

AbstractID: 11958 Title: Digital Mammography Update: Design and Characteristics of Current Systems

Full Field Digital Mammography (FFDM) systems are fast becoming popular and replacing conventional film-screen mammography systems. FFDM systems use a digital detector instead of screen-film to capture the image of the breast. Several FFDM systems based on different digital detector design and materials are currently available. Some systems are characterized as direct conversion detectors and some are based on indirect conversion process. The digital detectors can be characterized by image quality metrics such as detector quantum efficiency (DQE) and modulation transfer function (MTF).

In this lecture, the physics and technology of the digital detectors used in FFDM will be discussed as well as the advantages and applications arising due to the availability of these systems will be presented. The most recent commercially available systems will also be discussed.

Educational objectives:

1. Understand the physics of digital detector technology
2. Understand the image quality metrics such as DQE and MTF
3. Recognize that vendors use varying detector technology in FFDM systems
4. Appreciate the advantages and disadvantages of digital mammography systems