



15th International Symposium
May 22–25, 2008
The La Costa Resort, Carlsbad, CA

The Many Faces of Pain: Functional Models for Assessment and Treatment

PLENARY AND CONCURRENT SESSION DESCRIPTIONS

Preconference
Thursday, May 22, 2008

TIME	TOPIC
8:45 a.m.– 12:30 p.m. Paul Cheney, MD, PhD	<p>Chronic Fatigue Syndrome, Oxidative Stress, and Pain: A Physician’s Personal and Professional Journey Through the Functional Medicine Model</p> <p>Dr. Cheney has been involved in research and treatment of chronic fatigue syndrome (CFS) for over 15 years. His persistent and thoughtful evaluation of these phenomena clearly demonstrates the functional medicine model. Dr. Cheney has painstakingly developed the hypothesis that low cardiac output is a significant underlying dysfunction in CFS patients. He posits that CFS patients have a diminished threshold for oxygen toxicity, suggesting that fatigue is an adaptive consequence. In this sense, CFS patients’ energy decline may be viewed as a protective strategy against the effects of oxygen metabolism, which they are unable to handle. He suggests that therapy be directed to protect the brain from oxidative stress and to improve energy production. Dr. Cheney’s compelling model is a perfect way to begin our 15th Symposium.</p>
2–5:15 p.m. Catherine Willner, MD	<p>Connecting Pain to the Functional Medicine Matrix</p> <p>The Link Between Pain, Hormonal Dysfunction, Oxidative Stress, Inflammation, and Immune Dysregulation</p> <p>The origins, manifestations, and treatment of pain cut across disciplines and organ systems. Understanding underlying pain processes from a functional medicine perspective allows the clinician to better comprehend and treat a variety of pain disorders. Dr. Willner will help Symposium participants connect pain to the Functional Medicine Matrix Model, better enabling them to appreciate the variety of presentations that will follow.</p>

**Plenary Day One
Friday, May 23, 2008**

TIME	TOPIC
9–10 a.m. Jeffrey Mogil, PhD	<p>The Genetic Connection to Pain: Nurture and Nature</p> <p>Like many other complex biological phenomena, pain is starting to be studied at the level of the gene. Pain is a subjective experience that displays considerable variability compared to other sensory modalities. In some instances and in some people, intensely noxious stimuli are not reported as causing pain, whereas other people can experience excruciating pain from light touching of the skin. Some patients are highly sensitive to pain relief from placebo administration, while others are insensitive to even high doses of morphine. Dr. Mogil will review the genetic connection to pain and the evidence for the hypothesis that variations in pain and analgesic responsiveness can be attributed in part to genetic differences.</p>
11 a.m.– 12 p.m. Nancy Cotter, MD	<p>The Necessity for Nutrition in the Management of Chronic Pain</p> <p>It is clear that dietary habits have a significant effect in the triggering and modulation of pain. What we choose to eat plays a vital part in inflammatory signaling. Inflammation is not only a primary cause of pain, but it can decrease the pain threshold or the intensity of the pain. Dr. Cotter will review the scientific evidence that supports the role of nutrition as an inflammatory trigger or brake.</p>
12–1 p.m. Jeffrey Bland, PhD	<p>Pain as a Metaphor for Dysfunction</p> <p>“A pain in the neck.” “A pained expression.” “It was a painful reminder.” The English language is filled with the use of pain as a metaphor for dysfunction. Yet one cannot judge a person’s subjective experience of pain from any traditional physiological or pathological marker. The intensity, frequency, and duration of pain are highly individualized and relate to many variables, including the context of the painful situation coupled with the individual’s state of physiological and psychological functioning before the event that triggered the pain. Dr. Bland will explore the context of pain, as well as how psychosocial, biomedical, and environmental issues integrate to produce pain that is unique to the individual and that therefore demands a personalized functional medicine approach for its management.</p>

Early Workshops – Plenary Day One

2:30–4 p.m.

