



**July 2010**

### **CT Protocol Review Committee**

#### **Do You Need Help?**

If you have any questions or need to contact us for physics testing, radiation shielding evaluations, or radiation safety training, please call or email us at anytime at the following:

**General Diagnostic (Including CR, DR, Shielding ,State Regulations & Annual Audits):**

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#### **Nuclear Medicine & RSO:**

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There are many ways to improve CT imaging. A recent national meeting on optimizing CT protocols recommended the formation of a committee to review CT protocols at every institution. This committee would look at all aspects of a CT protocol and should at a minimum consist of a Radiologist, Technologist, and Physicist. The ultimate goal of this committee is to provide diagnostic quality images at the lowest dose possible.

There is a lot of room for improvement with CT and just because something is working doesn't mean that it is optimal. Unfortunately there is no obvious indicator that an image was formed using too much radiation. It could be possible to reduce the radiation by half and still get the same information from the image; because of this every protocol should be periodically reviewed to determine if it is optimal.

We recommend every institution have a procedure for reviewing protocols and a policy for how and why those protocols can be changed. If you would like assistance in evaluating protocols or more information on ways to improve imaging please contact someone from RPC.

### **Do Not Forget Your Shielding Plan**

Minnesota and Wisconsin state laws require performing a shielding plan/evaluation prior to installing any new x-ray equipment or structurally modifying an exam room. Even mobile x-ray units may require a shielding plan (such as a mobile c-arm primarily used in specific surgery rooms).

A shielding evaluation determines the proper amount of protective materials (lead, concrete, sheetrock) required to reduce the radiation scattering outside of the exam room to a safe level. The completed shielding plan **must** be sent to state inspectors for review and authorization **PRIOR** to beginning construction. Low dose units (mammography, intraoral dental, bone density and podiatry) rarely require anything more than standard sheetrock and a solid core wood door. Low dose units still require a shielding plan to verify the specific unit does not warrant more substantial shielding. However, shielding plans for low dose units are not required to be reviewed by state inspectors.

Please schedule time for the shielding evaluation. State inspectors specify a 30-day turn around time to review and authorize plans. RPC generally completes a shielding plan within a week once we receive all the necessary information from the facility (such as architectural plans, equipment specification and number of patient exams). However, it often takes facilities a week or two to collect all this information. Any alterations to placement of any walls, windows, doors or x-ray equipment will invalidate a shielding plan. So please be sure all major floor plans are final before evaluating the shielding.

Please contact us with any of your shielding questions or needs.



### Radiation Physics Consultants Can Help You

#### Meet the challenge of cost effective health care by:

- Dealing with the headaches and costs of regulations
- Reducing expense in equipment purchase and maintenance
- Assisting with administrative policies and procedures

#### Improve radiation procedures by:

- Preventing patient overexposure by evaluating your exposure protocols
- Limiting employee exposure
- Assisting you evaluate advances in technology that may benefit your department

#### Ensure excellence by:

- Maximizing effectiveness of new equipment
- Balancing faster and more detailed imaging for optimal image quality
- Suggest methods for Continuous Quality Improvement

## Wisconsin X-Ray Rules Update!

With the advancement of technology in the area of X-Ray, the State of Wisconsin decided that was necessary to revise the X-Ray Rules since they had not been updated since 2006. It is important to know that the revision process has already taken place and the newly updated x-ray rules for Wisconsin actually went into effect on May 1, 2010. There are many different items a facility should be aware of; however, we could not possibly list them all out in a short article. Therefore, we recommend having all Wisconsin facilities go to the Wisconsin Department of Health Services (DHS) X-Ray website ([http://dhs.wisconsin.gov/dph\\_beh/BEH/Xray/index.htm](http://dhs.wisconsin.gov/dph_beh/BEH/Xray/index.htm)) for more information regarding the updated rules. However, before you check out the website, we would like to take a moment and highlight some more notable areas that you should begin to implement as soon as possible. They are as follows:

1. An Annual RSO Program Audit needs to be conducted which covers all of the applicable areas: Therapy, Nuclear Medicine and/or Diagnostic.
2. In order for an individual to conduct fluoroscopic examinations, they must either be a licensed practitioner of the healing arts or a radiologic technologist and have on-site training documentation of the safe use of fluoroscopic x-ray systems. If one meets the qualifications, but does not have documentation of the appropriate training on-site, they cannot by WI Rule conduct fluoroscopic procedures.
3. CT x-ray systems used for diagnostic procedures on humans may only be operated by an ARRT certified person who has been specifically trained in its operation.
4. The Registrant must follow manufacturer's recommendations for Computed Radiography (CR) and Digital Radiography (DR). The requirement covers the areas of: Handling and Processing of Images, Quality Control (QC) and Maintenance Procedures (including frequency and scheduling of QC or Maintenance).
5. Annual dosimetry reports are only required to be distributed to employees with an accumulated dose of 100 mrem/year or greater.

## Don't Pinch Apps

We see the following scenario occur far too often so we want to bring it forward in the hopes that essential training does not suffer. Imagine your facility gets the newest, latest and greatest piece of imaging equipment. The remodeling is done, the equipment is on site, installation is progressing, and the long wait is nearing an end. Then, the day before applications training starts, there is an equipment problem and a part needs to be delivered from a remote location; or there is the all-too-common networking problem. The whole process comes to a standstill...but the clock keeps ticking towards the time for the "first patient."

When something like this happens, and it happens more often than not, facilities are choosing to cut their applications training short rather than move back the first patient. **This should not be.** We know there is a lot of pressure to get the machine into clinical use, but we cannot stress enough how valuable the training time with a specialist can be. Please remember to plan for installation delays so you can get the most out of the new technologies in which you have made a considerable investment.

**If you do not want to receive this newsletter in the future, please email us at [jhulteen@smdc.org](mailto:jhulteen@smdc.org) to assure we remove you from our mailing list.**