implicate adaptations in the immune system in the increased sensitivity, to dangerous and non-dangerous stimuli, that characterizes chronic pain. He will provide an account of the intimate connection between immune cells and nerve cells in the spinal cord and brain and an update on the mechanism by which sensory stimuli are transmitted to the brain and processed by multiple neural loops under immune-system regulation. He will make clear recommendations for the physiotherapy management of people in pain including appraisal of the evidence associated with treatments that are based on this research.

With regard to cognitive and behavioural factors, Dr. David Walton (Canada) will use evidence from cross sectional and longitudinal clinical studies to suggest that fear, although relevant to chronic pain-related disability, is probably not the key variable we thought it was even just five years ago. He will present a range of new psychological constructs that might mediate the relationship between pain and disability, and mediate the risk of chronic pain and disability after an acute episode. He will argue that the evidence clearly shows that catastrophic thought processes associated with pain increase risk, and that novel cognitive factors, such as the sense of victimization and trauma-specific distress, appear to also be involved. He will also suggest however, that important mechanistic questions remain unanswered: is chronic pain simply a condition of the weak-willed or ill-informed? Are there other mechanisms that might better explain risk of chronic problems? Are we confident that catastrophizing causes chronic pain, or might chronic pain cause catastrophising? Finally, Dr Walton will present the current evidence for treatments that are based on this research. The session will emphasise the clear articulation of implications of these developments for physiotherapy practice and research.

Implications/conclusions: This symposium will be positioned within the context of chronic pain representing the worldś most burdensome health issue and the potentially central role that physiotherapists can play in reducing this immense burden. By focussing on the most recent and important developments, this symposium will give attendants an account of current concepts in chronic pain, in a way that should influence their clinical reasoning, and thereby their clinical practice, immediately.

Keywords: Brain; Neuro-immune; Biopsychosocial

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Focused Symposia
Number: FS-20
Saturday 2 May 2015 08:30
Hall 406

EXERCISE THERAPY FOR CHRONIC PAIN: RETRAINING MIND & BRAIN

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Learning objectives: 1. Evaluate and modify ongoing current exercise paradigms salient to the patient with a chronic pain condition; 2. Apply evidence-based guidelines for chronic pain management to physical therapy practice; 3. Devise an effective exercise program to remediate pain that engages the patient and considers cognitive/affective/emotive aspects of the pain experience.

Description: Chronic pain remains a challenging issue for clinicians and researchers. Over the past decades, scientific understanding of chronic pain has increased substantially. It has now become clear that chronic pain represents a biopsychosocial problem, with maladaptive changes in the central nervous system, musculoskeletal system and at the cognitive level. Exercise interventions are commonly recommended and used for the management of individuals with chronic pain conditions. Exercise is an effective treatment for various chronic pain disorders, including fibromyalgia, chronic neck pain, osteoarthritis, rheumatoid arthritis and chronic low back pain. Although the clinical benefits of exercise therapy in these populations are well established (i.e. evidence based), clinicians struggle applying science in daily physical therapy practice.

At the cognitive level, pain catastrophizing and fear-avoidance beliefs are often present in chronic pain patients, and can be addressed by applying cognitive exercise therapy (e.g. graded exercise therapy, graded activity and graded exposure in vivo). Excessively elevated fear-avoidance beliefs, both in patients and treating physical therapists, have

a negative impact on chronic pain outcomes as they delay recovery and increase disability. Reductions in maladaptive pain cognitions, especially pain catastrophising and fear-avoidance beliefs, as well as increased pain self-efficacy beliefs, have been established as key contributors to positive outcome in exercise therapy programs for chronic pain. Such maladaptive cognitive factors are typically addressed in comprehensive exercise therapy programs that include not only exercise but also pain neuroscience education, stress management, and activity self-management. These include fear-avoidance beliefs- and catastrophizing-reducing information, pain and fear desensitizing treatments along with counseling.

In addition, increasing evidence supports the role of adherence to exercise interventions and non-specific factors for determining outcome. Research findings have taught us that patient expectations are an important and 'overlooked' determinant for predicting clinical outcome in chronic pain treatment. Symposium participants will learn how to address patient expectations for care in individually-tailored exercise therapy for chronic pain patients.

Within the context of the management of chronic pain, it is crucial to consider the concept of pain mechanisms, including aspects like central sensitization and dysfunctional endogenous analgesia in response to exercise as seen in some chronic pain populations. Hence, in patients with chronic pain and central sensitization it seems rational to target therapies at the brain rather than muscles, joints or cardiovascular system. More precisely, modern pain neuroscience calls for treatment strategies aiming at decreasing the sensitivity of the central nervous system (i.e. desensitizing therapies). The brain of chronic pain patients has typically acquired a protective pain memory. For movements that once provoked pain, this implies protective behaviours like antalgic postures, antalgic movement patterns (including altered motor control) and avoidance of such movements (fear of movement). Even preparing for such 'dangerous' movements is enough for the brain to activate its fear-memory network and hence to produce pain (without nociception) and apply an altered (protective) motor control strategy. Exercise therapy can address this by applying the 'exposure without danger' principle. The symposium participants will learn how to apply the principle to physical therapy for patients with chronic pain, including those with work-related musculoskeletal disorders, low back pain, neck pain, shoulder pain, etc.

Implications/conclusions: Physical therapy for patients with chronic pain should include exercise therapy tailored to the patient's preferences, needs, pain cognitions, musculoskeletal and central nervous system dysfunctions. A broad biopsychosocial view is required for applying effective exercise therapy for patients with chronic pain, and can be provided in primary, secondary or tertiary care. This accounts for physical therapists working in the field of musculoskeletal pain, neurology, pediatrics, internal medicine and geriatrics.

Keywords: Therapy; Exercise; Pain

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Focused Symposia
Number: FS-21
Monday 4 May 2015 13:45
Hall 405

REHABILITATION AND PARKINSON'S DISEASE: EXERCISE IS AS IMPORTANT AS MEDICATION

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Learning objectives: 1. Discuss the latest evidence regarding the effectiveness of exercise in the management of Parkinson disease. 2. Identify various evidence-based exercise approaches for individuals with Parkinson disease. 3. Explain to patients, caregivers, and other professionals the importance of exercise and physical activity for people with Parkinson disease.

Description: Mounting evidence suggests that exercise and physical activity are critical components in the management of Parkinson disease (PD), as current pharmacological and surgical treatment approaches do not fully address many aspects of the disease. This growing body of research supports the use of various exercise approaches in a variety of settings. We will present the most recent evidence regarding the role of exercise and physical activity in PD rehabilitation. We will open with a discussion gait, balance and falls in PD, with an emphasis on identification of those at risk for falls who are in need of treatment and recent clinical trials designed to reduce falls. This will be followed by a discussion of traditional, clinic-based exercise programs, highlighting key evidence-based elements, such as resistance training, that these programs should include. We will then discuss how approaches to gait rehabilitation have changed in recent years, focusing on shifting views of the role of cognition and recent evidence regarding training in dual task conditions and cueing. The importance of motivation and barriers to exercise will then be addressed, emphasizing the importance of self-efficacy and emerging research on the use of behavioral interventions using virtual exercise coaches to facilitate physical activity in the community. Finally, we will discuss results