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Building a robust medical imaging curriculum in the pre-clinical phase of undergraduate medical education

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Keywords

Assessment of learning, Classroom/didactic teaching

Abstract

Purpose and Rationale
The utilization and interpretation of imaging studies is an increasingly integral part of the practice of medicine, however there are large variations in how imaging is taught in medical schools with one of every six programs with no recognized imaging curriculum[1]. A national study performed in PGY-1 residents demonstrated a lack of confidence in basic imaging skills, such as recognizing abnormal from normal findings, indications for ordering specific tests, and understanding adverse effects of contrast agents[2]. This study aims to evaluate the current status of medical imaging education during the pre-clinical years of medical education at Oregon Health and Science University (OHSU), and to use that information to design and integrate high-yield learning resources into the curriculum.

Methods
Current medical students at OHSU were invited to complete a six-question survey containing a mixture of multiple choice, Likert scale, and open-ended questions. This survey was aimed at evaluating studentsâ€™ confidence level at interpreting basic findings on common imaging studies, exploring educational resources currently utilized, and what additional training opportunities students desired. The results of the survey were used along with a catalog of existing imaging resources to identify targeted curricular interventions.

Results
According to survey results, students highly desired additional imaging educational resources to be made available throughout the pre-clinical curriculum. Most students did not utilize already available online resources provided by teaching faculty, and relied primarily on online resources such as google images and Radiopaedia. Based on these results, changes were made to increase visibility of available resources on the learning management system, and additional practice resources such as informative flashcards for structural identification and recognizing common imaging-relevant pathologies are being developed, which will be collected into a central repository for students. Additionally, a strategy for effective communication regarding the available resources and how to access them is being developed. Going forward, students will be re-surveyed to determine whether these interventions improved student confidence in basic imaging skills.

Learning Objectives

1. List current available resources for imaging education at OHSU.
2. Describe student understanding of available resources provided by faculty.
3. Describe current resources commonly used by students.
4. Identify different strategies for improving access to training resources and introducing students to different modalities for imaging education.