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## Introduction to Regional Anesthesia: Learning Ultrasound Guided Nerve Blocks Mini-Elective Spring 2020

<u>Course Dates:</u>	January 8, 22, 29, February 20* Wednesdays, 5:00-6:30 PM *Thursday, 5:00-6:30 (February 20 only)
<u>Maximum Students:</u>	20
<u>Class Year:</u>	MS1 and MS2
<u>Course Director:</u>	Steven Orebaugh, MD Professor of Anesthesiology and Critical Care Medicine
<u>Contact Information:</u>	Steven Orebaugh, MD <a href="mailto:orebaughsl@anes.upmc.edu">orebaughsl@anes.upmc.edu</a>
<u>Registration:</u>	Betsy Nero, Office of Medical Education <a href="mailto:betsy@medschool.pitt.edu">betsy@medschool.pitt.edu</a>

### Description:

This four-week course will introduce students to ultrasound-guided peripheral nerve blocks and other aspects of regional anesthesia, with particular focus on upper extremity and brachial plexus blocks. Course sessions will include a short (20 mins) didactic session, covering gross anatomy, ultrasound anatomy, use of ultrasound for nerve blocks, and safety during peripheral nerve blockade. Didactic sessions are followed by skill-building exercises that include live ultrasound scanning with volunteers to emphasize the upper extremity ultrasound anatomy, practice with a gel block and/or meat phantom to develop needle guidance skills, and nerve block practice with human upper extremity specimens. If time allows, we scan lower extremities as well, to evaluate anatomy related to nerve blocks for blocks in this region.

### Course Objectives:

1. Learn anatomy of structures associated with brachial plexus nerve blocks.
2. Learn sonographic anatomy of these structures.
3. Practice needle guidance techniques in a phantom/partial task trainer.
4. Learn techniques involved in correct placement of brachial plexus blockade.
5. Understand the benefits of regional anesthesia in surgical pain control (esp in orthopedics, general surgery, thoracic surgery, obstetrics).
6. Learn how ultrasound can minimize the risks associated with peripheral nerve blocks.

### Requirements:

Attend all sessions, participate actively in scanning, complete in-class post-test (practical and written exam – not graded!) to assess knowledge acquired during course.

### Pre-requisites:

None

## **COURSE OUTLINE:**

**Introduction to Regional Anesthesia: Learning Ultrasound Guided Nerve Blocks**  
**Wednesdays—5:00-6:30 PM**  
**January 8, 22, 29, February 20\* (\*one Thursday session)**

### **Location:**

Scaife Hall and WISER

### **Course Director:**

Steven Orebaugh, MD

### **Participating Faculty:**

Steven Orebaugh, MD, Professor of Anesthesiology and Critical Care Medicine  
Kaarin Michaelsen, MD PhD, PGY-3 resident, Department of Anesthesiology.

### **Texts/Required Reading:**

None

### **Session One:**

This session will introduce students to the course. A short didactic lesson will follow. Then the group will divide into several smaller groups, with one group learning needle techniques in phantom task trainers and the other learning to do ultrasound scanning on live models.

### **Session Two:**

This session will feature a short didactic lecture for all students, followed by cadaver-based anatomy teaching for upper extremity nerve blocks for one group, while the other groups work on scanning the neck and axilla.

### **Session Three:**

This session will again feature a short didactic lecture for all students. All students will do advanced scanning for sonoanatomy on live models and needle practice with phantom task trainers.

### **Session Four:**

This session will feature a short didactic session followed by an opportunity for students to demonstrate their new skills in brachial plexus blockade using a multi-station practical activity involving scanning on live models and a short (10 question) post-test. Interested students can stay on after the session to learn more about ultrasound imaging of the heart and lungs.