



## 2019 AKAPTA FALL CONFERENCE

OCTOBER 12-13, 2019

THE HOTEL ALYESKA – GIRDWOOD, AK

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### PAIN SCIENCE EDUCATION

#### INTRODUCTION TO THERAPEUTIC NEUROSCIENCE EDUCATION

Current best evidence has shown that neuroscience educational strategies utilizing neurobiology and neurophysiology are able to reduce pain, increase function, reduce fear and catastrophization, improve movement and change cognitions and brain activation during pain experiences. Therapeutic neuroscience education changes patient beliefs regarding their pain, thus reducing the threat of pain. This class will discuss the evolution of therapeutic neuroscience education and why neuroscience education is needed in patient care and for patients with acute, sub-acute and chronic pain. Special features include various metaphors, images, examples and case studies explaining neuroscience to patients in pain.

#### **Course Objectives:**

Upon completion of this session, attendees will be able to:

- Be able to describe pain from a modern, neuroscience framework
- Discuss the latest evidence for therapeutic pain neuroscience education
- Demonstrate the clinical ability to apply therapeutic pain neuroscience education to clinical practice with the use of at least one metaphor shared in class
- Most importantly – be able to apply this stuff to your clinical practice next week!

#### **A PAIN SCIENCE APPROACH TO TREATING FIBROMYALGIA**

What exactly is fibromyalgia? How about chronic fatigue syndrome, lyme disease or non-celiac gluten sensitivity? Are these "pain conditions" different, or could they all share a common thread? As chronic pain rates increase, it seems to get more complex, with "new" diagnoses being introduced all the time. New developments in pain neuroscience may hold the answers, including implications for examination and treatment. Biologically and physiologically, many of these conditions are similar, including brain activation as seen on functional MRI scans. This course aims to delve into the complexity of various widespread pain and fatigue conditions such as fibromyalgia, chronic fatigue syndrome, chronic lyme disease, non-celiac gluten sensitivity, irritable bowel syndrome, post-traumatic stress disorder and more. This clinical course will help clinicians see how various complex pain issues share some common features including threat activation, various biological and physiological defense mechanisms as well as changes in neurotransmitters and immune system function. This course will showcase the latest science and evidence associated with widespread pain and fatigue and is a must for each clinician. Furthermore, developing a widespread biological understanding of these conditions paves the way to understand the evidence for treatments such as education, exercise, pacing, graded exposure and more. This course is a must for clinicians working with widespread pain and fatigue.

**Course Objectives:**

Upon completion of this session, attendees will be able to:

- Be familiar with the latest neuroimmunology and neurobiology associated with FM
- Understand the clinical framework for testing and treating
- Practice clinical application of pain neuroscience education for FM
- Understand principles to adapt content to other patients struggling with persistent and widespread pain, cognitive deficits pertaining to focus and concentration, fatigue and hypersensitivity

**A PAIN SCIENCE APPROACH TO HEADACHES**

Headaches are very prevalent and marred with a complicated hierarchy of classification. Current best-evidence classifies headaches as cervicogenic, tension-type or migraine, with various subclassifications. Unbeknownst to many, physical therapists are ideally suited to treat a large proportion of patients struggling with headaches. To develop an updated working knowledge of headaches, clinicians need an update in pain science. Various neurophysiological processes underlie the development, maintenance and treatment of headaches, including the relay function of the trigeminal cervical nucleus, development of hyperalgesia and allodynia, photo and phono phobia, referred pain, etc. The examination portion of the lecture will discuss headache classifications, identifying subjective clusters to classify headaches and using this information to develop a comprehensive physical examination. Tests and treatments discussed include pain neuroscience education, graded motor imagery, sensory discrimination, neurodynamics, manual therapy, soft tissue treatment, trigger point therapy, sensorimotor retraining and more.

**Course Objectives:**

Upon completion of this session, attendees will be able to:

- Recognize that headaches are not all in your head
- Differentiate between common forms of headache presenting in physical therapy clinics
- Discuss concepts for evaluation and treatment of headache using a pain neuroscience approach
- Practice multi-modal interventions to address common sequelae of headache

**A PAIN SCIENCE APPROACH TO WHIPLASH**

Attendees hear the latest updates on the management of the patient presenting with a whiplash associated disorder (WAD). Epidemiological studies show an ever-increasing incidence of motor vehicle collisions and increasing numbers of patients attending physical therapy after motor vehicle collisions. Coinciding with the epidemiology, a wave of new pain science research in the diagnosis and management of such patients, has shown these to be some of the most challenging patients to treat. The course includes updates on clinical anatomy and pathology, screening and educating whiplash patients, and best-evidence in management. Treatment includes pain neuroscience education, manual therapy, neural tissue mobilization, motor control, sensorimotor retraining and more. Examination and treatment covered includes the acute, subacute and chronic phases of whiplash.

**Course Objectives:**

Upon completion of this session, attendees will be able to:

- Describe the complexity of the diagnosis and management of the whiplash patient, based on the associated factors involved in whiplash patients
- Demonstrate an increased understanding of the use of and implementation of pain science education for spinal patients
- Implement strategies for educating whiplash patients to help decrease pain and disability
- Implement best-evidence practice as it relates to pain science and neurobiology of whiplash