

Creating an Imaging Appropriate Guideline Lecture Series for Trainees

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The goal of this project is to improve the quality of radiology education, increase awareness of and familiarity with the imaging appropriate guidelines to optimize patient care and decrease costs at all levels of training including residents, attendings and medical students.

As radiology has become ubiquitous in diagnostic medicine, it is vital to prepare future clinicians to optimize the use of imaging to best serve their patients. Historically, radiology has been a required course only in 10% of the medical schools across the country, and usually offered only in the clinical years of training. Imaging appropriate guidelines have existed for years and have guided clinicians, including radiologists, as to the most appropriate and economical use of this extremely valuable resource. As health care costs skyrocket, various national and local efforts are underway to control further expense to our society. With the upcoming Protecting Access to Medicare Act mandate, integration and implementation of the clinical decision software (CDS) will help guide the use of various diagnostic tools, including imaging. Education regarding these guidelines will be invaluable. A personal and professional goal of mine is to introduce and familiarize trainees at various stages regarding imaging appropriate guidelines.

I guided the creation of a set of case-based lectures encompassing various imaging modalities. These lectures aim to present a clinical scenario and, through a discussion regarding the clinical differential diagnosis, guide the audience to select the most appropriate imaging modality to investigate the various hypothesized etiologies. The lectures are anchored in the evidence-based imaging appropriate guidelines set forth by the American College of Radiology. Under my direction, senior radiology residents presented these lectures to residents in specialties over the course of the last year including radiology, family medicine, internal medicine, ophthalmology and the students training to become advanced practitioners in the nursing school. The feedback has been overwhelmingly positive, with more lectures requested, including from various additional specialties. Pre- and post-test data demonstrates an increased awareness of contrast policy and increased familiarity with imaging decisions when faced with the common imaging selection dilemmas encountered in the hospital setting.

Future goals include reaching a wider audience, including trainees in all specialties, potentially via a training module during residency orientation administered through the GME office. In addition, this knowledge is extremely salient at the attending level and for our future ordering clinicians, the medical students. Our allied health professionals who are increasingly becoming the ordering clinicians will also benefit greatly from this resource. To further this goal, I plan to collaborate with educators in various specialties at the NewYork-Presbyterian campus in Washington Heights and across the region to spread this knowledge. Furthermore, availability of these lectures online in a flipped classroom paradigm will make dissemination facile and

interactive; plans to convert these lectures from a class-based didactic series to online modules have already begun.

These lectures have already been incorporated into the diagnostic radiology elective in which a majority of fourth-year students at Columbia University Vagelos College of Physicians and Surgeons are enrolled. As most medical students will not become radiologists, knowledge of imaging guidelines is vital to their future careers as caretakers, and many state that this component has been the best part of their radiology training. I hope to continue my efforts to make this resource easy to access and enhance usage of the CDS tools, which will be part of the diagnostic pathway in the very near future.

As a radiology educator, my goal is to bring radiology education to trainees at a much earlier stage in medical training and to provide it in a much more integrated manner. To that end, in addition to the imaging appropriate guideline lecture series, I collaborate with several educators within the medical school, including Dr. Paulette Bernd in Gross Anatomy, to introduce radiology in the very first and defining course in medical training. Lastly, I have received the Hybrid Learning Course Redesign and Delivery grant from the Office of the Provost at Columbia University. By utilizing the flipped classroom paradigm, I expect to provide rich didactic education online by use of Columbia faculty-led lectures and modules to third and fourth-year medical students.