<p>A David Musnick, MD</p>	<p>A Functional Medicine Approach to Musculoskeletal Pain It has been estimated that approximately 30% of healthcare visits are for a musculoskeletal pain complaint, and almost 100% of chiropractic visits are for this purpose. Many of these visits are for pain that has lasted more than 3 months and is classified as chronic. Many important factors related to chronic pain are not usually analyzed in conventional medicine. These include diet, depression, anxiety, and sleep dysfunction. Chronic pain is related to pain sensitization, which in turn is related to various mediators that can be influenced by oral and topical medications, diet, supplements, and lifestyle changes. Dr. Musnick will present a practical functional medicine approach to musculoskeletal pain that is valuable for all healthcare practitioners.</p>
<p>B Liz Lipski, PhD, CCN</p>	<p>Decreasing Pain and Inflammation with Natural Foods Often pain management is as simple as removing foods that cause inflammation and pain and adding anti-inflammatory foods. Arthritis, migraines, atopic diseases, Crohn’s disease, ulcerative colitis, celiac disease/gluten intolerance, autoimmune conditions, and other inflammatory conditions often respond when diets are individualized to respect each person’s unique makeup. In this research-based yet practical session on the foods we eat, Dr. Lipski will provide handouts, recipes, and resources that can be used clinically.</p>
<p>C David Brady, ND, DC, CCN</p>	<p>Fibromyalgia, A Pain Disorder of the Central Nervous System: Assessment and Treatment Research suggests that “classic” fibromyalgia (FMS) is a central pain-processing disorder and that FMS does not appear to be a peripheral somatic disorder. Dr. Brady will emphasize the concept that classic FMS must be clinically differentiated from the various subsets of organic, functional, and musculoskeletal problems that can lead to an erroneous diagnosis of FMS. He will also discuss an integrated approach to treatment of FMS.</p>
<p>D Patrick Hanaway, MD</p>	<p>Using Pharmacogenomics in Pain Management: Ready for Prime Time? Pharmacogenomics is the study of genomic interactions with pharmaceutical drugs, as well as herbs and natural products. There has been an explosion in knowledge relating to the genetics of drug metabolism. Interindividual variability in response to drug therapy is the rule, not the exception, for almost all medications. How much can we use pharmacogenomics to tailor our pain control therapies and to decrease between-patient variability? Dr. Hanaway will review the metabolic variability found in Phase I and Phase II detoxification systems to highlight the importance of drug-drug interactions (as substrate, inducer, and inhibitor), as well as evaluate the current knowledge base on the effect of genetic polymorphisms (i.e., single nucleotide polymorphisms or SNPs) on the metabolism of pain medications. <i>No CME credit available for DCs in California.</i></p>
<p>E Leon Chaitow, ND, DO</p>	<p>Pain and Respiratory Alkalosis: Understanding, Recognizing, and Rehabilitating Breathing Patterns Hyperventilation produces far-ranging physiological effects via its alteration of pH and depletion of CO₂, resulting in respiratory alkalosis (RA), acute or chronic. RA affects almost all pregnant women, many healthy women during the post-luteal phase of the menstrual cycle, and an estimated 10% of non-asthmatic adults. RA affects most organ systems, producing multiple metabolic abnormalities including disturbances in potassium, phosphate, and calcium balance. Overbreathing results in complex symptoms—cardiovascular, digestive, emotional, and musculoskeletal. Cardiac effects include ischemic and non-ischemic chest pain, and musculoskeletal symptoms may involve altered motor control and low back pain. Dr. Chaitow will review assessment and therapeutic techniques for this syndrome.</p>

Late Workshops – Plenary Day One

4:30–6 p.m.

