing the task of choosing an appropriate instrument. The present study examined and compared the reliability, construct validity and factor structure of the Oswestry Low Back Pain Disability Questionnaire (OSW), the Million Visual Analog Scale (MVAS) and the Quebec Back Pain Disability Scale (QBDS) in a sample of chronic pain patients (n=200) presenting for an interdisciplinary functional restoration program. The present findings indicate that the all three disability measures possess a high degree of internal consistency. All questionnaires were positively associated with measures of fear-avoidance beliefs, pain catastrophizing and general negative affect. The QBDS most strongly related to the physical functioning scale of the SF-36 and a standardized maximal lifting task. Factor analyses replicated four factors of the original 7-factor solution for the QBDS but failed to replicate the published 2-factor structure of the OSW suggesting that the dimensionality of the latter measure remains unclear. There were no previous factor-analytic studies of the MVAS; however, a 3-factor solution was obtained in the present study comprising a unique pain-related factor, which sets this measure apart from the other disability scales tested. While all questionnaires examined may be considered psychometrically sound, the QBDS demonstrated generally higher correlations with the criterion measures and has the advantage of having validated versions in both English and French making it particularly well-suited for use in a Canadian population.
CONCLUSION: There may be age-related patterns in the factor structure of the PDI. Further research is needed to examine this possibility and to identify the most effective pain assessment tool for use across the lifespan.

P-12
VALIDATION OF A FRENCH-CANADIAN VERSION OF THE PAIN DISABILITY INDEX

Nathalie Gauthier BSc1, Pascal Thibault BSc2, Heather Adams BSW3, Éve Montpetit OT4, Michael J. Sullivan PhD1
1Department of Psychology, Université de Montréal; 2Department of Psychology, Université du Québec à Montréal, Université de Montréal; 3Department of Psychology, Université de Montréal; 4AAP Clinic; 5Department of Psychology, Université de Montréal, Montréal, Québec

OBJECTIVE: To examine the factor structure, internal consistency, and construct validity of a French translation of the Pain Disability Index (PDI) in a population of chronic pain patients.

METHODS: A total of 151 francophone patients completed the PDI and other pain-related questionnaires. In addition to filling the questionnaires, one-third of the participants performed a lifting task designed to elicit pain behaviours.

RESULTS: The results support a two-factor solution for the PDI corresponding to voluntary activities (eg, occupational, recreational and social) and obligatory activities (eg, activities of daily living, eating and sleeping) like the original English version. Internal consistency of the seven-item factor as assessed by Cronbach’s alpha was 0.84. Item-total correlations ranged from 0.42 to 0.71. Regarding construct validity, results indicated that the PDI was significantly related to pain intensity, pain catastrophizing, fear of pain and re-injury, depressive symptoms and different aspects of pain behaviours.

CONCLUSIONS: The French-Canadian version of the PDI has acceptable validity and internal consistency.

P-13
RELATIONSHIPS BETWEEN UNMITIGATED COMMUNION AND UNPAID DOMESTIC WORKLOAD AND ADJUSTMENT TO CHRONIC PAIN

Heather Getty PhD, Allan Shapiro PhD, Pat Morley-Forster MD, Robert Teasell MD, Manfred Hart MD, Janet Pope MD

Research suggests that gender differences in the development of and adjustment to chronic pain conditions are largely influenced by psychosocial variables. The present study examined the influence of the gender role-related variables of unmitigated communion and unpaid domestic workload on adjustment to chronic pain conditions. Unmitigated communion, or the tendency to put the needs and concerns of others ahead of one’s own, has been associated with poor adjustment in normal samples, and with poor adherence to medical advice and poor adjustment in medical samples. In addition, women’s unpaid domestic workload has been increasingly highlighted in recent theories of the development of chronic upper extremity pain. Four-hundred and fifty-five outpatients from physical medicine and rehabilitation, anaesthesia and rheumatology pain clinics completed questionnaires assessing unmitigated communion, unpaid domestic workload, pacing of physical activity and adjustment. Results show that unmitigated communion and number of children under the age of 14 (one aspect of unpaid domestic workload) are related to poor emotional adjustment in the context of chronic pain. These variables are also linked to poor pacing of physical activity, something that is central to clinical pain management programs. In addition, these variables also moderate relationships between a variety of risk factors and measures of pain intensity and pain-related disability. Clinical implications of these findings are discussed.

Acknowledgements: This work was funded by grants from St Joseph’s Health Care London and the Earl Russell Foundation

Information: Hospital/Institution Affiliation: St Joseph’s Health Care London, Allan.Shapiro@sjhc.london.on.ca, telephone 519-646-6000 ext 61047 or 519-439-8861

P-14
DISTINCT PATIENT SUBGROUPS AT RISK FOR DYSFUNCTION SECONDARY TO PAIN: REPICATION IN A RHEUMATOID ARTHRITIS SAMPLE

H Getty PhD, A Shapiro PhD, P Morley-Forster MD, M Harth MD, J Pope MD, R Teasell MD

A small percentage of patients with persistent pain, those most disabled and distressed, account for an unusually large percentage of costs (medical, disability) associated with pain. Our previous research with outpatients from rehabilitation and anesthesia clinics identified, on the basis of personality traits, distinct patient subgroups at risk for dysfunction secondary to pain. The present study aimed to replicate these findings in a very different pain sample consisting of outpatients with rheumatoid arthritis. Two-hundred and forty-two individuals (mean age 58, 77% female, mean duration of pain 12 years) were asked to complete questionnaires assessing pain and personality variables. Findings from the heterogeneous pain sample were replicated in this sample. Cluster analysis identified an “obsessive-perfectionistic” cluster 1, distinguished by high scores on traits descriptive of the obsessive personality and perfectionism/type A; a “pain-anxious” cluster 2 characterized by high scores on fear of and emotional reactivity to pain; and a “low” cluster 3, which scored lower than clusters 1 and 2 on all personality dimensions. Cluster 1 and 2 patients reported greater dysfunction secondary to pain than cluster 3 patients, even when physicians’ assessments of RA disease activity were controlled. While more research is needed, results highlight the need to assess and intervene with pain patients at greatest risk for dysfunction due to pain.

Acknowledgements: This work was funded by grants from St Joseph’s Health Care London, Allan.Shapiro@sjhc.london.on.ca, telephone 519-646-6000 ext 61047 or 519-439-8861

Information: Hospital/Institution Affiliation: St Joseph’s Health Care London, Allan.Shapiro@sjhc.london.on.ca, telephone 519-646-6000 ext 61047 or 519-439-8861

P-15
IMPROVING PAIN MANAGEMENT IN LONG-TERM CARE FOR VETERANS: ON COMMON GROUND

Maggie Gibson PhD1, Maryse Savoie RN MScN2, Sylvie Le May PhD2, M Gail Woodbury PhD3, Maureen Gorman PhD3, Jan Gunnness RN/BN RPN MSA4, Sarah Brown MN4, Nicole Tupper CNS5, Doug Wilson2
1St Joseph’s Health Care, London, Ontario; 2St Anne’s Hospital, Ste-Anne-de-Bellevue, Quebec; 3University of Montreal, Quebec; 4Lawson Health Research Institute, London, Ontario; 5Queen Elizabeth II Health Sciences Centre, Halifax, Nova Scotia; 6Deer Lodge Centre, Winnipeg, Manitoba; 7Veterans Health Unit, Fredericton, New Brunswick

AIM: Inadequately controlled pain is a source of excess disability and undue suffering for older adults. This multi-site collaboration will advance clinical knowledge, values, beliefs and behaviours to improve pain control for veterans and other older adults in long-term care facilities.

METHODS: (a) Care-provider focus groups established knowledge, values and beliefs about pain on one site (Savoie and Le May, 2005); (b) A survey was developed based on these findings; (c) Surveys were administered on four other sites (N=87); (d) Pain assessments were completed as part of a longitudinal study on one site (Gibson et al, 2005); (e) Assessments were repeated on the other sites (N=21).

RESULTS: Focus group findings were replicated in the survey results; pain profiles were similar across sites (modal response: discomforting, somatic pain, achiness/Sharp, responsive to medication, exacerbated by physical factors; onset in later life).

CONCLUSIONS: The common baseline and demonstrated collaboration will support the development of a multi-site project to address pain management in this sector.
P-16
CHANGING PRACTICE IN LONG-TERM CARE FACILITIES: A DEMONSTRATION PROJECT USING THE "READINESS FOR CHANGE" MODEL
Maggie Gibson PhD1,2,3, Kim Hay RN1, M Gail Woodbury PhD1,2,3
1St Joseph’s Health Care; 2Lawson Health Research Institute; 3University of Western Ontario, London, Ontario
AIMS: To align pain assessment and management practices with best practice recommendations in three programs that provide combined residential care and health care for older adults (long-term care, chronic care and veterans care), using the “Readiness for Change” model (Prochaska and DiClemente, 1998).
METHODS: This two-year project supported a one-half-time resource nurse who worked with stakeholders in each program (3 programs; 9 care delivery units; 781 beds) to assess and remediate gaps between current practice patterns and best practice recommendations. The resource nurse utilized the three organizing constructs of the Readiness for Change model (stages, processes and levels of change) to facilitate the implementation of sustainable change.
RESULTS: 1) Chart audit indicated increased congruence between recommended and documented pain assessment and management practices. 2) On average, the resource nurse spent 3.6 hours/month/unit in direct contact with care providers (focus groups, inservices, planning sessions and teachable moments), representing approximately $100 per unit per month in staff time.
CONCLUSIONS: The project outcome is an educational toolkit that can be used to support other best practice-focused change initiatives in facilities that care for older adults.
Acknowledgements: Project funding was provided in part by the New St Joseph’s Health Care Foundation

P-17
LUMBAR ZYGOPHYSIAL JOINT RADIOFREQUENCY DENERVATION – TARGETING THE BEST PRACTICE
Michael Gofeld MD FIPP, Gil Faclier MD FRCP
Pain Management Program, Department of Anesthesia, Sunnybrook and Women’s College Health Sciences, Toronto, Ontario
AIM: To describe simple and useful technique of lumbar zygapophysial joint denervation.
METHODS: Staged presentation of the technique.
RESULTS: Practical recommendations manual.
CONCLUSIONS: Adherence to uniform anatomically proven technique may help practitioners and become the standard of care.
Zygapophysial joint radiofrequency denervation is one of the most frequently performed procedures for chronic low back pain. Several studies have shown considerable efficacy of the procedure. However, none of controlled trials adhered to surgical anatomy of applied nerve supply.
Three primary techniques have been utilized for years. 1. European technique infers straight electrode placing under “tunnel fluoroscopic view” to reach the target point perpendicular to its pathway. Therefore, lesion size is not adequate. 2. North American technique utilizes tangential insertion of a curve-tipped electrode parallel to nerves under uniplanar fluoroscopic view. It mainly depends on the operator’s experience of three-dimensional depth and direction. 3. Australasian technique utilizes an anatomical approach, based on the concept of a “declined view”. This technique is yet to be described in detail. The combination of the accumulated data fulfills all provisos for a successful lumbar facet radiofrequency denervation. We believe the technique employing “tunnel vision” with anatomically proven electrode placement and the utilization of large bore, curved needles with a 10 mm active tip, may improve the results of radiofrequency procedure.
Because denervation of lumbar facet joints is the most commonly performed radiofrequency procedure, detailed guidelines will be invaluable for those commencing interventional pain careers.

