

AbstractID: 2300 Title: The Role of the Medical Physicist in the Digital Era

According to AAPM Report # 42, Role of the Clinical Medical Physicist in Diagnostic Radiology (1994), the responsibilities of a Medical Physicist are:

1. Management of Physical Aspects of Diagnostic Imaging Systems
2. Establishing and Maintaining a Radiation Safety Program
3. Optimization of the Clinical Imaging Procedures
4. Participation in Educational Programs

These responsibilities were defined when analogue imaging was the standard and film was the medical record and display media for most radiographic studies. Today all modalities can be acquired in digital format and the storage and display are functions of the PACS. This change modifies the medical physicist's role in each of these areas. The management of the imaging systems now includes the acquisition modality, the soft and hard copy media, the storage of images and other related data, and the communication of data between each of these systems. The radiation safety program now needs to closely monitor radiation exposures in CR, DR, CT, etc, especially now that the image displayed to the technologist is never "too light or too dark" relative to the exposure used. With digital image acquisition, the optimization of image processing for specific body parts/views and different modalities can be done in many ways and these methods are changing all the time. These changes necessitate an increase in education of all personnel in what is occurring in each of these areas. Therefore, the Medical Physicist must be knowledgeable in all areas of digital acquisition, processing and distribution in order to be effective in their position. This symposium will review these areas and provide a guide for the Medical Physicist to determine where they need to get further education to function in the digital era.

Educational Objectives:

1. Essential Concepts of PACS and Digital Radiology
2. Understanding Digital Modalities: System Integration and Use
3. Understanding Digital Modalities: Image Quality and Dose
4. PACS, HIS and RIS: What Does the Physicist Need to Know?