F Nancy Cotter, MD	Nutritional Supplementation in Pain Management: Clinical Strategies The use of nutritional supplements has become increasingly important to clinicians for prevention and treatment of chronic and acute pain conditions. Dr. Cotter will present research and practical strategies for incorporating the most clinically useful nutritional supplements into therapeutic protocols with pain patients.
G Thomas O’Bryan, DC, CCN	Recognizing and Treating Dietary Triggers of Pain Numerous pain syndromes and autoimmune diseases have been associated with both humoral and cell-mediated immune responses to food intake. From peripheral neuropathies to migraines and ataxia, from acute myocarditis to chronic pancreatitis, from myasthenia gravis to primary biliary cirrhosis, foods can initiate this response in sensitive individuals by upregulating macrophage proinflammatory gene expression and cytokine production. This response may cause pain throughout the body and has been identified with brain and peripheral tissue, liver epithelial cells, thyroid cells, pancreatic beta cells, bone cells, skin tissue, and myocardium. Dr. O’Bryan will review the pain-producing pathophysiology of food allergies, as well as dietary and nutraceutical intervention strategies.
H Gail Dubinsky, MD	Yoga for Chronic Pain Management: Rationale and Practical Applications Yoga is an ancient science of mind and body. In the past few decades in the United States, the popularity of yoga has exploded, and yoga is now increasingly used in clinical settings as a therapeutic modality for pain and stress reduction. Recently there has been more interest in studying the physiology and efficacy of yoga for specific pain conditions, particularly in comparison with other modalities. Research has confirmed long-standing empirical findings that yoga promotes physical and mental relaxation and the balancing of the autonomic nervous system, with significant ramifications for the treatment of pain conditions. Dr. Dubinsky will review the documented physiological and psychological effects of yoga postures, breathing practices, and meditation, as well as the clinical conditions in which yoga has been shown to be most effective. She also will describe practical applications of yoga in a functional medicine practice and discuss some of the pitfalls of integrating yoga in a medical treatment model.
I Alex Vasquez, DC, ND	Pain and Immune Dysfunction: Assessment, Treatment, and Management of Autoimmune Disorders Autoimmune disease as a whole is one of the most widespread dysfunctions in the United States today. However, conventional medicine often does not address the variety of underlying antecedents, triggers, and mediators of these conditions and thus falls short in optimal pain relief. Dr. Vasquez will provide a practical functional medicine approach to the assessment, treatment, and management of a variety of autoimmune conditions.
J Catherine Willner, MD	Managing Migraines: A Model for Using the Functional Medicine Matrix Migraine headaches can result from a variety of antecedents, can be triggered by various stimuli, and can be perpetuated by several internal and external factors. Applying a model that takes all these factors into account will be the one most likely to achieve wider success. Dr. Willner will explore the use of the Functional Medicine Matrix Model in assessing and treating chronic migraine headaches.

**Plenary Day Two
Saturday, May 24, 2008**

TIME	TOPIC
<p>8:30– 9:30 a.m.</p> <p>Robert Bonakdar, MD</p>	<p>Evaluating Electrostimulation for the Control of Pain</p> <p>The use of electrical stimulation for pain control, based on the “gate control theory,” activates large-diameter myelinated sensory fibers, blocking transmission of certain pain fibers. The electrical stimulation input essentially shuts the door on the transmission of pain stimuli. Conventional transcutaneous electrical nerve stimulation (TENS) is the most studied form of this therapy, but various other devices and techniques are also used. Benefits have been seen in patients with peripheral nerve damage, angina pectoris, musculoskeletal disorders, postoperative pain, and a variety of other conditions. However, even decades after the introduction of these treatments, there is still a good deal of controversy over what works. Dr. Bonakdar will review and clarify this emerging area.</p>
<p>10:30– 11:30 a.m.</p> <p>John Triano, DC, PhD</p>	<p>Low Back Pain: Manipulative Therapy and the Scientific Rationale</p> <p>Manual manipulation of the spine is a form of treatment that dates to antiquity. Theories on the nature of spinal disorders amenable to manipulation and on the mechanisms of action of spinal manipulation abound within chiropractic, osteopathy, physiotherapy, and manual medicine. In recent decades, theories about how mechanical spinal joint dysfunction might influence neurophysiology have undergone significant modifications. It has been shown that spinal manipulative therapy has clinically and statistically significant benefits, but many questions still abound. A leading researcher in the field of the mechanisms and efficacy of manual manipulation, Dr. Triano will help to clarify the rationale for manual manipulation in low back pain.</p>
<p>11:30 a.m.– 12:30 p.m.</p> <p>William Meggs, MD, PhD</p>	<p>The Neurogenic Switching Hypothesis: Pain and Inflammation at Distant Sites</p> <p>Neurogenic switching is proposed as a mechanism by which a stimulus at one site can lead to inflammation at a distant site. Neurogenic inflammation occurs when substance P and other neuropeptides released from sensory neurons produce an inflammatory response. Neurogenic switching is proposed to result when a sensory impulse from a site of activation is rerouted via the central nervous system to a second location, where it produces neurogenic inflammation. Food allergy-inducing asthma, urticaria, arthritis, and fibromyalgia are possible examples of neurogenic switching. Dr. Meggs will review this hypothesis and potential treatment options.</p>