P-18
THE SEVEN STAGES OF OPIOID PRESCRIBING
Allan S Gordon MD
Neurologist and Director, Wasser Pain Management Centre, Mount Sinai Hospital, Toronto, Ontario
The past 10 years have seen a significant increase in the prescribing of strong opioids for chronic noncancer pain. There are a number of reasons for this including recognition of the need for recognition and treatment of CNCP, an increase in studies showing both effectiveness and underprescribing of opioids, recognition by industry of a new and important market and a number of concerted educational programs aimed at potential prescribers. But this has all come with some cost. After being an active participant and promoter of the pain movement, and based on his experience, the author describes seven stages of opioid prescribing. Many reading this will identify with these stages.
1 Opioid naïve
2 Opiophobia
3 Opioiphilia
4 Opioid expert
5 Opioid catastrophe
6 Acquired opioiphobia
7 Opioid balance: Weighing benefit versus risk

P-19
COPING STRATEGIES AS MEDIATORS BETWEEN COGNITIVE APPRAISALS AND ADJUSTMENT TO CHRONIC PAIN: A STUDY OF OLDER ADULTS
Sheryl M Green MA, Thomas Hadjistavropoulos PhD
University of Regina, Regina, Saskatchewan
AIMS: Although pain is highly prevalent among seniors, research examining adjustment to chronic pain has focused, almost exclusively, on young and middle-aged adults. Such research has emphasized a variety of theoretical approaches to stress and coping (eg, Lazarus and Folkman, 1984). Our goal was to complement previous investigations by studying the complex interrelationships among cognitive appraisals, coping strategies and adjustment to chronic pain within the unique context of seniors.
METHODS: One hundred eight community dwelling seniors (mean age=75.3, SD=8.80; 88 women), with at least one chronic pain condition, completed a variety of questionnaires designed to assess pain beliefs/appraisals (including beliefs about pain in old age), daily stressors, coping strategies and adjustment to pain.
RESULTS: Mediation analyses (Baron and Kenny, 1986) revealed that a set of coping strategies (namely guarding, resting, asking for assistance, seeking social support, coping self statements and emotional support) mediated the relation between cognitive appraisals/beliefs and adjustment to pain in seniors.
CONCLUSIONS: Many of our findings were consistent with the pre-existing literature involving younger adults. Some findings, however, were specifically relevant to seniors (eg, specific coping strategies were found to mediate beliefs about pain in old age and adjustment to chronic pain).

P-20
ROLE OF NITRIC OXIDE SYNTHASE IN PAIN AND INFLAMMATION AT THE CENTRAL AND PERIPHERAL LEVEL IN A CARRAGEENAN INDUCED MODEL OF JOINT INFLAMMATION
Javeria Ali Hashmi MSc1,*, John Ciriello PhD1, Kiran Yashpal PhD2, James I Henry PhD2
1Department of Physiology and Pharmacology, University of Western Ontario, London; 2Health Sciences Centre, McMaster University, Hamilton, Ontario
Nitrergic Oxidation (NO) is an important mediator of nociceptive changes observed in inflammatory conditions; the role of this free radical in inflammatory joint disease is not completely understood. We investigated the involvement of NOS (nitric oxide synthase) in inflammatory joint disease at the peripheral and central levels in the carrageenan induced joint inflammation.
inflammation model. At the peripheral level, we observed the effect of NOS inhibitors on parameters of pain and inflammation. For this purpose a selective nNOS (neuronal NOS) inhibitor 7-nitroindazole (7-NI), a highly selective iNOS (inducible NOS) inhibitor 1400W and a nonselective NOS inhibitor L-NAME (N<sup>2</sup>-nitro-L-arginine methylh-thylyl) and their respective vehicles were administered ip 30 minutes before carrageenan induction to separate groups of rats. 7-NI (50 mg/kg) and L-NAME (100 mg/kg) prevented the increase in ankle circumference, and decreased plasma extravasation and edema compared to vehicle treatment. 1400W (2 mg/kg) had no effect on these parameters of inflammation. In terms of pain sensitivity, the vehicle treated rats demonstrated alldynic responses and thermal hyperalgesia after carrageenan induction. These effects related to joint pain sensitivity were prevented from developing in rats treated with 7-NI and L-NAME. In addition, 1400W was also effective in preventing pain sensitivity. At the central level we assessed the role of NOS by observing expression of nNOS by using Western blots and by investigating nNOS activity with NADPH diaphorase staining. Western blots demonstrated a time dependent increase in nNOS expression. Pre-administration of 7-NI reduced spinal nNOS expression (P<0.01) whereas L-NAME had no effect (P>0.05). NADPH-diaphorase activity was observed to be significantly high in carrageenan injected rats in lamina II of the lumbar spinal dorsal horn. These results indicate that both nNOS and iNOS contribute to joint pain and nNOS expression and activity is upregulated after joint inflammation.

Key words: Animal models; Carrageenan; Inflammation; Pain

P-21
USE OF SATIVEX TO TREAT CHRONIC PAIN
Helen Hays MD, Mary Ann Woodroofe BScN
Associate Clinical Professor, Department of Family Medicine, University of Alberta, Edmonton, Alberta

AIM: This presentation will review the use of Sativex in a group of patients with chronic pain, focusing on effectiveness, benefits and side-effects. Sativex is a cannabinoid analgesic, which has recently been approved by Health Canada as adjunctive therapy for the relief of neuropathic pain in multiple sclerosis (MS) in adults. The principal active ingredients include delta-9-tetrahydrocannabinol (THC) and cannabidiol (CBD).

METHODS: Approximately 30 referred patients who have chronic pain not responding to commonly used analgesic medications will be offered a trial of Sativex. It is delivered by the buccal route via a spray, should be self-nitricated and is usually used approximately 5 times daily. Sites should be rotated from under the tongue to either side of the inside of the cheeks. Each vial provides approximately 56 sprays.

RESULTS: Results to date are preliminary. Two patients with MS who have tolerated opioids poorly have reported good pain control. Several others with different chronic pain syndromes have reported varying degrees of benefit. Patients have complained of the stinging sensation at the application site and also the bad taste after administering the drug. No severe side-effects have been reported. Sativex is not covered by some insurance plans and also the bad taste after administering the drug. No severe side-effects have been reported. Sativex is not covered by some insurance plans and also the bad taste after administering the drug.

CONCLUSIONS: A cannabinoid analgesic may be a useful adjunctive agent for treating chronic pain. Its mode of administration is acceptable and easy to use. More research is needed to determine its effectiveness in long-term use for various pain states and risk/benefit profile.

P-22
CHRONIC PAIN PATIENTS WITH SYRINX FOLLOWING MOTOR VEHICLE ACCIDENT: A CASE SERIES
R Allen Hooper MD FCFP
Clinical Assistant Professor, University of Calgary, Director Clinical Services, Advanced Spinal Care Centre, Calgary, Alberta

AIM: The development of synrinx following spinal cord injury with paralysis is well recognized. The literature is very limited regarding the development of synrinx following motor vehicle accident (MVA) not involving paralysis. This report documents ten cases of synrinx and chronic spine pain following high-speed motor vehicle accident.

METHOD: Eight hundred twenty-five consecutive chronic spine patients were seen during a 72-month period from 1999 to 2005 at a private outpatient clinic. Patients completed visual analogue scales before treatment and through to discharge. Patients were referred for MRI when clinically indicated or to further assess areas of ongoing pain.

RESULT: Three hundred eighty-eight (47%) of the patients had trauma related injuries. There were no patients identified with syrinx in the non-trauma group. Ten cases of syrinx were identified following whiplash. All cases involved high-speed impacts over 50 km/h. These patients did not respond well to conservative treatment or various diagnostic and therapeutic injections.

CONCLUSION: The presence of syrinx after high-speed impact appears to be associated with poor outcome and chronic pain. More research is needed to determine the prevalence of asymptomatic syrinx in the general population and if high speed MVA leads to the development of syrinx. This would help determine if routine MRI following high speed MVA has a role in the assessment and management of these patients.

P-23
COMPARISONS BETWEEN CHINESE AND CAUCASIAN CANADIANS IN CATASTROPHIZING AND PAIN RESPONSES
Annie Y Hsieh BA, Dean A Tripp PhD
Department of Psychology, Queen’s University, Kingston, Ontario

Considered to be the most prominent cognitive factor in acute and chronic pain reports, catastrophizing cognitions about pain are associated with greater pain intensity and emotional distress in both clinical and acute pain settings (eg, Sullivan et al, 2001). Catastrophizing refers to an exaggerated negative mental set brought to bear during the pain experience (Sullivan et al, 1995). Catastrophizing is theorized to increase emotional reactivity to pain, thereby amplifying its experience (Sullivan et al, 2001). While catastrophizing has been repeatedly associated with experimental acute pain response (Sullivan et al, 2001), little is known about the sociocultural determinants of catastrophizing and pain behaviour. The proposed study will investigate differences in acute pain experience between Chinese and Caucasian Canadians in catastrophizing, pain threshold, tolerance, intensity and unpleasantness. We hypothesize that difference in these variables exist between the two cultural groups. The study will provide a better understanding of the underlying mechanism of pain perception in different cultural groups. Fifty Caucasian and fifty Chinese undergraduate students underwent the cold pressor (CP) task. Pain catastrophizing scale was administered before the CP task. Participants provided pain intensity rating (Numerical Rating Scale) during the CP task and pain unpleasantness (SF-McGill; Melack, 1987) after the task. ANOVA will be conducted to examine pain responses and pain catastrophizing between the two groups. Clinical implications will be discussed.

REFERENCES:

P-24
COMPARISON OF PAIN BEHAVIOUR PATTERNS BETWEEN PATIENTS WITH MUSCULOSKELETAL AND FIBROMYALGIA CONDITIONS
Dorotheée Jalongo Lambin BSc<sup>1</sup>, Véronique Jarry-Boivin<sup>1</sup>, Pascal Thibault BSc<sup>2</sup>, Michael JL Sullivan PhD<sup>1</sup>
<sup>1</sup>Department of Psychology, Université de Montréal; <sup>2</sup>Department of Psychology, Université du Québec à Montréal, Montréal, Québec

OBJECTIVE: This study examines the differences in pain behaviour in patients with musculoskeletal conditions versus patients with fibromyalgia.

METHODS: Thirty patients (24 to 74 years) suffering from a musculoskeletal condition and 27 patients (34 to 74 years) suffering from...
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fibromyalgia participated in a protocol designed to elicit pain behaviour. Patients were videotaped while engaging in the task and pain behaviour was coded by trained observers. Scores were computed to derive indices for three types of pain behaviour (communication, avoidance and protection). Indices of each type of pain behaviour for patients with musculoskeletal disorder and patients with fibromyalgia were compared.

RESULTS: Results revealed that there is no significant difference between patients suffering from the musculoskeletal condition and patients with fibromyalgia.

CONCLUSION: Theoretical implications for the absence of difference between groups are discussed in regard to studies that had already investigated similar questions.

P-25
ENHANCING KANGAROO CARE EFFICACY THROUGH MULTIPLE SENSORY MODALITIES

C Celeste Johnston RN DEd1, Françoise Filion RN MSc1,2, Marsha Campbell-Yeo RN MSc NNP1,3, Kathryn McNaughton BSCN2, Dominique Walker PhD1, Anne Monique Nuyt MD FRCPC3, Allen Finley MD FRCPC3, Celine Goulet RN PhD2, Linda Bell RN PhD4

1McGill University; 2University of Montreal, Montreal, Quebec; 3WK Children’s Hospital, Halifax, Nova Scotia; 4University of Sherbrooke, Sherbrooke, Quebec

AIM: Earlier studies have demonstrated the efficacy of maternal kangaroo care to decrease pain response and facilitate recovery from the frequent and invasive clinical procedure of heel lance for blood sampling in both full term and preterm neonates. It is thought that tactile stimulation is the primary modality in which kangaroo care works. The purpose of this study is to determine if the addition of vestibular stimulation (rocking), auditory stimulation (talking and singing) and gustatory stimulation (sucking) would enhance the efficacy of kangaroo care.

