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What You Really Need To Know About Digital Radiography (1.5 hrs)

Abstract

Almost every facility in the country is having the same problems and concerns with digital radiography. Almost no one knows that we can, and should, be using 15-20 kVp higher than what we used for film/screen with around 1/3rd of the mAs. Also, how to really understand the Index numbers (S, LgM, IE, etc.) and how and why they can be corrupted. Going along with that is how to really critique a digital image using the histogram, magnification modes and the Index number. I also talk about the legalities of post collimation, changing the algorithm, annotation vs. the use of markers and using too much mAs. I speak about how ALARA is almost being ignored and my new version of it, which is How Low Can You Go. Furthermore, I talk about what needs to be done to get radiology back to the *art form* it once was. Plus I have all kinds of incredible new research we have just discovered at CHOMP concerning the different thicknesses of lead aprons and the use and efficacy of lead shields.

Outline

I. Optimum kVp

- A. What is the new Optimum kVp?
- B. How do you make these changes?
- C. "As Low As You Can Go"

II. Image Critique

- A. Monitors
- B. Using the Exposure Index numbers properly, histograms, magnification modes

III. Legalities

- A. Cropping, annotating, changing algorithms
- B. mAs Dose Creep

IV. Lead Shields

- A. Proper patient shielding
- B. Proper technologist shielding

Objectives

1. Select appropriate technical factors to optimize image acquisition, consistent with ALARA.
2. Describe at least three different ways to critique a digital image.
3. Discuss things a radiographer can do that may cause legal problems to arise.
4. Explain the newest information concerning lead shields and shielding.