Early Workshops – Plenary Day Two

2:30–4 p.m.

<p>A David Musnick, MD</p>	<p>Functional Medicine Treatments of Tendonitis, Osteoarthritis, and Neuropathic Pain Some of the most common problems in clinical practice are tendonitis, osteoarthritis, and neuropathic pain. These problems often become chronic when treated conventionally. Additionally, side effects from commonly prescribed medications are frequently seen. A functional medicine approach stressing triggers and mediators can effectively address tendonitis of the Achilles, patella tendon, and rotator cuff, nerve pain disorders, and osteoarthritis. Dr. Musnick will discuss the use of topical medications, diet and nutritional changes, and rehabilitative techniques.</p>
<p>B Alex Vasquez, DC, ND</p>	<p>Low Back Pain: Nutritional, Botanical, Manipulative, and Rehabilitative Strategies Low back pain is the most common cause of pain in the United States. The systemic nature of inflammation shows the interconnection between different organ systems. Dr. Vasquez will explain the interconnected nature of the neuromusculoskeletal system with other organ systems, particularly the immune system, endocrine system, and enterohepatic systems. He also will describe proper laboratory and clinical evaluation and treatment using nutritional, botanical, manipulative, and rehabilitative strategies.</p>
<p>C Thomas O’Bryan, DC, CCN</p>	<p>Recognizing and Treating Dietary Triggers of Pain Numerous pain syndromes and autoimmune diseases have been associated with both humoral and cell-mediated immune responses to food intake. From peripheral neuropathies to migraines and ataxia, from acute myocarditis to chronic pancreatitis, from myasthenia gravis to primary biliary cirrhosis, foods can initiate this response in sensitive individuals by upregulating macrophage proinflammatory gene expression and cytokine production. This response may cause pain throughout the body and has been identified with brain and peripheral tissue, liver epithelial cells, thyroid cells, pancreatic beta cells, bone cells, skin tissue, and myocardium. Dr. O’Bryan will review the pain-producing pathophysiology of food allergies, as well as dietary and nutraceutical intervention strategies.</p>
<p>D Carolyn McMakin, MA, DC</p>	<p>Treatment of Neuropathic Pain Using Frequency-Specific Microcurrent Neuropathic pain is often resistant to various therapies. Frequency-specific microcurrent (FSM) uses electrical currents in microamperes to treat nerve and muscle pain. Dr. McMakin will discuss FSM and research she has published on this technique. FSM is low risk, cost-effective, and widely available, making it a scientifically supported, clinically relevant tool for the treatment of neuropathic pain.</p>
<p>E Robert Bonakdar, MD</p>	<p>Non-Pharmacological Control of Pain: Clinical Applications of Biofeedback, Hypnosis, and Imagery Non-pharmacological aspects of pain management are an underused method. Such techniques include cognitive methods, relaxation training, guided imagery, hypnosis, music, and biofeedback. There is a sound body of knowledge to support the use of many of these therapies. Dr. Bonakdar will lead a hands-on demonstration and discussion of a variety of techniques that the primary care clinician may want to consider in practice.</p>

