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A Primer on Radiation Safety

Dear reader,

In a recent issue, this journal addressed the reasons why radiologists could benefit from improved patient-radiologist communication, one of the main forces behind this being the drive to ensure greater patient information about the risks of medical imaging exams. As a follow-up to this, the cover story in this edition addresses the whys and hows of ensuring patient and also personnel safety in this context, since the two are inextricably linked.

Radiologists and radiologic technologists alike care about patient safety: of this there is no doubt. However, there will inevitably be gaps in knowledge regarding what exactly the correct dose of radiation should be, in which cases ought this be adapted, and when or how must this be communicated to patients. The ALARA edict encourages practitioners to keep radiation dose As Low As Reasonably Achievable, but what is being done to communicate to patients about the potential risks in seemingly innocuous exams, when those in charge of performing them may not be as clear or informed as one would hope? I suppose what we wish to emphasise in this cover story are the risks in presuming that ones knowledge is complete or ones patient communication flawless.

It is unfortunately not possible to comprehensively address the issue of managing radiologic risk in one cover story section. Nevertheless, we aim to hit the major points, including the viewpoint of a radiologic safety expert, a radiologic technologist who has previously published recommendations for her peers in promoting good practice, and an article that covers how Canada is sharing this responsibility for patient safety with general practitioners. Finally, we also include the viewpoint of the interventional radiologist, by Dr. Bartal and Prof. Haskal, two extremely authoritative writers who describe the method used in their department that works to reduce and manage exposure, not just measure and record it.

Our first contributor, Eugenio Picano, writes eloquently about radiologic risk communication in medicine: how it presently is and how it should be. He states that "Every radiological and nuclear medicine examination confers a low but definite long-term risk of cancer, but patients undergoing such exams often receive inaccurate or no information about these risks" and cites the American College of Radiology's (ACR) recent white paper, recommending that physicians "should work with patient advocacy organisations to more effectively communicate the potential radiation risks and health benefits of imaging procedures". Here you will read about the perceived gaps in current knowledge and a thorough look at attempts to set them right.

The approach outlined in Dr. Picano's paper has been formally endorsed by the International Atomic Energy Agency, that outlined in 2010 how informed consent is a fundamental requirement for all radiological procedures, and a main focus of the three A's strategy (i.e. Awareness, Audit and Appropriateness). Justification of each and every procedure is a key theme.

A further article focuses on the paediatric practitioner's view of radiation safety: Dr. Amber Gislasen and colleagues emphasise that "Children are still growing, so their cells are rapidly dividing, making them more prone to DNA damage from radiation than adults". They draw attention to the Step Lightly campaign, an extension of its Image Gently predecessor, which urges practitioners to "child size" x-ray exam protocols, to step lightly on the pedal, and to consider other modalities rather than radiation based imaging.

Dose awareness and dose management are crucial areas of good management development policy and it is up to chairmen in the medical imaging department to set a strong and inarguable policy that filters from the top down. With this in mind, you will certainly find other useful papers published in IMAGING Management on complementary areas of patient safety and communication coming during this year and beyond.

To offer your feedback on any of the articles or topics discussed in this journal, please write to editorial@imagingmanagement.org.

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