METHODS: Infants born between the ages of 32 and 36 weeks gestational age and younger than two weeks of life were studied in a randomized, cross-over trial to compare pain response and time to recovery following a heel lance. The Premature Infant Pain Profile, a composite measure of behavioural indicators of pain (facial actions) and physiological indicators of pain intensity (>5 NRS) was female sex (adj OR 2.10, 95% CI 1.10 to 4.28) and younger age (adj OR 0.41, 95% CI 0.21 to 0.82); the predictor of higher pain intensity (>5 NRS) was female sex (adj OR 2.10, 95% CI 1.10 to
P-29
ARE ALL CHRONIC PAIN EXPERIENCES THE SAME?
A COMPARISON OF CHRONIC UPPER EXTREMITY PAIN
WITH CHRONIC LOW BACK PAIN IN A COMMUNITY
PHYSIOTHERAPY CLINIC
Shane S Kachur* BMR (PT), R Nicholas Carleton MA,
Gordon JG Asmundson PhD
Anxiety and Illness Behavior Laboratory, University of Regina,
Regina, Saskatchewan
Pain as a personal sensory emotional experience is impacted by biological,
social and psychological factors (Turk and Flor, 1999; Waddell et al, 1993; Asmundson et al, 1999; Vlaeyen and Linton, 2000). Nevertheless, to date there has been little research done to examine whether different regional diagnoses affect the overall chronic pain experience. Anecdotally, it is reasonable to expect that chronic upper extremity pain (eg, hand, elbow or shoulder) would have a different impact on quality of life than chronic low back pain. To investigate such possibilities, 53 chronic low back pain patients (34% women; \( M_{\text{age}} = 40.7, \text{SD}=9.8 \)) were compared with 42 chronic upper extremity pain patients (43% women; \( M_{\text{age}} = 45.1, \text{SD}=10.7 \)) on several self-report measures. All participants completed the Dallas Pain Questionnaire (DPQ; Lawlis et al, 1989) and McGill Pain Questionnaire (MPQ), where back pain references were substituted with participant-specific pain. The McGill Pain Questionnaire (MPQ) and the UEFS were administered for convergent validity. Subsequent correlation analysis suggested that the modified DPQ provided a valid measure of upper extremity pain \((P<0.01; \text{MPQ})\) and dysfunction \((P<0.05; \text{UEFS})\). This supports the use of the DPQ for individuals with back or upper extremity pain. Clinical implications and directions for future research are discussed.

P-31
NONDERMATOMAL/MYOTOMAL SYMPTOM REPORTING
MAY INDICATE SUBTLE AND SIGNIFICANT
PSYCHOLOGICAL DISTRESS
Shane S Kachur* BMR (PT), R Nicholas Carleton MA,
Gordon JG Asmundson PhD
Anxiety and Illness Behavior Laboratory, University of Regina,
Regina, Saskatchewan
Chronic pain presentations are typically associated with fear, anxiety and depression (Asmundson, Vlaeyen and Crombez, 2004). The method used to address these psychological components of pain depends, in part, on the degree to which they impair patient recovery. While self-report evaluations provide measures of emotive intensity, they are not intended to describe subsequent levels of physical impairment. Waddell et al (1992) suggested evaluation of medically unexplained symptoms (ie, inappropriate symptoms) may indicate the effects of psychological variables on physical disability. Nevertheless, because of clinician misinterpretation and a lack of inter-rater and test-retest reliability, disagreement exists regarding inappropriate symptom presentation based on physical examinations (Fribbins et al, 2003). However, little research has been done on Waddell’s proposed self-report measures of inappropriate symptoms. The Inappropriate Symptoms Questionnaire (ISQ) was administered to 59 chronic low back pain suffers (34% women; \( M_{\text{age}} = 41.1, \text{SD}=10.4 \)) in a sponsored multidisciplinary treatment program, along with the Dallas Pain Questionnaire (DPQ), the Revised Oswestry Low Back and Disability Questionnaire (ROQ), and the McGill Pain Questionnaire (MPQ). Results of correlational analyses identified significant positive correlations \((P<0.01)\) between the ISQ and the ROQ, and all components of the DPQ and MPQ. This suggests that the ISQ may provide a useful indication of the magnitude of effect psychological variables have on perceived disability, presentations of physical disability, and pain perception in chronic pain populations. Clinical implications and directions for future research are discussed.

P-32
EVALUATION OF THE IMPLEMENTATION OF PAIN BEST
PRACTICE GUIDELINES: EXPERIENCE IN AN ACUTE CARE
MEDICAL SETTING
Rosemary Kohr RN PhD(c) ACNP
Nurse Practitioner/Clinical Nurse Specialist, London Health Sciences
Center; Assistant Professor, Faculty of Health Sciences (Nursing),
University of Western Ontario, London, Ontario
The Medical Care Advanced Practice Nurses (APN) Research Group developed an evaluation of the implementation of the Registered Nurses of Ontario (RNAO) Best Practice Guidelines on the Assessment and Treatment of Pain within an acute medical program.
AIM: To assess changes in practice amongst the interdisciplinary team regarding pain assessment and management following the implementation of the BPG for pain.
METHOD: Intervention was an educational program tailored to the learning needs of staff, developed with input from staff. Sequential chart reviews of 100 patients pre/post intervention; questionnaires to staff pre/post intervention regarding attitudes and knowledge transfer.
RESULTS: Increased documentation regarding pain assessment. Improved management strategies and better understanding of medications and alternative treatment options.
CONCLUSION: Effective educational interventions with input from staff were useful to change practice to improve patient outcomes regarding pain management.
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P-33
PERIPHERAL NERVE INJURY INDUCES SYMPTOMATOLOGICAL SENSORY SPROUTING: WHICH SENSORY NEURONS ARE TARGETTED BY INVADING SYMPTOMATIC AXONS?
Karmen M Krol MSc, Michael D Kawaja PhD
Department of Anatomy and Cell Biology, Queen’s University, Kingston, Ontario

Postganglionic sympathetic axons are known to sprout into and through out sensory ganglia in rodent models of peripheral nerve injury. These axons course through the ganglionic neuropil and surround a subpopulation of sensory neurons in a plexus of fibres. The remarkable formation of sympathetic perineuronal plexuses has been reported in certain human neuropathies, as well as rodent models of neuropathic pain. This sympathetic-sensory coupling has been suggested as an anatomical substrate for sympathetically maintained pain, and can be reduced or eliminated following disruption of the sympathetic nervous system. While the number of sensory neurons in injured dorsal root ganglion (DRG) targeted by sympathetic axons tends to be small, this interaction may be a potent source of ongoing peripheral sensory dysfunction following nerve injury. We hypothesise that sympathosensory coupling is mediated in sensory ganglia through a mechanism involving nerve growth factor (NGF), and that the sensory neurons targeted by sympathetic axons are themselves NGF sensitive. The phenotype of the sensory neurons involved is elusive since most neurochemical markers are dramatically downregulated following peripheral nerve injury. The purpose of this work is to demonstrate that sympathetic perineuronal plexuses form around neurons that have a predictable somatic nociceptive phenotype-NGF sensitive and peptidergic. We paired immunohistochemistry with each of in situ hybridization and laser-capture microdissection to examine the phenotype of the sensory neurons distinguished by a plexus. Our data will reveal, with more clarity, the neurochemical phenotype of the sensory neurons which, to date, has mainly been described only on the basis of size.

P-35
SEX DIFFERENCES IN NEONATAL PAIN
Janice Lander PhD,1 Barbara Brady-Fryer PhD2, John Van Aerde MD2
1University of Alberta; 2Stollery Children’s Centre, Capital Health, Edmonton, Alberta

AIM: To assess the effect of sex on pain response and analgesic response. By studying neonates in the first few hours of life, we can control (learned) psychosocial factors that make the investigation of sex differences so difficult when adults or children are studied.

METHODS: The analgesic agent used was sucrose. Using an RCT design, 98 male and 98 female newborn infants were randomly assigned to receive sucrose or sterile water (placebo) before having a vitamin K injection. The primary outcome measures were infant behaviour (recorded by video tape) and heart rate (HR) (continuously recorded at a rate of 1 reading per second). Measures were obtained during the following five phases: baseline, solution administration, wait-time, injection and recovery.

RESULTS: HR change from baseline to wait-time, injection and recovery were compared using a two-factor, repeated measures ANOVA (for independent variables of sex, solution and phase). Latency to cry and percentage of time crying were measured for the injection phase. Significant interactions were observed for sex, solution and phase.

CONCLUSIONS: This study is important for the field since neonatal pain research has a gender bias to it (more males have been studied than females). The results of this study suggest the existence of biological differences in infant responses to sucrose and painful stimuli. The implications of these findings for future research will be discussed.

P-36
PREVALENCE OF DYSPAREUNIA IN AN ADOLESCENT POPULATION: PRELIMINARY FINDINGS
Tina Landry BSc, PhD Candidate, Sophie Bergeron PhD
Université du Québec à Montréal (UQAM), Montréal, Québec

AIM: Dyspareunia, or painful intercourse, is one of the most common, yet under-investigated, urogenital pain problems in women. Although recent data suggest that dyspareunia frequently begins during adolescence (Berghold, Ngu, and Rylander, 2002), a large scale epidemiological study has yet to be conducted with this population. Thus, the present ongoing study aimed to determine the prevalence of pain during intercourse in an adolescent population.

METHOD: With written informed consent, data were obtained from 1089 girls (aged 12 to 19 years) attending five French Montreal high schools. Questionnaires focusing on gynecological history, physical and sexual abuse, anxiety, depression, attitudes toward sexuality and social support were administered in classrooms during regular school hours.

RESULTS: Preliminary analyses revealed that 21.8% of sexually active girls (N=271) reported having regular pain during penile penetration located at the vaginal opening, inside the vagina and/or in the abdominal region. At this preliminary stage, no differences were found between dyspareunia and nondyspareunia girls. Nonetheless, prevalence results are consistent with estimates found in adult women of younger than 30 years of age (Laumann et al, 1999).

CONCLUSION: These results suggest that dyspareunia is highly prevalent among adolescent girls and that this distressing pain problem requires further clinical and scientific attention.

P-37
CHANGES IN PAIN PERCEPTION AND DNIC START AT MIDDLE AGE IN HEALTHY ADULTS
Marianne Lariviére MSc1, Philippe Goffaux MSc2, Serge Marchand PhD1,2, Nancy Julier MSc3
1Département des Sciences de la Santé, Université du Québec en Abitibi-Témiscamingue, Rouyn-Noranda, Québec; 2Centre en Douleur, Faculté de Médecine, Université de Sherbrooke, Sherbrooke, Québec

AIM: Previous studies have shown a reduction of diffuse noxious inhibitory controls (DNIC) in elderly individuals (Edwards et al, 2003; Washington et al, 2000). The aims of the present study were to better characterize the
time course of these changes by adding a middle-aged group, and to assess the role of expectations and perceived pain reduction in DNIC recruitment.

METHODS: Nociceptive and non-nociceptive thermal perceptions of 20 young (mean age 25.4 years, range 20-35), 20 middle-aged (mean age 47.0 years, range 40-55) and 20 elderly (mean age 68.1 years, range 60-75) healthy volunteers were assessed through the application of a thermode on volunteers’ calf before, during and after a cold pressor task (7°C).

RESULTS: DNIC recruitment, as measured by pain threshold (PT) proportionalized difference (before versus during the immersion of the hand in cold water), was diminished by middle age (P=0.001). Thermal PT increased with age (P=0.001), but a plateau was reached by middle age. Similarly, thermal perception diminished with age (P=0.009), and reached a plateau by middle age. Expectations and perceived pain reduction were both positively correlated with the strength of the DNIC response.

CONCLUSIONS: Significant changes in DNIC recruitment, PT, and thermal perception in general, are already present by middle age. These results suggest that changes in pain perception and endogenous pain modulation arrive earlier than previously suggested. Studies on aging and pain should include a middle-aged group when comparing pain perception across ages.

**P-38**

**PAIN MANAGEMENT PRACTICES IN A PEDIATRIC EMERGENCY ROOM (PAMPER): IMPLICATION OF PARENTS AND NURSES (PRELIMINARY RESULTS)**

*Sylvie Le May RN PhD1, Celeste Johnston RN DEd2, Manon Choinière PhD3, Denise Kudirka RN MSN2, Isabelle Hubert BSN1, Alexis Nolan BSN1, Louise Murray RN MSN(cand)1, Dominic Chalut MD3*

1University of Montreal, Montreal; 2McGill University, Montreal; 3Montreal Children’s Hospital, Montreal, Quebec

BACKGROUND: Children’s pain in emergency departments (ED) is not well managed. Medical doctors tend to underprescribe analgesics and nurses tend to undervalue and undermedicate children’s pain (Kim et al, 2003).

