ULTRASOUND STEP
aapm&r skills | training | evaluation | performance

Step 3 - Hands-on Skills Assessment
Overview

Introduction

The skills assessment is designed to be a physical test of manual, technical and dexterity skills. The goals of the skills assessment are:

- Make sure that you know how to operate an ultrasound machine
- Can identify how to correctly hold and orient the transducer when performing a scan
- Can obtain optimal images of the structures of interest
- Can identify normal tissues as well as pathology
- Can successfully track a needle under sonographic visualization

During the assessment, the examiner will evaluate your ability to identify specific structures, use appropriate ergonomics, and will assess your ability to demonstrate image optimization skills. These skills will include:

- Optimizing gain, depth, and focal zone placement
- Centering the structure of interest in the center of the screen and focal zone
- Using transducer manipulation techniques to minimize anisotropy such as wag/tilt, pivot, and heel-toe manipulations
- Using proper ergonomic set up and positioning of the subject to facilitate efficient and safe scanning

You will also be required to label images appropriately, measure cross-sectional area, utilize Doppler imaging when appropriate, zoom in on structures of interest, and scan structures dynamically.

The skills assessment will include a total of 4 stations. Models will be used at each station and a blue phantom will be used at the US-guided procedure station. Please position your model, table, chairs and ultrasound machine where you feel is most appropriate to optimize your skills and ergonomics.

You will have 20 minutes to complete each station and will be given warmings when there is 10 and 5 minutes left at each station. Please be cognizant of time. If you are struggling with a certain area feel free to move on. If there is extra time at the end of your station, you can revisit content where you felt uncertain. At the end of each station, please stay at your station and try to keep noise to a minimum. We will instruct you when it is time to rotate stations.

At the start of each station the examiner will request that you select the appropriate transducer and optimize the machine settings (depth and gain). Once you have obtained an optimized image please ask the examiner to freeze the image. If you are satisfied with the image, please save the image to the US machine. You may be shown printed images during the exam to assess your understanding of artifacts and pathology commonly encountered in the region.

ULTRASOUND STEP
aapm&r skills | training | evaluation | performance

Station 1 - MSK-Shoulder
This station will test your ability to demonstrate a regional sonographic exam. The shoulder was chosen because it demands a variety of skills and in general is pertinent to a physiatric practice. At this station, you will be asked to perform a complete diagnostic ultrasound examination of the shoulder. This requires that you correctly image and identify all of the structures that are required for a complete exam.

You will also be asked to answer questions about 2 separately supplied images that will relate to commonly encountered findings in a shoulder exam.

Station 2 - Neuromuscular Evaluation
At this station, you will be asked to identify a number of structures including upper extremity nerves and muscles.

Station 3 - Neuromuscular Evaluation
At this station, you will be assessed on your ability to obtain optimal images of a number of structures in the upper and lower limbs.

Station 4 - US-guided Procedures
This station will evaluate your understanding and ability to perform ultrasound guided procedures. This will include understanding indications for the use of ultrasound guidance, setting up an US-guided procedure appropriately, identifying the target and surrounding structures, demonstrating needle tracking/visualization skills, and documenting the procedure in its entirety (in accordance with AIUM recommendations). You will also be shown a printed image of a common artifact encountered during US-guided procedures.

Assessment Results
At the conclusion of the skills assessment, the examiners' scores will be collected. **You must successfully perform an in-plane and out-of-plane injection to pass the skills assessment.** You will be informed of the results 4-6 weeks following the skills assessment. **Examiners' scores, decisions and the post-exam reviews are final.**