

Purpose: To provide a model for a comprehensive and collaborative program to enhance the effectiveness of physics education for residents in radiology.

Methods and Materials: It is a major effort to address many of the existing challenges that exist today with physics education for radiology residents. Development of physics knowledge that will enhance clinical practice is best achieved through a synergistic combination of learning activities, each of which has specific values. The three specific elements of the progressive learning process are: 1. Class discussions on general topics conducted by physicists early in the residents program, 2. Focused learning activities in the clinical environment as residents begin specific clinical rotations coordinated by clinical faculty with on-line modules or appropriate literature assignments, 3. Individual and group interactions, investigations, and study by residents. The physics faculty can enhance this phrase by providing study guides, learning objectives, and especially by participating in discussions and consultations.

Results: The model relates to an evolution that is underway, in a variety of forms, in the various radiology residency programs and is actively being developed and applied by the authors.

Fundamental to this evolution are existing challenges with scheduling, changes in the board examination process, and the rapidly increasing availability of web-based resources. The two major sources at this time are the RSNA/AAPM modules and the resources provided by the Sprawls Educational Foundation both to provide high-quality visuals for classroom discussion and modules for individual study. The content of these collections is currently being expanded.

Conclusions: This model for clinically focused physics education for radiology residents provides a plan for highly effective programs that combine the values of three distinct types of learning activities to enhance physics education and utilizes the rapidly expanding web-based resources to enhance human performance of both physics faculty and individual residents.