OBJECTIVE: Verify the efficacy of tailored interventions with nurses and parents, on nurses’ knowledge-practices and on parents’ beliefs, regarding pain management, and also on children’s pain scores.

METHODS: Retrospective and prospective (6-phase) study with a pre-post design (nurses) and RCT (parents/children dyads-PCCD). Setting: Pediatric ED of a university hospital. Samples: Review of 150 charts of children who presented with either acute abdominal pain, fracture, sprain, deep lacerations or burns. All nurses of the unit (55), 68 PCD in each group (control and experimental). Children 4-15 yo with one of diagnoses précited. Interventions: Capsules on pain (nurses), booklet and bookmark (PCD). Instruments: Pain Management Experience Evaluation for chart. reviews. Pediatric Nurses Knowledge and Attitudes Survey (PNKAS) on pain, Bieri or NRS for child’s pain + distress levels, and Pain Barriers Questionnaire for parents’ beliefs.

RESULTS: Only 35% of children (53 of 150) received an analgesic. 58% (87 of 150) of them had their pain documented, but nurses rated intensity on 3% (3 of 87). 78% nurses responded and had mean PNKAS score of 71.7%I2.5%. Average level of pain and distress were similar between both groups. No significant statistical difference on parents’ beliefs.

CONCLUSIONS: Preliminary results show that nurses’ knowledge on pain is moderately low, and that children’s pain is still under-reported and undermedicated. Also, interventions with parents were not effective at this phase of the study.

**P-39**

**A PSYCHOPHYSICAL INVESTIGATION OF THE FACIAL ACTION CODING SYSTEM AS AN INDEX OF PAIN VARIABILITY AMONG SENIORS WITH AND WITHOUT ALZHEIMER’S DISEASE**

*Amanda C Lints BSc1, Thomas Hadjistavropoulos PhD2, Stephen J Gibson PhD2, Bruce Barber PhD2*

1Centre on Aging and Health, University of Regina, Regina, Saskatchewan; 2National Ageing Research Institute, Melbourne, Australia

AIM: The utility of the Facial Action Coding System (FACS) as an index of pain among seniors with dementia has been demonstrated in clinical contexts. Nonetheless, there is a lack of systematic laboratory investigations (involving specific and measured stimulus intensities) aimed at assessing its ability to differentiate among different levels of pain in these populations. Our goal was to study persons with and without a diagnosis of dementia and to assess the ability of FACS to differentiate among different levels of pain intensity in a laboratory context.

MEASURES: Following all appropriate ethics clearances, seniors with a diagnosis of early Alzheimer’s disease and healthy, age-matched controls were administered a series of mildly discomforting stimulus intensities. Facial reactions (assessed using the FACS) and self-report responses were recorded.

RESULTS: Our results showed significant differences in facial responses as a function of stimulus intensity. There were no significant differences as a function of dementia diagnosis.

CONCLUSIONS: Our data provide strong support for the utility of the FACS as an index of pain intensity among seniors with and without Alzheimer’s disease.

**P-40**

**ETHNOCULTURAL CHARACTERISTICS OF PATIENTS ATTENDING A TERTIARY CARE PAIN CLINIC IN TORONTO**

*Angela Mailis-Gagnon MSc MD FRCP1,2,3, Balaji Yegneswaran MBBS1, Marios Papagapiou MSc1, Keith Nicholson PhD Psychol1,3*

1Comprehensive Pain Program, Toronto Western Hospital; 2Krembil Neuroscience Centre, Toronto Western Hospital; 3University of Toronto Centre for the Study of Pain, Toronto, Ontario

AIM: Ethnocultural variables greatly affect pain perception and expression. Emerging literature is documenting racial and ethnic differences in pain access and care. The present study attempted to define the ethnocultural characteristics of patients attending a tertiary care university affiliated pain clinic in Toronto, Ontario.

METHODS: Data was collected through retrospective chart review of 1242 consecutive patients seen over a 3-year period at the Comprehensive Pain Program (CPP), in downtown Toronto. The data was compared with 2001 Census Canada data.

RESULTS: 1) Canadian born patients constituted 58.7% of the CPP population (similar to Toronto 2001 Census data); 2) Chinese and South Central Asian (Indopakistani) groups were highly under-represented, while Southern Europeans were over-represented; 3) Canadian born and newer immigrants after 1990 were very well educated, similar to Toronto/ Ontario average; 4) While women significantly outnumbered men, they presented in general with lower levels of physical pathology; 5) While the average age of Canadian, South Central Asian and Caribbean born patients was 46 years, patients from Europe were older by 10-15 yrs and had much higher incidence of physical/medical disorders.

CONCLUSIONS: Ethnocultural differences seem to be important in determining referrals and types of complaints to pain clinics. Understanding such factors will help to design prospective studies to detect disparities in pain care access in general; understand the role of both patients and physicians’ ethnicity in pain management decision making; examine racial and ethnic differences in pain perception and expression, and develop culturally sensitive tools/models for assessing/treating pain and evaluating pain management outcomes.
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P-41  PREDICTING WORK CONDITIONING OUTCOMES IN SUBACUTE INJURED WORKERS: THE ACUTE LOW BACK PAIN SCREENING QUESTIONNAIRE

Douglas Marginson BSc MD MBA1, Douglas J French PhD2
1Workplace Health, Safety, and Compensation Commission of New Brunswick; 2École de psychologie, Université de Moncton, Moncton, New Brunswick

Psychosocial factors have been identified as important determinants of pain and pain-related disability following workplace injury. Attention has begun to focus increasingly on the early identification of individuals at risk for prolonged disability through targeted assessment of known risk factors. Identifying individuals likely to fail traditional first line biomedical therapies should lead to more effective patient triage and case management.

The goal of the present study was to examine the extent to which patient scores on a brief psychosocial screening questionnaire could predict clinic discharge status (fit to return to work; not fit for return to work) following a six-week active physical therapy program developed for subacute injured workers. The Acute Low Back Pain Screening Questionnaire (ALBPSQ; Linton and Hallen, 1998), a 24-item questionnaire assessing pain, fear-avoidance beliefs, general negative affect and subjective disability, was administered to a derivation sample of 243 injured workers presenting for work conditioning in one of 11 participating physiotherapy clinics across the province of New Brunswick. Using SPSS Answer Tree, a clinical cut-off score of 147 (range of possible ALBPSQ scores: 0 to 210) was derived and subsequently tested in a second validation sample comprising 125 injured workers (75 French, 50 English; 97 soft-tissue injuries, 28 nonsoft-tissue injuries). The ALBPSQ was able to correctly identify the discharge status of 89% of soft-tissue claimants and 93% of nonsoft-tissue claimants. These results suggest that the ALBPSQ can facilitate clinical decision making by identifying individuals who may benefit from more complete biopsychosocial treatment.

P-42  THE LANGUAGE OF PAIN: CHRONIC PAIN, COGNITIVE SKILLS AND THE MPQ

Michelle M Martin PhD, Lucia Gagliese PhD CPsych
University Health Network, Toronto, Ontario

AIM: The McGill Pain Questionnaire (MPQ) is a widely-used measure of pain quality comprising 78 pain descriptors divided into 20 categories. Patients endorse the words that best describe their pain. To serve as an effective pain assessment tool, factors involved in completing the MPQ must be understood. The present study was designed to investigate how cognitive skill and the presence of chronic pain differentially contribute to one’s understanding of pain-related words.

METHODS: Participants with and without pain completed assessments of working memory, receptive vocabulary and cognitive flexibility. Then, using tasks adapted from Reading et al (1982), participants were asked to group the 78 words from the MPQ into categories based on the kind of pain they describe.

RESULTS: Twenty-two participants (age 30.0 years, SD=8) with pain and 22 participants (age 50.2 years, SD=14) without pain participated. Analyses show little difference in how people with and without pain categorize pain descriptors from the MPQ. The mean number of categories created (pain-free group 9.9, people with pain 8.0) was significantly lower than the 20 currently on the MPQ. Furthermore, working memory and vocabulary were significantly positively related to the number of categories created.

CONCLUSIONS: Cognitive factors, but not pain status, affect one’s approach to pain language, and may influence how one completes the MPQ. Future research using the MPQ should control for these factors.

P-43  THE VASOACTIVE INTESTINAL PEPTIDE RECEPTOR ANTAGONIST VIP6-28 REDUCES THE MECHANOSENSITIVITY OF AFFERENT NERVE FIBRES IN AN ANIMAL MODEL OF OSTEOARTHRITIS

Niklas Schuelert PhD, Jason J McDougall PhD
Department of Physiology and Biophysics, University of Calgary, Calgary, Alberta

AIM OF THE STUDY: The present study examined whether the vasoactive intestinal peptide (VIP) antagonist VIP6-28 could modulate joint nociception in an animal model of osteoarthritis (OA).

METHODS: OA was induced in male Wistar rats by intraarticular injection of 3 mg sodium monoiodo-acetate with a recovery period of 14 days. Animals were deeply anaesthetised with ethyl carbamate (urethane; 2 mg kg⁻¹ ip). Electrophysiological recordings were made from normal and OA rat knee joint primary afferents in response to normal rotation and noxious hyper-hyper-localization of the joint both before and following close intra-articular injection of different doses of VIP6-28 (10⁻¹¹ to 10⁻⁹ mol).

RESULTS: The conduction velocities for the recorded fibres ranged from 1.3 to 11.1 m/s and their mechanical threshold ranged from 2 to 9 mN. Application of VIP6-28 caused afferent sensitization to be significantly reduced during normal rotation (up to 45% P<0.05; n=17) and during hyper-hyper-localization (up to 34% P<0.01; n=15) of the OA knee joint. This desensitizing effect was found to be maximal 3 min after VIP6-28 injection and was dose-dependent (P<0.05). Close intra-articular administration of VIP6-28 into normal knee joints had no significant effect on nerve fibre mechanosensitivity.

CONCLUSIONS: These findings indicate that VIP is tonically released into OA knee joints causing nerve sensitization and potentially joint pain. OA-induced sensitization of knee joint afferents was inhibited by local administration of VIP6-28 indicating that blockade of peripheral VPAC receptors attenuates sensory input from OA joints to the CNS. As such, VIP6-28 may prove to be a beneficial agent for the treatment of arthritis pain.

P-44  EFFECTS OF SEROTONIN ON MASTICATORY MUSCLE NOCICEPTORS

David Sung BSc Pharm1, Xudong Dong BDS PhD2, Malin Ernberg DDS PhD2, Brian E Cairns PhD3
1Faculty of Pharmaceutical Sciences, University of British Columbia, Vancouver, British Columbia; 2Institute of Odontology, Karolinska Institutet, Huddinge, Sweden

AIMS: Human clinical evidence suggests a relationship between intra-muscular serotonin (5-HT) levels and masticatory muscle pain. Human experimental pain studies have demonstrated that injection of 5-HT into the masticatory muscles causes pain and mechanical sensitization, and that these effects are likely due to a peripheral receptor mechanism. However, it is not known what types of muscle afferent fibres 5-HT excites or sensitizes. We tested the hypothesis that injection of 5-HT into the rat masticatory muscles would evoke reproducible afferent discharge and reduce the mechanical threshold of rat masseter and temporalis nociceptors.

METHODS: Putative muscle nociceptors were recorded in the trigeminal ganglion and identified by their response to mechanical stimulation of the temporals or masseter muscle and projection to the caudal brainstem. Two injections of 5-HT (10 nM) or buffered isotonic saline (control) were made at an interval of 30 min into the appropriate masticatory muscle to evoke nociceptor discharge. The second response was divided by the first to yield relative nociceptor discharge. An electronic Von Frey Hair (IITC Model 1601c) was used to measure nociceptor mechanical threshold before the initial and 10 min after the second intramuscular injection.

