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412.648.8714

Rehabilitation Concepts in Muscle, Joint, Brain and Nerve Physiology Mini-Elective Spring 2021

<u>Course Dates:</u>	January 8, 22, February 1, 8 1:00-5:00 PM
<u>Maximum Students:</u>	8
<u>Class Year:</u>	MS1 and MS2
<u>Course Director:</u>	Brad E. Dicianno, MD
<u>Contact Information:</u>	Brad E. Dicianno, MD 412-648-6666 dicibe@upmc.edu
<u>Registration:</u>	Denise Downs, Office of Medical Education ddowns@pitt.edu

Description:

This four-session mini-elective introduces students to rehabilitation concepts in the physiology of muscle, joints, brain and nerves. Sessions are held at various locations for hands-on experience and observation. The goal of this program is to explore the relationship among anatomy, physiology, and human motion. This course highlights ways rehabilitative efforts and technology can be used to diagnose and treat disorders of the neuromuscular system. Through both didactic and hands-on exposure at these sites, this series covers topics including:

- The use of musculoskeletal ultrasound to identify normal and pathological structures of joints
- The pathophysiology and treatment of traumatic brain injury and concussion.
- Anatomy of joints and techniques used to guide injections
- The use of Nerve Conduction Studies and Electromyography as a way to diagnose neuromuscular diseases.
- Basic pathology and effects of spinal cord injury, including management of spasticity

Objectives:

- To understand the physiology of traumatic brain injury
- To understand the anatomy of the major joints
- To become familiar with Nerve Conduction Studies and Electromyography and understand their role as an extension of the physical examination.
- To review nerve and muscle physiology, including muscle recruitment as demonstrated by EMG
- To understand multimodal management of upper motor neuron spasticity including botulinum toxin injections and baclofen pump management
- To understand the basic pathology of a spinal cord injury and related functional deficits based on level of injury

Requirements:

- Active participation in all 4 course sessions.

Course Outline

Rehabilitation Concepts in Muscle, Joint, Brain and Nerve Physiology

Course Director:

Brad E. Dicianno, MD
Associate Professor
University of Pittsburgh Medical Center
Dept. of Physical Medicine and Rehabilitation
Kaufmann Medical Bldg, Suite 910

Faculty:

Dr. Gary Galang
Dr. Amanda Harrington
Dr. Geoffrey Henderson (SCI Fellow)
Dr. Kentaro Onishi
Dr. Suehun Ho
Dr. Jennifer Shen

Location:

Various locations outlined below.

All sessions are 1-5 pm.

January 8

Spinal Cord Injury, Spasticity, Baclofen Pumps, and Botox Injections
Location: Meet in Mercy Inpatient Spinal Cord Injury Unit Resource Room 7015
Instructor: Drs. Amanda Harrington

January 22

Musculoskeletal Exam and Ultrasound
Location: Virtual Teams Meeting (link will be sent prior to meeting)
Instructors: Drs. Kentaro Onishi and Suehun Ho

February 1

Traumatic Brain Injury
Location: Meet at inpatient Stroke Rehab Unit, Mercy Hospital, 6th Floor, Resource Room 6228
Instructor: Dr. Gary Galang

February 8

Electromyography and Nerve Conduction
Location: Meet at inpatient Stroke Rehab Unit, Mercy Hospital, 6th Floor Dining Room
Instructor: Dr. Jennifer Shen

Special Instructions:

Professional dress is requested for the spasticity and TBI groups. Please wear scrubs for the other two sessions.

You will not necessarily receive reminders from the School of Medicine about these sessions. Please take it upon yourself to put these sessions and their locations on your own calendar.