



DPTA Fall Lecture Series Presents...

***New Frontiers in the Matrix of Neuro- Musculoskeletal Pain:
Integrating Pain Mechanisms with Objective Physical Findings
and Treatment Strategies***

This 1 day course is ideal for those who have experience with dry needling, or who are completely new to it. This is NOT a certification course.

Speaker: Dr. Jay P. Shah, MD

When: Saturday, October 25, 2014

Continuing Education Units: .65 (6.5 hours) – Certificates provided 1-2 weeks after the course

Schedule:

8:30 – 8:50 am Registration (continental breakfast provided)

9:00 – 10:30 am Lecture

10:30-10:45 am Mid-morning Break

10:45-12:15 pm Lecture

12:15-1:00 pm Lunch (provided)

1:00-2:45 pm Lecture/Lab

2:45-3:00 Mid-afternoon Break

3:00-4:45 Lecture/Lab

Where: University of Delaware, STAR Campus,
Physical Therapy Department, Room 232
540 South College Avenue, Newark, DE

Early Bird Registration (ends October 17)

- \$110 – DE, DC, AND MD Chapter Members
- \$155 – Non-members

Onsite Registration

- \$135 – DE, DC and MD Chapter Members
- \$180 – Non-members



Speaker Bio: Jay P. Shah, MD is a physiatrist and clinical investigator in the Rehabilitation Medicine Department at the National Institutes of Health in Bethesda, Maryland USA. His interests include the pathophysiology of myofascial pain and the integration of physical medicine techniques with promising complementary approaches in the management of neuro-musculoskeletal pain and dysfunction. He also completed a two-year Bravewell Fellowship at the Arizona Center for Integrative Medicine. Jay is a well-known lecturer on mechanisms of chronic pain, myofascial pain, acupuncture techniques and other

related topics. He and his co-investigators have utilized novel microanalytical and ultrasound imaging techniques that have uncovered the unique biochemical milieu and viscoelastic properties of myofascial trigger points and surrounding soft tissue. Jay has taught invited hands-on workshops for physicians, physical therapists, chiropractors, acupuncturists, dentists, and massage therapists among other professional groups. His workshops integrate emerging knowledge from the clinical pain sciences in order to improve evaluation and management approaches to musculoskeletal pain and dysfunction. He was selected by the American Academy of Pain Management as the 2010 recipient of the Janet Travell Clinical Pain Management Award and by the National Association of Myofascial Trigger Point Therapists as the 2012 recipient of the David G. Simons Award.

Course Description: This comprehensive one day course integrates the fascinating knowledge emerging from the pain sciences in a clinically accessible way. It does so by exploring and elucidating the dynamic and pivotal roles that myofascial trigger points (MTrPs), sensitization, limbic system dysfunction and objective physical findings play in the evaluation and management of chronic myofascial pain and dysfunction. Spinal segmental sensitization (SSS) is a hyperactive state of the dorsal horn caused by bombardment of nociceptive impulses. Painful MTrPs are a very common source of persistent nociception and sensitization that often results in SSS and chronic myofascial pain. Conversely, maladaptive changes in subcortical structures and dysfunctional descending inhibition may create somatic tissue abnormalities (e.g., tissue texture changes, tenderness, etc.) in addition to adversely impacting mood, affect and sleep. Either way, typical manifestations of the sensitized spinal segment include dermatomal allodynia/hyperalgesia, sclerotomal tenderness and myofascial trigger points within the affected myotomes. These objective and reproducible findings allow the clinician and patient to identify the affected spinal segment(s) that should be treated. Non-pharmacological approaches such as dry needling and electrical stimulation techniques will be discussed, demonstrated and practiced by attendees. These techniques deactivate painful MTrPs, desensitize affected segments and neuro-modulate subcortical dysfunction, providing more permanent pain and symptom relief. The diagnostic and treatment techniques presented in this seminar are applicable in the management of a variety of chronic musculoskeletal pain conditions.

Learning Objectives:

Upon completion of this course, participants will be able to:



- Examine the unique neurobiology of muscle pain and the dynamic interplay of muscle nociceptors and endogenous biochemicals in the initiation, amplification and perpetuation of peripheral and central sensitization
- Identify the referred pain patterns associated with painful myofascial trigger points that are commonly encountered in clinical practice
- Demonstrate that active (i.e., spontaneously painful) MTrPs have elevated levels of inflammatory mediators, neuropeptides, catecholamines and cytokines – substances known to be associated with inflammation, sensitization, inter-cellular communication and persistent pain states
- Understand that nociceptive “afferent bombardment”, neurogenic inflammation, wide dynamic range neurons, subcortical structures (e.g., the limbic system) and dysfunctional descending inhibition play pivotal roles in muscle sensitization, pain chronification, somato-visceral interactions and the objective, reproducible physical findings of allodynia, hyperalgesia and referred pain patterns
- Outline an Integrated Hypothesis for myofascial pain as a complex state of Neuro-muscular Dysfunction involving both peripheral and central factors
- Introduce novel applications of ultrasound imaging to visualize MTrPs and measure their stiffness properties and local blood flow
- Demonstrate that MTrPs in the upper trapezius are stiffer than surrounding tissue and that active MTrPs can be distinguished from latent MTrPs by their high-resistance blood flow and greater surface area
- Demonstrate that dry needling of painful MTrPs leads to a significant decrease in muscle stiffness and how ultrasound can be used as an objective and repeatable outcome measure for dry needling.
- Discuss how muscle pain preferentially activates limbic system structures, providing a neuro-physiological basis for increased anxiety, fear and stress
- Discuss the dynamic interplay of somato-visceral/viscero-somatic integration and spinal facilitation in the dorsal horn
- Determine the reproducible physical manifestations of spinal segmental sensitization (involving dermatomes, myotomes and sclerotomes) observed in chronic myofascial pain



- Design an appropriate treatment algorithm (e.g., dry needling, electrical stimulation techniques, etc.) to desensitize the involved segments, eliminate chronic MTrPs and alleviate chronic myofascial pain and dysfunction