RESULTS: 5-HT significantly increased nociceptor discharge in comparison to control (P<0.05, Mann-Whitney rank sum test). The mean relative nociceptor discharge was 1.02±0.62. 5-HT also caused a prolonged (>30 min) decrease in nociceptor mechanical threshold.

CONCLUSIONS: Intramuscular injection of 5-HT evokes relatively reproducible nociceptor discharge and results in a prolonged mechanical sensitization of masticatory muscle nociceptors.
P-50
STUDY OF NEUROIMMUNE RESPONSES TO NOCICEPTIN/ORPHANIN FQ USING JOINT PAIN BEHAVIOURAL TESTS
Jason J McDougall PhD, Sarah EM Larson BSc
Department of Physiology & Biophysics, University of Calgary, Calgary, Alberta
AIM OF THE STUDY: Nociceptin/orphanin FQ (N/OFQ) is an opioid-like peptide that has been shown to sensitize joint primary afferents. The present study examined whether peripheral administration of N/OFQ causes joint pain and to determine if synovial mast cells contribute to these responses.
METHODS: Under isoflurane anesthesia, male Wistar rats received a single intra-articular injection of N/OFQ (10^-8 mol; 0.1 ml bolus) into the right knee and were then allowed to recover. Hindlimb weight bearing and von Frey hair algometry in which plantar withdrawal thresholds in response to a punctate mechanical stimulus were used to assess pain behaviour at 10, 30, 60, 120 and 180 min after injection of the peptide. In a separate group of animals, synovial mast cells were stabilized by pretreatment with cromolyn (20 mg/kg sc) before N/OFQ injection.
RESULTS: Compared with saline control, N/OFQ caused a significant weight bearing deficit in ipsilateral hindlimbs. Similarly, paw withdrawal thresholds were reduced by about 30% in N/OFQ treated joints with the maximal effect occurring 30 min after injection. N/OFQ-induced changes in hindlimb weight bearing and von Frey hair withdrawal thresholds were unaffected by cromolyn treatment.
CONCLUSIONS: Intra-articular administration of N/OFQ causes pain sensations in the injected joint and secondary hyperalgesia in the ipsilateral hindpaw. Synovial mast cells do not contribute to these responses although other immunocytes could be involved.

P-51
WITHDRAWN

P-52
A PSYCHOEDUCATION TRIAL FOR PEOPLE WITH CHRONIC STABLE ANGINA
Michael McGillion RN PhD1, Judy Watt-Watson RN PhD1, Bonnie Stevens RN PhD1, Sandra Lefort RN PhD2, Peter Coyte PhD3
1University of Toronto, Toronto, Ontario; 2Memorial University of Newfoundland, St John's, Newfoundland
AIM: Chronic stable angina (CSA) is a cardinal symptom of coronary artery disease (CAD) and has a major negative impact on health-related quality of life (HRQOL) including general health status, and ability to self-manage. Current secondary prevention approaches lack adequate scope to address CSA as a multidimensional persistent pain problem. This trial evaluated the impact of a low-cost 6-week angina psychoeducation program (CASMP) on HRQOL, self-efficacy and resourcefulness to self-manage symptoms, and CSA-related costs.
METHODS: Patients (n=130) were randomized to the CASMP or 3-month wait-list control; 117 completed the study. Measures were taken at baseline and 3 months.
RESULTS: The mean age of participants was 68, 80% were male. Repeated measures ANOVA of change scores yielded significant improvements in treatment group pain functional functioning (F=11.75 [1,114], P=0.008), bodily pain (F=4.56 [1,114], P=0.03), general health (F=10.94 [1,114], P=0.001) and physical-combined scores (F=7.93 [1,114], P=0.006) of the MOS SF-12. Angina frequency (F=5.57 [1,115], P=0.02), angina stability (F=7.37 [1,115], P=0.008) and self-efficacy to manage disease (F=8.45 [1,115], P=0.004) were also significantly improved at 3 months. The CASMP did not decrease or increase cost of illness. Societal costs for angina were determined to be $19,000 per person per annum.
CONCLUSION: These data indicate that the CASMP was effective for improving physical functioning, pain, and symptom stability at 3 months, and provide preatory data for long-term evaluation of the CASMP.

P-53
CORRELATES OF INSOMNIA IN CHRONIC PAIN
Lachlan A McWilliams PhD1, Keith G Wilson, PhD2, Joyce L D’Eon PhD2
1Acadia University, Wolfville, Nova Scotia; 2The Rehabilitation Centre, Ottawa, Ontario
AIM: Several studies have found that patients with chronic pain frequently report sleep difficulties, and that these sleep difficulties are associated with depressed mood and pain severity ratings. However, this body of research has tended to rely on self-reports of nonspecific sleep problems rather than the presence of insomnia as a distinct disorder. Therefore, the primary objectives of this study were to estimate the prevalence and correlates of insomnia in a tertiary chronic pain sample.
METHODS: A total of 296 patients attending a tertiary chronic pain program completed a pain history questionnaire that included a series of items designed to assess the DSM-IV diagnostic criteria for insomnia. Participants also completed the Beck Depression Inventory (BDI), the McGill Pain Questionnaire (MPQ) and the Multidimensional Pain Inventory (MPI).
RESULTS: A majority of patients (60.1%) met diagnostic criteria for insomnia. Those with insomnia reported greater levels of pain on the MPQ and the MPI than those without insomnia. On the MPI, those with insomnia also reported significantly lower levels of control over their lives, greater levels of distress and more punishing responses from their partners. In addition, those with insomnia had significantly higher BDI scores than those without insomnia.
CONCLUSIONS: Consistent with earlier studies that assessed nonspecific complaints of poor sleep, insomnia as defined by formal diagnostic criteria is highly prevalent among chronic pain patients. The correlates of insomnia are also similar to the correlates of sleep difficulties identified in previous research.

P-54
RELATIONSHIPS BETWEEN ATTACHMENT DIMENSIONS AND SELF-REPORTS OF NEGATIVE PAIN-RELATED APPRAISALS
Lachlan A McWilliams PhD1, Michel R Thomas PhD2
1Acadia University, Wolfville, Nova Scotia; 2University of Manitoba, Winnipeg, Manitoba
AIM: Attachment theory has been used as a framework for investigating a range of clinically relevant outcomes. Studies have suggested that insecure attachment is a risk factor for the development of chronic pain and contributes to increased distress and disability among those with chronic pain. The aim of this study was to investigate the hypothesis that those with insecure attachment make more negative pain-related appraisals than those with secure attachment.
METHODS: A large university student sample (N=281) free of chronic pain completed the Experiences in Close Relationships Questionnaire. This measure assesses adult romantic attachment and includes a Model of Self scale and the Pain Vigilance and Awareness Questionnaire. The aim of this study was to estimate the prevalence and correlates of insomnia in a tertiary chronic pain sample.
RESULTS: Multiple regression analyses indicated that the Model of Self attachment dimension was positively associated with each of the negative pain-related appraisal variables. The Model of Others dimension was not significantly associated with the pain-related appraisals.
CONCLUSIONS: The findings supported the hypothesis that those with insecure attachment make more negative pain-related appraisals than those with secure attachment and indicated that the attachment dimension of Model of Self was most salient when considering such appraisals. Further research investigating a statistical model in which negative pain-related appraisals mediate the association between insecure attachment and negative outcomes (eg, increased disability) is warranted.
Abstracts

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OFTEN MISSED TREATABLE COMORBIDITIES IN PATIENTS WITH TREATMENT-RESISTANT CHRONIC PAIN: CASE STUDIES

Janice J Mombriand BA1, M Mombriand MD2
1University of Northern British Columbia, Prince George, British Columbia; 2Lakeshore Medical Clinic, Regina, Saskatchewan

AIM: To present several often missed comorbidities in patients with treatment-resistant chronic pain through case studies in a general medical practice, and to highlight the need for further investigation in these areas. Due to recent advances, some contributing comorbidities in chronic pain are becoming more detectable, leading to management.

METHODS: Sleep apnea, bipolar disorder and occult vitamin deficiencies were investigated in patients with treatment-resistant chronic pain in a general medical practice. Bipolar disorder was measured with the Mood Disorder Questionnaire and detailed current and retrospective interviews. Pernicious anemia is virtually nonexistent in Canada due to folic acid supplementation in flour, leading to undiagnosed cases of leg pain related to vitamin levels. Testing B12 and 25-OH vitamin D levels could be helpful in treatment. Sleep apnea was investigated using in-home nocturnal oximetry. Case studies and possible treatments are presented.

RESULTS: A proportion of cases with treatment-resistant chronic pain showed missed diagnoses of either BP, vitamin deficiencies and/or sleep apnea, and some patients have improved with treatment.

CONCLUSIONS: Bipolar spectrum, vitamin deficiencies and sleep apnea may be over-represented in patients with treatment-resistant chronic pain in general practice. Knowledge of these diagnoses may substantially improve sleep, improved pain and potentially a shorter length of stay without risk of increased confusion while using LAO. However, consideration may need to be given to potential side effects.

P-57

INTERNET HEALTH INFORMATION SEEKING AMONG CHRONIC PAIN PATIENTS: A PILOT STUDY

Katherine Ower MD FRCP1, Patricia Morley-Forster MD FRCP2, Jana Moulin2
1Assistant Professor; 2Associate Professor, Department of Anesthesiology and Perioperative Medicine, St Joseph’s Health Care Centre; University of Western Ontario Interdisciplinary Pain Program; 3Clinical Assistant, Department of Anesthesiology and Perioperative Medicine, University of Western Ontario, London, Ontario

AIM: Use of the Internet as a health care tool is growing. In a 2000 survey of Americans, 41% used Internet resources to answer health questions. Barriers to access include lower income, lower levels of education and older age, which are common among pain clinic patients. We performed this survey to compare the frequency of Internet usage among chronic pain patients with patients in settings such as cancer clinics.

METHODS: Over a three-month period, every first time patient attending a follow-up appointment at our pain clinic was invited to fill out a questionnaire detailing their ability to access the Internet. Patients were asked what sources they used to obtain information about their condition, and ranked their usefulness.

RESULTS: Fifty patients were approached, 45 completed the survey. 69% had Internet access at home. 40% used the Internet to find health information frequently. 54% would like their physician to provide a list of reliable Internet resources. 63% stated that they would use Internet access if provided in the clinic. Barriers to use included cost (18%), physical limitations (36%) and privacy issues (27%). The most frequently used resource was the pain specialist (75%). This resource was rated as very useful by 78% of respondents. In contrast, the Internet was rated as a very useful by 41%.

CONCLUSIONS: Despite accessibility barriers, the Internet is commonly used. Patients are interested in accessing Internet health resources. Physicians should be prepared to discuss information from the Internet, and may assist their patients by providing a list of reliable Internet resources.

References:

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USE OF ULTRASOUND FOR PUDENDAL NERVE BLOCK FOR PATIENT WITH PUDENDAL NEURALGIA

Philip Peng FRCP, Vincent Chan FRCP, Colin McCartney FRCP, Ayman Rofaeel MD
Toronto Western Hospital, University Health Network, University of Toronto, Toronto, Ontario

BACKGROUND AND OBJECTIVES: Pudendal neuralgia is a debilitating condition characterized by chronic perineal pain. Pudendal nerve block is crucial to the diagnosis and provides guidance for treatment. Use of ultrasound (US) for the performance of pudendal nerve block has not been described.

We reported a case series of 3 patients with the ultrasonographic imaging of the pudendal nerve and the surrounding structures.

METHODS: The patient was put in prone position. At the midpoint of a line drawn to join the posterior inferior iliac spine and the greater trochanter, the ultrasound probe was placed in the parasagittal and transverse plane to visualize the ischial spine and pudendal artery (Figure 1). A 22 G needle was inserted directly to the vicinity of pudendal artery. The position of the needle was confirmed with image intensifier. Ultrasound images were taken before and after the injection of local anesthetic and steroid. The patient was then assessed in the postanesthetic care unit (PACU) for the sensory changes to pinprick and cold in the perineal area.

The posterior aspect of thigh was also tested for the possible block of the posterior cutaneous nerve of thigh, a branch of sciatic nerve.

