



Professional Enrichment Course

University of Pittsburgh School of Medicine

Office of Medical Education

Rehabilitation Concepts in Muscle, Joint, Brain, & Nerve Physiology

Course Dates:	Flex Week – Jan 27 – 31, 2025
Student Max:	15
Class Year:	MS1
Course Director:	Brad Dicianno, MD Email: dicibe@upmc.edu
Course Administrator:	Susan Redding PM&R Senior Department Manager Kaufmann Medical Building Pittsburgh, PA 15213 Ph: 412-864-3721
Location:	See below
Course Description:	<p>This five-session professional enrichment course introduces students to rehabilitation concepts in the physiology of muscle, joints, brain and nerves.</p> <p>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:</p> <ul style="list-style-type: none">• 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 (EMG) as a way to diagnose neuromuscular diseases.• Basic pathology and effects of spinal cord injury, including management of spasticity• Overview of emerging Neurotechnologies

Objectives:	<ul style="list-style-type: none"> • 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 • To learn about emerging Rehabilitation Neurotechnologies
Requirements:	Participate in all 5 course sessions

Faculty:

Dr. Gary Galang
 Dr. Amanda Harrington
 Dr. Robert Gaunt
 Dr. Grace O’Neale
 Dr. Suehun Ho
 Dr. Jennifer Shen
 Dr. Jessica Berry
 Dr. Ryan Nussbaum

January 27 (9-11AM)

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

January 28 (9-11AM)

Rehabilitation Neurotechnologies
 Location: Meet at Rehab Neural Engineering Laboratory, UPMC Mercy Pavilion, 4th Fl.
 Instructor: Dr. Robert Gaunt

January 29 (1-3PM)

Musculoskeletal Exam and Ultrasound
 Location: Meet in Kaufmann Medical Building Suite 910 Conference Room
 Instructors: Drs. Suehun Ho and Ryan Nussbaum

January 30 (2-4PM)

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 and Jessica Berry

January 31 (1-3PM)

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

Instructor: Drs. Jennifer Shen and Grace O'Neale

Special Instructions:

Professional dress is requested for the spinal cord injury and TBI sessions. Please wear scrubs for the ultrasound and electromyography sessions. Business casual dress with no open-toed shoes is the dress code for the neurotechnology session. Please take it upon yourself to put these sessions and their locations on your own calendar as you may not receive reminders about the events.