

The soft-copy display is an important component of digital mammography without which many advantages of digital mammography in terms of image quality and efficiency may not be realized. In this course, the psychophysical issues pertaining the soft-copy viewing of mammograms will be discussed including resolution, noise, and luminance. The course further covers current technologies and presentation considerations for effective display of digital mammograms. Important display characteristics affecting mammographic display quality will be identified. They include luminance, luminance uniformity, resolution, noise, veiling glare, reflection, angular dependencies, color uniformity, geometrical distortions, and display artifacts. Rationales for display quality evaluation will be outlined and the methods for assessing the performance of soft-copy displays will be described based on the recent recommendations of the AAPM Task Group 18 (TG18). Specific acceptance testing and quality control methodologies (daily, monthly, and annual) will be described and the current acceptable performance levels for mammographic displays will be indicated.

Educational Objectives:

1. To review current technologies for soft-copy display of digital mammograms
2. To discuss psychophysical and presentation considerations for displaying mammograms
3. To identify key display quality factors
4. To describe performance assessment methodologies and acceptance criteria for soft-copy mammographic displays based on the AAPM TG18 guidelines