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P-57

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Katherine Ower MD FRCP1, Patricia Morley-Forster MD FRCP2, Jana Moulin2
1Assistant Professor; 2Associate Professor, Department of Anesthesiology and Perioperative Medicine, St Joseph’s Health Care Centre; University of Western Ontario Interdisciplinary Pain Program; 3Clinical Assistant, Department of Anesthesiology and Perioperative Medicine, University of Western Ontario, London, Ontario

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The posterior aspect of thigh was also tested for the possible block of the posterior cutaneous nerve of thigh, a branch of sciatic nerve.
RESULTS: In all patients, the pudendal artery could be easily identified (Figures 2 and 3). However, pudendal nerve could not be reliably identified before the injections in all patients. The pudendal nerve, however, was seen after injection in 2 patients. All patients developed diminished sensation pinprick and cold in PACU following the block.

CONCLUSION: Pudendal nerve block at ischial spine level can be reliably performed under ultrasound guidance.

Figure 1  Figure 2  Figure 3

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CHARACTERIZATION OF MULTIDISCIPLINARY PAIN TREATMENT FACILITIES (MPTF) IN CANADA: STOPPAIN PROJECT STUDY II
Philip Peng FRCP(C), Manon Choiniere PhD2,
Dominique Dion MD3, Chelsea Maddock BSc1, Mary Ong FRCP(C),
Saifee Rashiq FRCP(C), Gregg Tkachuk PhD3,
Howard Intrater FRCP(C), Yves Veillette FRCP(C), Mary Lynch FRCP(C),
Sandra Lefort PhD3, STOPPAIN Investigators Group
1Wasser Pain Management Centre, Toronto, Ontario; 2Montreal Heart Institute, Pain Treatment Centre, Montreal, Quebec;
3Vancouver St Paul’s Hospital, Vancouver, British Columbia;
4Multidisciplinary Pain Centre, Edmonton Health Science Centre, Edmonton, Alberta; 6Chronic Pain Centre, Saskatoon Health Region, Saskatoon, Saskatchewan; 7Health Science Centre Pain Clinic, Winnipeg, Manitoba; 8Clinique Any-du-douleur, Montréal, Québec; 9Pain Management Unit, Queen Elizabeth II Health Sciences Centre, Halifax, Nova Scotia; 10School of Nursing, Memorial University, St John’s, Newfoundland
OBJECTIVE: To describe the services currently offered in public and private MPTF in Canada.

METHOD: We define a MPTF as a clinic that (1) advertises specialized multidisciplinary services for the diagnosis and management of patients with chronic pain and (2) has a minimum of 3 different health care disciplines (including at least one medical specialty) whose services are available and integrated within the facility. The search method included approaching all hospital administrators in Canada, the Insurance Bureau of Canada, the Workman and Safety Board of Canada, the Council of Health Science and Social Work Deans, the Academy of Canadian Physiatry, the Canadian Pain Society, the Chronic Pain Society of Canada, the Pain Society of Quebec, the Canadian Pain Network, the National Pain Centre, and the American Pain Society. The MPTFs identified were categorized into the following four groups: (i) pain clinics (i.e., those that advertise for the management of patients with chronic pain only), (ii) pain centres (i.e., those that offer specialized services within a hospital or a university setting), (iii) pain research centres (i.e., those that are primarily engaged in research, teaching, and training), and (iv) pain management units (i.e., those that provide a comprehensive pain management program). The survey methods included questionnaires and telephone interviews. The survey was conducted from January 2004 to March 2005.

RESULTS: A total of 25 MPTFs were identified: 16 pain clinics, 7 pain centres, and 2 pain research centres. The average number of patients seen per year was 250 (range: 50–700). The average number of staff members was 10 (range: 4–30). The average number of procedures performed per year was 1,500 (range: 100–4,000). The average number of patients seen per year was 250 (range: 50–700). The average number of staff members was 10 (range: 4–30). The average number of procedures performed per year was 1,500 (range: 100–4,000).

CONCLUSION: There is a significant maldistribution of MPTF within different provinces with most of them concentrated in downtown areas and more than 50% of MPTF in Canada are in Ontario.

P-60
EVALUATION OF AN INTERFACULTY PAIN CURRICULUM FOR STUDENTS FROM SIX HEALTH SCIENCE FACULTIES
Lalitha Raman-Wilms BSc(Phm) PharmD FCSPH,
Judith Hunter BSc(PT) MSc PhD, Judy Watt-Watson RN PhD,
Lynn Cockburn MEd OT, Glenn Regehr PhD,
Rosemary Waterston MEd, Leila Lax BA BSc AAM MEd,
Larry Librach MD CCP FCSP, Peter Pennefather PhD
University of Toronto Centre for the Study of Pain (UTCSP),
Toronto, Ontario
AIM: Effective pain management requires health professionals to understand pain assessment and management and to have a commitment to work together. The UTCSP organized an Interfaculty Pain Curriculum Committee to develop, implement and evaluate an integrated pain curriculum for students from six faculties/departments. The evolving model has been implemented over four years.

METHODS: Students from six faculties/departments participated in an integrated 20-hour pain curriculum in March 2002 (n=540), 2003 (n=565), 2004 (n=698) and 2005 (n=751). Learning occurred through presentations, patient panel, small group work, and use of standardized patients or cases. Group work was facilitated by clinicians representing all participating professions (n=63 2002, n=78 2003, n=84 2004 and 2005). Students were assessed in a pre-post-test design on knowledge and beliefs about pain and their understanding of interdisciplinary roles. A paired Student’s t-test was used to compare pre- and post-test student scores. Daily surveys on process and content were also completed.

RESULTS: Each year from 2002 to 2005 the change in correct scores from the pre-test to the post-test was between 15% to 17%. The difference in the mean each year ranged from 5.9 to 6.5 (P<0.05). Most responders (85% to 95%) agreed or strongly agreed that the interdisciplinary pain curriculum was relevant and informative.

CONCLUSION: The interfaculty pain curriculum was effective in increasing students’ knowledge of pain assessment and management and their awareness of related health professional roles in all three years. This program will be offered again in March 2006.

Acknowledgments: Supported by the University of Toronto Centre for the study of Pain, Council of Health Science and Social Work Deans, Janssen-Ortho Inc, Merck Frost Inc, Purdue Pharma Inc and Pfizer.

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DEMOGRAPHIC AND HEALTH CORRELATES OF CHRONIC PAIN IN THE CANADIAN NATIONAL PUBLIC HEALTH SURVEY (NPHS)
Sailufdin RASMOO MB Msc(Epid) FRCP(C), Bruce D DICK PhD Cpsych
Multidisciplinary Pain Centre, Department of Anesthesiology and Pain Medicine, University of Alberta, Edmonton, Alberta
BACKGROUND: Existing epidemiological studies of chronic pain in Canada are of limited scope. We determined the strengths of traditionally recognized and other plausible associations with chronic pain in a large population-based sample.

METHOD: The NPHS asks Canadians about demographics, health status, health behaviour, attitudes to health and health care utilization. It includes questions about the presence of usual pain/discomfort, its severity and the degree to which it interferes with life. We constructed logistic regression models to estimate the independent risks for daily pain attributable to each of a series of known and plausible risk factors using the responses of adult 1996 NPHS respondents who were asked the full range of health questions (n=70,715).

RESULTS: 14% reported usual pain or discomfort. Associations were found between pain and increasing age, female gender, low income, less education, social isolation, being overweight, daily smoking, depression, mental distress and physical inactivity. Several categories of chronic medical conditions were also associated with pain, including conditions such as COPD and thyroid disease that are not traditionally thought of as painful.

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Most of these associations grow stronger as the severity of and interference from pain increases.

METHOD: The observation that so many nonmedical factors are independently correlated with chronic pain further calls into question the power of the biomedical model to explain and treat it. The finding of increased risks of pain amongst those with chronic medical illnesses argues for the inclusion of the biopsychosocial pain management model as part of the care for these conditions.

P-62 HEALTH CARE RESOURCE UTILIZATION (HCRU) BY PERSONS WITH CHRONIC PAIN: RESULTS FROM A LARGE, CANADIAN POPULATION HEALTH SURVEY

Saifudin RASHIQ MB Msc(Epid) FRCP1, Bruce D DICK PhD CPsych1, Paul Taenzer PhD CPsych2, Donald Schopflocher PhD3

1Multidisciplinary Pain Centre, Department of Anesthesiology and Pain Medicine, University of Alberta, Edmonton; 2Calgary Chronic Pain Centre, Calgary; 3Health Surveillance, Alberta Health and Wellness, Edmonton, Alberta

BACKGROUND: Persons with chronic pain are known to access health care resources at a greater rate than those without pain. Is this an intrinsic property of the chronic pain experience or is chronic pain merely a marker for another factor or factors that promote greater HCRU?

METHOD: We extracted self-reported health resource use data from adult 1996 National Public Health Survey Respondents who were asked the full set of health-related questions (N=70,715).

RESULTS: Odds ratios for HCRU by pain severity category compared with no pain are shown.

<table>
<thead>
<tr>
<th>Pain severity</th>
<th>Odds ratio</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any</td>
<td>1.289</td>
<td>1.211 to 1.374</td>
</tr>
<tr>
<td>Mild</td>
<td>1.109</td>
<td>0.996 to 1.234</td>
</tr>
<tr>
<td>Moderate</td>
<td>1.254</td>
<td>1.160 to 1.354</td>
</tr>
<tr>
<td>Severe</td>
<td>1.280</td>
<td>1.126 to 1.454</td>
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</tbody>
</table>

P-64 QT INTERVAL AND T-WAVE DISPERSION ASSOCIATED WITH CHRONIC METHADONE THERAPY

Ayman Rafaeel MD, Philip Peng FRCP, Ihab Louis MD, Lilian Iskander BSc

Wasser Pain Management Centre, Mount Sinai Hospital, University of Toronto, Toronto, Ontario

BACKGROUND: Torsades de pointes has been reported in patients receiving high doses of methadone. It is believed that a prolonged QT interval leads to the development of torsades. Current literature also suggests that widen T-wave dispersion correlate better with the risk of torsades. The objective of this study is to determine the prevalence of QT prolongation and transmural dispersion of repolarization (TDR) across the myocardial wall as measured by T wave dispersion in chronic pain patients receiving either chronic methadone or opioid therapy.

METHODS: It is a prospective study in which 200 chronic pain outpatients currently taking methadone (group M) and other opioids (control group C) were recruited. For all patients, an ECG before and 2 months after the start of the opioid therapy were collected. The measured corrected QT interval (QTc) was estimated as QT Interval (msec) divided by the square root of the preceding R-R interval (sec). A QTc ≥500 msec was considered to be prolonged. TDR was measured in leads II and V5 at the time interval between the peak and the end of the T wave (Tp-e). Other collected variables included age, sex and the use of concomitant medications.

RESULTS: Preliminary results of the 2 months follow up ECG are presented here. There is a significant prolongation of Tp-e V5 in group M compared with group C (P<0.05).

