INTRODUCTION

Following the successful first 6-month A.T. Still-MWU collaborative faculty development series in ultrasound, we have developed a second, more clinically-based, collaborative training series for CME credit.

Overall Course Objectives

1. For these reasons, numerous medical specialties now rely on US not only for diagnosis and guidance for procedures, but also as an extension of the physical examination.
2. Ultrasound simulation machines have been developed and are being used in the simulation center, but that real ultrasound machines should be used in other aspects of student education.

March-July 2017—Faculty development series continues to develop ultrasound training sessions to guide hands-on ultrasound use to further develop an understanding of both normal and abnormal presentations, which will result in constant development and reinforcement of their skills in surface anatomy, internal procedures that increasingly are required to utilize ultrasound.

August—September 2017—Practical portions of the new ultrasound curriculum launch in the MS1 Anatomy, Introduction to Clinical Medicine I (ICM), and Osteopathic Manipulative Medicine (OMM) courses, as well as the MS2 ICM, OMM, and Pathology courses. Clinical ultrasound curriculum additions launch in the Cardiology, Family Medicine, OB/GYN, General Surgery, and Emergency Medicine rotations.

Future plans—As the ultrasound curriculum progresses, students and faculty will be regularly surveyed (under an MWU IRB approval research protocol) to assess their understanding and participation. Additionally, each course will track the quantitative results of student performance on US-based questions in course examinations and exercises to determine efficacy of instruction. With any new curricular experience, changes, and updates are anticipated.

REFERENCES


SIGNIFICANCE

Skills and Simulation Center have five Sonosite, Inc. (Bothell, WA, USA) M-Turbo model. Funding has been requested for an additional eight Sonosite Turbo model as well as OB/GYN training machines with four endocavity transducers.

December 2016—First meeting of the Ultrasound Development Subcommittee

January 2017—Meetings begin for both pre-clinical and clinical education to determine how US will be taught in these portions of the curriculum.

Judith Horn, PhD

January 2017—Meetings begin for both pre-clinical and clinical education to determine how US will be taught in these portions of the curriculum. Initial working groups discuss and develop US-based curricular changes to specific course disciplines. The primary goal is integration of USMED into existing curricula as a preferable alternative to either adding a new course to the curriculum (as we saw in the previous series) or in conjuction with the normal physical exam.

As stated in MWU-JHU A.T.S. Still SOMA, MWU-AZCOM A. T. Still-MWU faculty development series—fostering professional development and hands-on clinical experiences to guide hands-on ultrasound use to further developing an understanding of both normal and abnormal presentations, which will result in constant development and reinforcement of their skills in surface anatomy, internal procedures that increasingly are required to utilize ultrasound.

This longitudinal ultrasound curricular model of education encompasses a four year, step-wise, approach to the integration of ultrasound education across basic science and clinical curriculum. Utilizing both a didactic and non-didactic approach, students will be introduced to the basic physics, operation, and clinical applications of ultrasound as well as its role in diagnostic and therapeutic procedures. The curriculum will be carried out in the involved basic science and clinical courses while also providing students opportunities to learn clinical applications of ultrasound as related to their specific medical specialties.

The philosophy behind this curricular model is that students get more than just practical training on the use of an ultrasound machine. Instead, this model focuses on the iterative exposure of students to both practical and interpretive ultrasound within the objectives of their courses. Students will constantly be challenged to orient to and interpret ultrasound images of normal anatomy and abnormal presentations in order to facilitate recognizing abnormal ultrasound images, perform more advanced ultrasound applications, and begin to understand techniques used for ultrasound procedural guidance.

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1. Ultrasound is a useful tool in clinical practice, because of its excellent potential for image generation, portability, and relatively low cost. It is non-invasive, non-ionizing, and real-time. However, it is only one diagnostic platform of choice, and providers must be aware of the potential limitations of the technology.

2. The importance of ultrasound training in the clinical setting and its potential to enhance clinical care is widely recognized. Ultrasound training for the examining physician should include: Ultrasound fundamentals: physics, biology, and instrumentation. Understanding anatomy, pathology, and physiology. Understanding the indications and contraindications for ultrasound. Understanding the safety and ethical issues associated with ultrasound. Understanding the role of ultrasound in diagnostic and therapeutic procedures. Understanding the role of ultrasound in procedural guidance. Understanding the role of ultrasound in research.

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