



University
of
Pittsburgh

School
of
Medicine

Ultrasound Basics: Human Anatomy From a Different Perspective Mini-Elective

FALL 2017

<u>Course Dates:</u>	October 18, 25, November 1, 8 Wednesdays, 5:00-6:30 pm (See location schedule on page 2)
<u>Maximum Students:</u>	4 students per instructor per session
<u>Class Year:</u>	MS1
<u>Course Director:</u>	Marek A. Radomski, DO Assistant Professor of Emergency Medicine
<u>Contact Information:</u>	Marek A. Radomski, DO radomskima@upmc.edu 412-864-2072
<u>Registration:</u>	Betsy Nero, Office of Medical Education betsy@medschool.pitt.edu

Description:

During this 4 session mini-elective, which is designed to run concurrently with the Medical Anatomy MS-1 course, students will learn about anatomy as they scan each other. This will be a hands-on course that will focus on the sonographic anatomy.

Requirements:

Actively participate in all four sessions.

Office
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COURSE OUTLINE

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Course Director:

Marek A. Radomski, DO, Assistant Professor of Emergency Medicine

Contact Information:

Marek A. Radomski, DO, 412-864-2072, radomskima@upmc.edu

Location:

Students should meet in **Lecture Room 2 at 5:00 pm** for the didactic session and then will break into small group rooms for scanning—**Rooms 460A&B, 464A&B, and 468A&B.**

Session 1:

Students will become familiar with the ultrasound machine and to learn the basic principles of point-of-care ultrasonography.

- Define ultrasound
- Describe the ALARA principle as it relates to diagnostic imaging
- Demonstrate the basic functions of the ultrasound machine
- Describe how to select the proper transducer for the intended application
- Demonstrate how gain, frequency and depth affect image acquisition
- Understand and demonstrate transducer orientation with respect to the acquired image
- Understand and identify common ultrasound artifacts

Session 2:

Focus on the cardiovascular system (heart and major vessels).

- Understand the basic anatomy of the heart
- Obtain views of the heart
- Identify the pericardium, valves and the 4 chambers of the heart
- Demonstrate how to measure the LV posterior wall and aortic outflow tract
- Develop essential knowledge for performing a transthoracic echocardiogram
- Describe the anatomy of the abdominal aorta and its major branches

Session 3:

Examines the kidneys, ureters and bladder

- Obtain views of the kidneys
- Obtain views of the bladder
- Understand the relation of the bladder to the uterus and/or prostate
- Measure the bladder size and estimate the bladder volume
- Attempt to visualize ureteric jets using power Doppler

Session 4:

Will involve anatomic structures of the head and neck

- Obtain views of the thyroid
- Demonstrate the course of the IJV in relation to its adjacent structures
- Demonstrate how changes in IJV diameter occur with valsalva and body inclination
- Demonstrate the anterior and posterior chambers of the eye
- Identify the optic nerve sheath, retina and lens

Requirements: Actively participate in all 4 sessions