

AbstractID: 11545 Title: Improving MRI Physics for Radiology Residents: Year One

Introduction: Educational concepts in various presentations by Perry Sprawls and in the AAPM 2008 Workshop (“Becoming A Better Teacher Of Medical Physics”) suggested that our MRI physics course was geared to the lowest levels of learning, according to Bloom's Taxonomy. We elected to increase the number of higher-level learning activities in the course in an effort to improve understanding and increase retention.

The Problem: Our traditional course was comprised mainly of PowerPoint lectures. One two-hour lab was held in the evening. Most course time was spent at the “remembering” level, with higher level learning limited to a few questions in class, the lab and an exam. Residents did little outside of class. Engaging the residents in dialog was difficult. The physical layout of the classroom stifled discussion. The mindset of residents was to gather essential MRI facts to memorize before the fall radiology physics exam.

Our Solution: We revamped the course to incorporate more higher-level learning activities. A typical class included: a) out-of-class assignments b) a quiz based on the assignments to stimulate thought c) a relevant “artifact of the day” to provoke group discussion d) and demonstrations and discussions using a variety of media. Class was moved to a room inside an MRI suite for access to MRI hardware/software and to give the residents exposure to the MRI environment. Class met around a small table to facilitate discussion. We expanded to four lab sessions. Clinical relevance of MRI physics topics was stressed.

Evaluation: We believe our classroom activities and labs inspired more higher-level thinking, engaging residents to “figure out” (apply, analyze, and evaluate) solutions to clinically relevant problems. A survey of the resident’s evaluation of the course will be presented.