CONCLUSION: In monitoring patient on chronic methadone therapy, both QT interval and TDR should be used as a marker of increase risk for torsades.
Patient demographics and ECG findings. Data are expressed as mean ± SD

<table>
<thead>
<tr>
<th></th>
<th>Control (opioid) group</th>
<th>Methadone group</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age (y)</strong></td>
<td>50.7±14.5</td>
<td>55.3±11.8</td>
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<tr>
<td><strong>Gender (M/F)</strong></td>
<td>4/8</td>
<td>3/9</td>
</tr>
<tr>
<td><strong>Daily dose (mg)</strong></td>
<td>142±121</td>
<td>76±57</td>
</tr>
<tr>
<td><strong>QTC (ms)</strong></td>
<td>406±29</td>
<td>425±22</td>
</tr>
<tr>
<td><strong>Tp-e II (ms)</strong></td>
<td>74.5±12.9</td>
<td>80±17.1</td>
</tr>
<tr>
<td><strong>Tpe-V5 (ms)</strong></td>
<td>69.6±10.1</td>
<td>83±18.7*</td>
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</table>

*P<0.05

P-65  
**COST-EFFECTIVENESS OF PREGABALIN FOR THE MANAGEMENT OF NEUROPATHIC PAIN (NeP) ASSOCIATED WITH POSTHERPETIC NEURALGIA (PHN) IN CANADA**

Catherine Rousseau MSc1, Allan Gordon MD FRCP1, Montserrat Vara-Llonch MD MPH2, Ellen Dukes PhD3, Jean-Eric Tarride PhD4

1Pfizer Canada Inc, Kirkland, Quebec; 2Mount Sinai Hospital, Toronto, Ontario; 3Policy Analysis Inc (PAI), Brookline, Massachusetts; 4Pfizer Global Pharmaceuticals, New York, New York; 2Formerly Pfizer Canada Inc, Kirkland, Quebec; Since March 2005, McMaster University, Hamilton, Ontario

**AIM:** Currently many Canadian patients are suffering from NeP after an episode of herpes zoster. The objective is to examine the cost-effectiveness of pregabalin, the first approved drug for the management of NeP associated with PHN.

**METHODS:** The analysis uses a previously published stochastic simulation Markov model to estimate the impact of pregabalin (150-600 mg) versus gabapentin (900-3600 mg). The model simulates treatment strategies on a hypothetical cohort of 1000 patients with PHN and assesses their pain experience over time on a daily basis. The estimates of health benefits were based on the results of two, randomized, clinical trials of pregabalin and gabapentin, respectively. Utility values and resource utilization were estimated from 126 Canadian patients and 80 Canadian physicians, respectively. The analyses are expressed in terms of incremental cost per day with no or mild pain and in terms of incremental cost per quality-adjusted life-year (QALY) gained.

**RESULTS:** Treatment with pregabalin (compared with gabapentin) results in 6 additional days with no or mild pain and an additional 0.0364 QALYs gained for the 12-week period. The incremental average medical savings of treating with pregabalin are estimated to be $62.39 per patient ($95% CI first analysis: dominant to $0 per day with no or mild pain; 95% CI second analysis: dominant to $158/QALY). Sensitivity analyses are supportive of findings from base case analyses.

**CONCLUSION:** Compared with gabapentin, pregabalin therapy is cost-saving in the management of NeP associated with PHN.

P-66  
**DEVELOPMENT AND VALIDATION OF A MEASURE OF PERCEIVED VICTIMIZATION IN THE EXPERIENCE OF CHRONIC PAIN AND DISABILITY; PRELIMINARY ANALYSIS**

André Savard MPS1, Michael JL Sullivan PhD1, Simon Laliberté PhD2, Richard Catchlove MD1

1Département de psychologie, Université de Montréal; 2Programme des lésions musculo-squelettiques, Centre de réadaptation Lucie-Bruneauc

**AIM:** To develop a reliable self-report measure of victimization for individuals with chronic pain and disability and to explore the underlying structure of the instrument.

**METHODS:** A 12-item self-report measure, the Injury Experiences Questionnaire (IEQ), has been developed and administered to 20 individuals who have sustained injuries that have resulted in a chronic pain condition. The item content was randomly derived based on several sources of information: philosophical and social theory related to the concept of injustice, clinical practice in the treatment of individuals with chronic pain conditions, and focus group discussions of clinicians’ descriptions of the thought processes associated with perceived victimization. Preliminary analyses were performed to assess internal consistency reliability and explore the underlying structure of the IEQ.

**RESULTS:** Global Cronbach’s alpha met the criteria for research applications (α=0.83). Principal component analysis yielded a 4-component solution after rotation. Seven items loaded mainly on the first component, whereas the remaining 5 were distributed among three other components. These items could be removed or their formulation reworked, as they do not appear to be related to the principal component. Moreover, three of these items showed nonsignificant correlation to total score, indicating that they might not be related to the main construct and therefore could be deleted.

**CONCLUSIONS:** Results suggest that perceived victimization can be measured using self-report and conceptualized as a multidimensional construct.

P-67  
**SUBGROUPS OF PATIENTS AT DIFFERENTIAL RISK FOR DYSFUNCTION SECONDARY TO CHRONIC PAIN: EVIDENCE OF PERSISTING DYSFUNCTION?**

A Shapiro PhD, H Getty PhD, Teasdell MD, P Morley-Forster MD, R Horrill K MSc, K Sequiera MD

St Joseph’s Health Care, London, Ontario

A small percentage of patients with persistent pain, those most disabled and distressed, account for an unusually large percentage of costs (medical, disability) associated with pain. Our previous research with outpatients from rehabilitation and anesthesia clinics identified, on the basis of personality traits, three distinct patient subgroups at risk for dysfunction secondary to pain. These clusters included an “obsessive-perfectionistic” cluster 1, an “avoidant-pain-anxious” cluster 2 and a “low-scoring” (on measures of personality) cluster 3. Cluster 1 and 2 patients reported greater dysfunction secondary to pain than Cluster 3 patients. The present study examined whether patients originally classified as members of greatest risk subgroups continued to show greatest dysfunction at one-year follow-up. One hundred twenty-five participants (66% female, mean age 44, mean education 13.5 years, mean duration of pain 6.65 years) from our initial study of coping with pain mailed self-report data on pain, personality and adjustment one year following initial contact. Preliminary results suggest that members of clusters 1 and 2 continued to show poorer adjustment than members of cluster 3 at one-year follow-up. While more research is needed, results highlight the need to assess and intervene with patients at greatest risk for dysfunction due to pain.

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**Information:** Contact Allan.Shapiro@sjhc.london.on.ca, telephone 519-646-6000 ext 61047 or 519-439-8861

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**NIGHT PAIN HAS AN ADVERSE EFFECT ON WELL-BEING IN RHEUMATOID ARTHRITIS**

Y Shir1, M Ware2, D Da Costa1, M Fitzcharles1,2

1Division of Rheumatology, McGill University; 2McGill Pain Centre, McGill University; 3Department of Medicine, McGill University, Montreal, Quebec

Night joint pain in patients with rheumatoid arthritis (RA) may cause disturbed sleep. Poor sleep may in turn impact on global health and well-being. Current measures of disease status in RA do not include night pain as a variable. The purpose of this study was to examine factors associated with self-report of night pain in patients with RA.
Sex differences in pain perception are well established. We previously demonstrated with rats that sex hormones are responsible for this divergence (Gaumond, 2005). Furthermore, many chronic pain conditions are more prevalent in women than in men and endogenous pain inhibitory mechanisms seem to be implicated.

OBJECTIVES: To verify the role of opioids and sex hormones in pain inhibitory mechanisms.

METHODS: Formalin tests have been done using a nonselective opioid antagonist (naloxone, 0.5 to 10 mg/kg ip) on healthy and gonadectomized Sprague-Dawley rats of both sexes. Pain behaviours were measured for 60 min. The interphase of the formalin test represents an active endogenous pain inhibitory mechanism. We observed that the interphase was partially blocked in gonadectomized males and females with every dose.

CONCLUSION: Opioids are implicated in this pain inhibitory mechanism and regulated by sex hormones concentration. Testosterone seems to inhibit the opioid mechanism during the interphase and could activate other pain inhibitory mechanism. Moreover estrogen and/or progesterone could modulate the expression of the opioid receptors (mu, kappa or delta) implicated in the interphase and switch off another mechanism. A better characterisation of the difference between male and female endogenous pain inhibitory mechanisms could allow to understand the greater prevalence of some chronic pain conditions in women.

References:
mild pain and an additional 0.0047 QALYs. Therefore, pregabalin was the dominant strategy as it was less expensive and more effective than gabapentin (95% CI first analytic dominant to $13 per day with no or mild pain; 95% CI second analysis: dominant to $15,708 per QALY).

Conclusion: Pregabalin therapy for patients with NeP associated with DPN is cost-saving (saves money and more effective) when compared with gabapentin.

P-72
CATASTROPHIZING AND FEAR OF MOVEMENT AS DIFFERENTIAL PREDICTORS OF PAIN BEHAVIOURS AND AVOIDANCE
Pascal Thibault BSc, Simon Racicot, Michael JL Sullivan PhD
Department of Psychology, Université du Québec à Montréal, Université de Montréal, Montréal, Québec

Objective: This study was designed to assess whether pain catastrophizing and fear of movement are associated with different types of pain behaviour. Theoretical and empirical research on these variables suggest that catastrophizing may be associated more with communicative behaviour, while fear of movement may be associated more with protective and avoidant behaviour.

Methods: Sixty-four pain patients (29 men and 35 women) with a mean age of 45.2 years were asked to complete the Pain Catastrophising Scale (PCS, Sullivan et al, 1995) and the Tampa Scale of Kinesiophobia (TSK, Kori et al, 1990) and to participate in a protocol designed to elicit pain behaviour. The protocol included two conditions, one in which participants reported their level of pain while performing the exact same task. Video records were independently coded by two assistants trained to code pain behaviour.

Results: Correlations were calculated between scores on PCS, TSK, and the different pain behaviour. Results showed that catastrophizing is significantly associated with communicative, protective and avoiding behaviour, but only in the condition where participants reported their level of pain. On the other hand, fear of movement is associated uniquely with protective and avoidant behaviour, in both conditions.

Conclusion: The pattern of findings suggests that for high catastrophizers, pain behaviour may be triggered by the demand to focus on pain, while high level of fear of movement led to constant active and passive protective behaviour. Theoretical implications of the findings are discussed.

P-73
PERSONALITY SCORES THAT RELATE TO FREQUENT MUSCLE PAIN IN UNIVERSITY STUDENTS
Michael R Thomas PhD, Erin Warwick, Julia Berestiansky BA, Ranjan Roy ADSW
Department of Psychology University of Manitoba, Winnipeg, Manitoba

Aim of Investigation: Compared muscle pain and personality features as well as coping scores and disability level in university men and women.

Methods: Participants were of 180 young adult men and 180 young adult women who reported their frequency of muscle pain. These participants were divided into four groups 1) high pain, males, 2) high pain, females, 3) low pain, males and 4) low pain, females. All participants filled out a questionnaire that included demographic questions on frequency, severity and level of disability related to their muscle pain and a number of personality features such as the Optimism/Pessimism Scale, the Life Orientation Scale, Beck Depression Index, Beck Anxiety Index, BEM, Daily Hassles Scale and the Pain Coping Scale. Participants were recruited from first year university students.

Results: The responses for the four groups were compared statistically. There were significant differences in pain behaviour across the four groups. High pain male participants reported less severe disability ratings than the other groups. In comparison the high pain female participants reported highest pain severity and frequency ratings. Low Coping Scores were significantly correlated with sex, depression scores and gender role. Other significant differences are reported between the four groups.

Conclusion: Muscle pain is highly correlated with fibromyalgia in pain literature. Possible personality correlates with early detection of fibromyalgia vulnerability is discussed. Implications regarding disability and coping are also discussed.

P-74
CHRONIC PAIN, KINESOPHOBIA AND DEPRESSION: THE MEDIATING ROLE OF CATASTROPHIZING
Gregg Tkachuk PhD1, Phil Carverhill PhD, Kate Fast BSCPT, Peggy Olson OT Reg, Anna Power-Horlick RN, Loren Regier BSP, Shannon Sigfusson BSCPT, Sherri Wagenhoffer BSCPT
Chronic Pain Centre, Saskatoon Health Region, Saskatoon, Saskatchewan

The Fear Avoidance Model proposes that a tendency toward catastrophically misinterpreting the implications of pain results in increased fear of movement/reinjury, disability and depression. Conversely, a propensity toward noncatastrophic cognition is assumed to result in better adaptation to pain. This study attempted to determine whether pain catastrophizing mediated the relationship between pain severity, kinesiophobia, and depression in a sample of 49 individuals (75% women, mean age of 43, 73% musculoskeletal pain) who completed the Multidimensional Pain Inventory (MPI), Pain Catastrophizing Scale (PCS), Tampa Scale of Kinesiophobia (TSK) and Beck Depression Inventory-II (BDI-II) upon admission to a chronic pain treatment program. Path analyses revealed that pain catastrophizing fully mediated the association between pain severity (MPI) and fear of movement/reinjury (TSK) (Z=2.72, P=0.007). Pain severity, catastrophizing and gender accounted for 42% of the variance in fear of movement/reinjury. Pain catastrophizing was also found to partially mediate the relationship between pain and depression (R²=0.45, Z=2.47, P=0.014). Fear of movement/reinjury did not predict depression, after controlling for pain severity and catastrophizing. These results provide partial support for the Fear Avoidance Model and suggest that the reduction of pain catastrophizing is a key treatment target for improving overall adjustment to chronic pain.

