

10 RESOLUTIONS WHEN GOING DIGITAL

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Guest Editorial

Resolutions for a Digital Age

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While we're still at the beginning of 2008, now is a good time to look over your work practices and come up with a list of changes you can make to improve your department.

I offer you these 10 resolutions I've compiled from topics I covered in my column, "Going Digital," during 2007.

1. Position correctly the first time. It may be easier and faster to repeat digital images, but that's no reason for sloppy positioning. Repeats contribute to patient dose, and the computer can't correct for that.
2. Use the correct technique. Strive to use a technique that puts the image exposure indicator in the center of the range for your system. Doing so will keep the image from being under- or over-exposed and limit patient exposure. Consider using higher kVp and lower mAs based on the 15 percent rule.
3. Collimate instead of crop whenever possible. Limiting field size by collimation achieves several goals: It reduces patient dose, it limits scatter production and it assists with correct image adjustment by the algorithms.
4. Use your markers. Place markers before exposure to eliminate any questionable results from image manipulation. It's better from a legal perspective and less confusing for others who view the images.
5. Limit image receptor exposure to scatter. Digital receptors are very sensitive to scatter. Collimation and technique affect scatter production, and excessive scatter will lower contrast in CR and DR systems. While DR is affected by scatter created during exposure, CR can be affected by scatter before or after exams. Don't leave CR plates propped up in a room during exams.
6. Use the correct algorithm. The algorithms that process digital images are set so that the automatic rescaling and look-up table will give the appropriate density and contrast for each body part. If your image does not appear correct due to technique, location or another reason, don't just run it under another algorithm. Chronically wrong algorithms should be adjusted.
7. Use grids for chest and large body parts. A grid will not affect scatter production, but it will help reduce the amount that reaches the image receptor. Grids should always be used for chest work, even on portables.
8. Limit image manipulation. Digital images should be manipulated as little as possible before being sent to a PACS. The more an image is manipulated, the less information, or data, that is sent to PACS, which means the radiologist has less information with which to work.

9. Perform quality control activities. Digital systems must be checked periodically just like film/screen systems. Images must be checked for positioning errors and for exposure values. Repeats and accepted images should be checked to ensure dose creep is kept at bay, and monitors should be evaluated.

10. Seek educational opportunities. Digital imaging is still relatively new and it is difficult to use if you don't understand how it works. Educate yourself through books, online courses or seminars. Books and online courses allow you to study at your convenience while seminars put you face-to-face with others who are finding their way through the digital age of radiography.

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