



Professional Enrichment Course

University of Pittsburgh School of Medicine

Office of Medical Education

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

Enrollment Period:	Spring 2024
Course Dates:	See below for more details: October 26, January 29, February 2, February 26, February 29, 1-3pm
Student Max:	15
Class Year:	MS1
Course Director:	Brad Dicianno, MD Email: dicibe@upmc.edu
Course Administrator:	<i>Kristie Marie Westerlund</i> PM&R Senior Department Manager Kaufmann Medical Building Pittsburgh, PA 15213 Ph: 412-864-3721
Location:	See below
Registration:	Via Amp Up – You will receive an email with enrollment info
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.

	<ul style="list-style-type: none"> • 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
Pre-Requisites:	None
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

October 26 (1-3PM)

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

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

February 2 (1-3PM)

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

February 26 (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

February 29 (1-3PM)

Rehabilitation Neurotechnologies

Location: Meet at Rehab Neural Engineering Laboratory, UPMC Mercy Pavilion, 4th Fl.

Instructor: Dr. Robert Gaunt

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 neurotechnologies 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.