P-75
A MEDIATIONAL MODEL OF PAIN-RELATED DEPRESSION IN MOTOR VEHICLE ACCIDENT SURVIVORS
Gregg Tkachuk PhD1, Bruce McMurtry PhD2, John Marshall MScPT2, Annalyn Mercado PhD2
1Chronic Pain Centre, 2FIT for Active Living Program, Saskatoon, Saskatchewan

Previous research has shown that perceptions of pain-related interference and life control individually mediate the relationship between pain and depression in chronic pain patients. This study attempted to replicate and extend this research by proposing and testing a path model predicting depression from pain intensity, pain-related interference and life control in a sample of 97 motor vehicle accident survivors (61% women, mean age 40 yrs, 54% whiplash-associated disorder diagnosis) who completed the Multidimensional Pain Inventory, McGill Pain Questionnaire, and Beck Depression Inventory-II upon admission to a tertiary rehabilitation program. Path analyses and Sobel tests revealed that pain-related interference (R²=0.30, Z=2.52, P=0.01) and life control (R²=0.37, Z=2.83, P=0.005) partially mediated the relationship between pain and depression and further that life control partially mediated the relationship between pain-related interference and depression, while controlling for pain (R²=0.42, Z=2.36, P=0.02). Thus, the impact of pain intensity was reduced, but not eliminated, by these cognitive mediators. The results provide partial support for the proposed directional model and suggest that depression may be reduced by treatments that not only target pain-related disability and perceptions of control, but also adequate pain relief.
P-76
PAIN REPORTING IN RHEUMATOID ARTHRITIS MAY BE A CHARACTERISTIC OF INDIVIDUAL PAIN SENSIBILITY RATHER THAN DISEASE STATUS
MA Wang1,2, M-A Fitzcharles1,2,3, D Da Costa2, Y Shi2
1Division of Rheumatology, McGill University; 2McGill Pain Centre, McGill University; 3Department of Medicine, McGill University, Montreal, Quebec

Patients’ report of pain intensity (PTP) as recorded on a visual analogue scale is an important component of measurement of disease status in rheumatoid arthritis (RA). It is possible that PTP may be more closely aligned with generalized pain hypersensibility rather than with disease activity. The purpose of this study was to explore factors correlating with PTP in patients with RA.

A cross-sectional study of consecutively attending RA patients was conducted. The following variables were measured: duration of disease, age, joint swelling (JS), joint tenderness (JT) (68 joint count), patient global assessment (PTG), health assessment questionnaire (HAQ), ESR, DMARD and steroid use. Additional pain measures were: PTP, tender point count (TP) and the McGill pain questionnaire (MPQ). Depression and anxiety were measured on the relevant subscales of the AIMS questionnaire.

Sixty RA patients (54 female), mean age ± SD 57±13 yrs and positive rheumatoid factor 42 (70%) were studied. RA disease characteristics were as follows: disease duration 15±13 yrs, JS 8±6, HAQ 1.1±0.74, currently on DMARDS 54 (93%), use of >3 DMARDS 23 (39%), and on steroids 20 (33%). PTP was significantly correlated with JT (P<0.001), PTG (P<0.001), TP (P<0.01), HAQ (P<0.001), and the total MPQ (P<0.001), as well as the evaluative, sensory and affective subcategories of the MPQ, but not with duration of disease, age, JS, ESR, DMARD or steroid use, or the depression and anxiety subscales of the AIMS.

The pain reported by patients with RA might, therefore, more closely represent a specific characteristic of pain sensibility as unique to an individual patient, rather than being a reflection of RA disease or psychological status. Further study should address objective measures of pain to better clarify the weight given to pain report in global assessment of RA status.

P-77
NEUROPATHIC PAIN: A SYSTEMATIC REVIEW OF ORAL ANALGESICS
CPN Watson, Mary Chipman
University of Toronto, Toronto, Ontario

AIM: A systematic review of oral analgesics for neuropathic pain.

METHODS: This was carried out of randomized controlled trials (RCTs) in neuropathic pain (NP) in English from 1966 to 2005. These were subjected to the quality criteria of Jadad.

RESULTS: Fifty-two RCTs were identified of antidepressants, anticonvulsants and opioids in neuropathic pain. Five of the studies were comparative trials of different analgesics and 6 compared different antidepressants. Of all trials, 27 were of antidepressants, 16 of anticonvulsants and 9 of opioids. A total of 40 of 52 of the trials were carried out in postherpetic neuralgia, painful diabetic neuropathy or in both disorders. Forty-seven of the 52 were trials of different analgesics and 27 were of antidepressants, 16 of anticonvulsants and 9 of opioids. A total of 40 of 52 of the trials were carried out in postherpetic neuralgia, painful diabetic neuropathy or in both disorders. Forty-seven of the 52 were trials of different analgesics and 6 compared different antidepressants. Of all trials, 27 were of antidepressants, 16 of anticonvulsants and 9 of opioids. A total of 40 of 52 of the trials were carried out in postherpetic neuralgia, painful diabetic neuropathy or in both disorders.

CONCLUSIONS: Good quality RCTs support the use of the older antidepressants, the anticonvulsants gabapentin and pregabalin, and several opioids in neuropathic pain. Clinical meaningfulness data suggest a modest effect at best. Because of poor external validity it is probable that these drugs work less well in clinical practice. There is little comparative data allowing a determination of relative efficacy or subgroup responsiveness.
P-80
DEFINING DISABLING CHRONIC PAIN

Al Dewar1, J Lander2, M White3, K Prkachin4
1School of Nursing, 2School of Nursing, University of Alberta, Edmonton, Alberta; 3Canadian Institute for the Relief of Pain and Disability; 4Department of Psychology University of Northern British Columbia, Prince George, British Columbia

Defining disabling chronic pain is a challenge. Many aspects of chronic pain have been discussed in literature but there are few descriptions of the most disabling aspects of chronic pain. Eighteen individuals aged 40 to 65 who had chronic pain from various causes were interviewed. Most participants had been in pain for more than 10 years, with a time range of 4 to 30 years. The purpose of the research was to describe the aspects of chronic pain that participants found most troublesome and outline how they used the health care system. Data were also collected from five health care professionals as well as four family members. Transcribed interviews were analyzed by qualitative methods. For the participants, the process of seeking relief was perceived as an ongoing series of challenges. For participants there are many dilemmas, and managing chronic pain is a series of balancing acts. For example, the benefits of medications had to be balanced against the side effects, exercise was helpful but exacerbated symptoms, receiving a medical diagnosis provided knowledge of a health problem but meant being labelled. Accepting that the pain was chronic meant relinquishing the search to be cured. Searching for a cure was expensive and time consuming, and chronic pain had direct and indirect costs. Strategies varied but most participants made substantial life changes to accommodate their pain. Some health professionals suggested that traditional approaches that push individuals towards overdoing recovery may not be as helpful as a supportive empowering approach.

P-81
PAIN PREVALENCE IN SCHOOLCHILDREN

Adam van Dijk BSc1, Patricia A McGrath PhD2,3, William Pickett PhD1, Elizabeth Van Den Kerkhof RN DrPH1,4
1Department of Community Health and Epidemiology, Queen’s University, Kingston; 2Divisional Center of Pain Management and Pain Research, Hospital for Sick Children; 3Department of Anesthesiology, University of Toronto, Toronto; 4Department of Anesthesiology, and School of Nursing, Queen’s University, Kingston, Ontario

BACKGROUND: Despite significant progress in obtaining accurate estimates of the prevalence and incidence of chronic pain in adults, relatively little is known about pediatric pain in North America.

OBJECTIVE: We conducted a population-based study to assess pain prevalence in a sample of 9- to 13-year-old school children in Eastern Ontario.

METHODS: Children completed the Pain Experience Interview – Short Form to provide data on the lifetime and point prevalence of different types of acute and chronic pain. The questionnaire was completed in class or at home.

RESULTS: A majority of the 495 children in the study (96.4%) had experienced acute pain during the previous month. Headache (77.5%) was the most frequently reported. The lifetime prevalence for some acute pains was significantly higher for boys than girls (P<0.05). Fifty-seven per cent of the children reported at least one recurrent pain, while 6.3% were identified as having acute pain. Most participants had or currently having chronic pain.

CONCLUSIONS: We self-administered school surveys are an efficient means of capturing epidemiological data on pain in children. The prevalence estimates obtained in this North American cohort are comparable with population-based estimates of specific pain in children in international studies (ie, headache). Pain related to minor childhood events is common; however, a large portion of children also report frequent and disabling pain. The Pain Experience Interview – Short Form can be used to assess the level of self-reported pain in 9- to 13-year-olds, and may be useful as a screening tool to identify children at risk of developing or maintaining chronic pain conditions.

P-82
PROLOTHERAPY (REGENERATIVE INJECTION THERAPY) IN CHRONIC PAIN – A REVIEW OF LITERATURE AND CLINICAL EXPERIENCE

Robert Banner MD CCPF FRCP
University of Western Ontario Multidisciplinary Pain Clinic, Department of Anesthesia and Perioperative Medicine, London, Ontario

AIM: The use of prolotherapy or regenerative injection therapy to treat chronic musculoskeletal pain related to connective tissue pathology is largely unknown in conventional medicine, but is used by a small group of allopathic and osteopathic physicians. It is important for those who look to treat pain to be aware of alternative or complementary therapies. Such treatments require scrutiny and scientific evaluation before being accepted and recommended for patients with chronic musculoskeletal pain.

METHODS: The history of prolotherapy, proposed mechanism(s) of action, contraindications, indications, treatment protocols, solutions and clinical trials evidence will be reviewed. Video of patient treatments will be observed.

CONCLUSIONS: A “complementary therapy” such as prolotherapy may be useful for some chronic pain patients. Future research should consider collection of outcomes after standardized treatment to develop criteria for who would be appropriate for this therapy. Such exploratory cohort studies would then require further testing to determine the validity of these findings. What factors indicate a high chance of success with prolotherapy and what is the most appropriate treatment approach could be answered with a mixed model design.

P-83
LONG-TERM FOLLOW-UP OF CHRONIC OPIOID THERAPY IN CHRONIC NON-CANCER PAIN

C Peter N Watson, Judith H Watt-Watson, Mary Chipman
University of Toronto, Toronto, Ontario

AIM: The use of opioids for chronic non-cancer pain (CNCP) remains somewhat controversial. Despite a number of randomized controlled trials showing efficacy and safety in the short-term, issues such as tolerance, the risk of psychological dependency, quality of life and long-term safety remain concerns. This study reports the long-term results of treating CNCP with these drugs.

METHODS: Basic demographic data were obtained from 145 patients with CNCP treated with opioids. Most of the data is derived from a detailed questionnaire administered to a group of 78 patients actively followed about every 3 months. Pain severity (0-10), quality of life (Brief Pain Inventory), adverse effects, mood (Hospital Anxiety and Depression Scale), drug(s) and doses were documented.

RESULTS: Most patients continued to obtain significant pain relief, had tolerable side effects, stable mood and many had an improved quality of life for a median of 8 years (range 1-26 years) follow-up with a median 8 years. Major problems with psychological dependency, tolerance and physical dependency were not apparent.

CONCLUSIONS: Few studies of this nature are available particularly in recent years and these data are sorely needed to support the increasing number of courageous clinicians who are prescribing these drugs for these patients. Chronic opioid therapy is safe and effective over the long-term.