Late Workshops – Plenary Day Two

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<p>F Leon Chaitow, DO, ND</p>	<p>Pain and Respiratory Alkalosis: Understanding, Recognizing, and Rehabilitating Breathing Patterns Hyperventilation produces far-ranging physiological effects via its alteration of pH and depletion of CO₂, resulting in respiratory alkalosis (RA), acute or chronic. RA affects almost all pregnant women, many healthy women during the post-luteal phase of the menstrual cycle, and an estimated 10% of non-asthmatic adults. RA affects most organ systems, producing multiple metabolic abnormalities including disturbances in potassium, phosphate, and calcium balance. Overbreathing results in complex symptoms—cardiovascular, digestive, emotional, and musculoskeletal. Cardiac effects include ischemic and non-ischemic chest pain, and musculoskeletal symptoms may involve altered motor control and low back pain. Dr. Chaitow will review assessment and therapeutic techniques for this syndrome.</p>
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<p>J David Brady, ND, DC, CCN</p>	<p>“Pseudo” or “False” Fibromyalgia Syndrome: Differential Diagnosis and Functional Management</p> <p>Rather than being viewed as one grandiose syndrome under which all patients with unexplained widespread pain and/or fatigue are lumped, fibromyalgia (FMS) -like symptoms should result in a comprehensive workup to properly determine the underlying foundational elements of the patient’s complaints. Dr. Brady will outline at least four distinct clinical subsets that can lead to an erroneous diagnosis of FMS. All should be considered during the differential diagnosis of patients with widespread pain as the primary symptom. These four subsets are: (1) “classic” FMS, (2) medical diseases that mimic FMS, (3) functional/metabolic disorders that mimic FMS, and (4) musculoskeletal disorders that mimic FMS. Specific diagnostic and therapeutic strategies will be presented for each of these subsets.</p>
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Plenary Day Three
Sunday, May 25, 2008

TIME	TOPIC
9–10 a.m. Sonia Lupien, PhD	<p>How We Filter Pain: Adaptation to Environmental Stimuli</p> <p>Pain is a complex, adaptive network involving several areas of the brain transmitting information back and forth. There are many mechanisms that influence how the brain interprets pain. It is clear that pain can be activated by how we think and how we perceive our environment. Dr. Lupien will first lay the groundwork of how cognition works and the selective filters used in this process. She will then discuss the idea of attentional bias toward pain-related stimuli, how this develops, and how we can begin to modulate this phenomenon.</p>
11 a.m.– 12 p.m. Eric Leskowitz, MD, ABHM	<p>Treating Pain with Energy Medicine: New Roads to Follow</p> <p>Energy medicine is an approach that uses the mystical force known as life energy to help create health. Many cultures have worked for thousands of years with this energy by way of such therapies as acupuncture, Reiki, homeopathy, and the laying-on of hands. Modern science is now validating many of these esoteric concepts by outlining the actual energy anatomy of the human body, as well as the processes by which energy affects our physiology. Dr. Leskowitz will outline what we can learn from the use of these therapies in chronic pain syndromes.</p>
12–1 p.m. Mark Gilbert, MD	<p>Integrating Truth and Hope: Mind-Body Medicine and its Place in Healing Pain</p> <p>In the past century, the medical profession has taken pride in the rapid and often effective advancement of diagnostic technology, surgical interventions, and pharmaceutical remedies. However, it has also witnessed the unraveling of the woven connection between mind, body, and soul. Dr. Gilbert will help to reframe this critical dynamic in the challenging task of managing patients with chronic pain.</p>