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Digital Image Processing in Radiography

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In digital radiography, enhancement processing is used to transform 'For Processing' images to 'For Presentation' images that are intended for viewing. The processes used have become an essential element of image quality. They include exposure recognition, grayscale rendition, edge restoration, noise reduction, and broad area equalization. The numeric methods used will be reviewed and related to current commercial image processing solutions.

Often, the appearance of processed digital radiographs is adjusted to best depict the structures of particular body parts. The appearance desired at a particular medical center typically results from interaction between the equipment supplier, medical physicist, and radiologists. Differences associated with thoracic, abdominal, skeletal, and breast imaging will be illustrated.

Learning Objectives:

1. Understand the sequence of steps used to process digital radiographs for presentation on a workstation.
2. Learn how certain commercial systems implement processing.
3. Understand how enhancement processing can be adjusted to achieve the appearance desired for different body parts.