



February 2010

Annual Quality Assurance Program Audits:

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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Mammography & CT:

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MRI & Cyber Knife:

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This is a reminder that facilities in Minnesota are required to conduct an Annual Radiation Safety Officer (RSO) Audit at intervals not to exceed 12 months (MN Rules 4732.0540). While at this time most Minnesota facilities know they are to conduct an Annual RSO Audit, remember that the Minnesota Department of Health (MDH) requires the audit be performed at the same time each year (not to exceed 12 months). MDH also requires that all corrective action must be implemented within a timely fashion (i.e. within 30 days of notification) and any corrective actions **MUST** be documented.

We have also recently learned that facilities in Wisconsin are also required conduct an Annual Radiation Protection Program Review; however, it is not required that the review be conducted by the RSO. WI Rules DHS 157.21 (3) requires the following, "A licensee or registrant shall, at intervals not to exceed 12 months, review the radiation protection program content and implementation." We recommend ensuring that an Annual Radiation Program Review is being conducted and documented appropriately. If the facility is not currently conducting the Annual Review, implement a plan to conduct the review as soon as possible.

If you need assistance in performing your Audit/Review, please contact David or Jeremy at RPC. Remember this is audit is for the general diagnostic QA Program (Nuclear Medicine audits are different). We can perform the Annual Audit/Review on behalf of the RSO or facility, including a written comprehensive report and suggestions for corrective actions.

Pitfalls on the Road to Digital Mammography

Delays due to unforeseen issues seem to be the rule rather than the exception when making the move to digital mammography. We just want to highlight the most common problems we see in an effort to smooth your transition.

By far the most common delays are due to issues with the Review Work Station (RWS or Radiologist workstation) and/or laser printer. The RWS must be in its final position and calibrated by the physicist at acceptance testing (no matter where it is located). Therefore, there **MUST** be calibration software installed, a QC Manual onsite, **AND** a photometer available to the physicist. Some monitors have built in photometers, while others have an external "puck" (please know where your puck is!). Also, make sure the physicist can login with **NO** restrictions. **You must be able to print** an acceptable image from a tested and approved laser printer, even if off site. The physicist **MUST** physically review films (even if sent via mail). This all takes additional time.

Other potential delays are system integration problems between the digital mammography unit, RWS, laser printer and CAD. The various vendors' personnel are often not available to address the issues. Knowing exactly who is responsible for each component and assuring they are available when needed can prevent derailing the whole process. **REMEMBER:** The FDA and ACR must approve the system **AFTER** physics testing and **BEFORE** first use on patients. This can take a couple days. There are many other things to consider while converting to digital mammography, but these are the most common "unforeseen" issues.



Easing the Change to New Technologies.

Radiation Physics Consultants keeps up to date on the newest trends in technology. We can assist your facility with properly setting up the newest modalities such as CR/DR Radiography, CR/DR Mammography, MRI, CT, PET/CT, Nuclear Medicine and CyberKnife. The complexity of purchasing, configuring, testing, registering and maintaining QC of new technologies can be overwhelming. RPC can help you understand all the required steps and ease the process of a stressful acquisition.

Some key steps often overlooked include: required Shielding Evaluation (state requires they review it prior to beginning construction), acceptance testing prior to first use, knowing and performing all required and recommended QC tests, and accreditation for advanced imaging such as CT & MRI (Medicare requirement coming 2012).

If you need assistance with equipment acquisition, please contact the appropriate person from page 1 of this newsletter (left section).

CT and Risk

A lot of recent media attention has been focused on risk from CT exams. This is primarily from an FDA warning about risks from brain perfusion studies and articles published in medical journals. While it is true that there are risks from CT, those risks are smaller than the risk of not having a necessary exam.

When risk from CT is discussed there are two types of effects that are possible. The first type is usually a visible injury; this can range from something like a mild sunburn to hair loss to killing skin permanently. These effects occur in a relatively short period of time after the exposure and occur only after a very high dose. This type of reaction to radiation is nearly impossible in CT when using proper techniques and protocols, but the reactions do occur in fluoroscopy occasionally even when all proper precautions are taken.

The other type of risk from CT is more difficult to track and is an increased incidence of cancer later in life. This risk appears to increase as dose increases and is thought to change linearly all the way down to zero dose. Unfortunately, the studies that show this increased risk do not deal directly with CT. The studies were based on survivors of atomic bomb explosions and nuclear reactor accidents, whose exposure to radiation is much different from CT. Because of this it is difficult to determine the true risk from a CT scan, but it is more likely than not that there will be a small increase in the number cancers 10 to 40 years after the exposure of today's CT exams.

How big that increase of cancer will be is of some debate. Unfortunately, this risk can appear greater than it actually is if the data is misrepresented or some facts are left out. This was the case in some recent articles published in journals that do not typically deal with radiation issues. These articles were picked up by the press, and as a result, there is a lot of bad information circulating about radiation and risk. This does not mean that radiation from CT is not a serious issue OR that CT is not sometimes over used, but as said before the risk from not having a necessary CT exam is greater than the risk from CT radiation.

If you would like more information about this or radiation in general, please feel free to call or write me with any questions you have.

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