BY CYNTHIA E. KEEN

ESR launches EuroSafe Imaging campaign to address challenges of radiation protection

Patients undergoing x-ray and CT examinations will probably never know it, but 2014 looks set to be a critically important year for making the whole process safer because the ESR has chosen ECR 2014 to start the EuroSafe Imaging campaign.

Just as the launch of Image Gently in January 2008 has educated both imaging and healthcare professionals worldwide about the need to minimise radiation dose exposure to children, the ESR's new initiative is also expected to have a significant impact, given the society's global reach and membership base.

This new initiative – as well as the accomplishments and activities of Image Gently, of the American College of Radiology (ACR)/RSNA's Image Wisely, and of patient safety campaigns in the U.K. – will be discussed at today's ESR Radiation Protection Session. Dr. Madan M. Rehani, the ESR's director of radiation protection, will be joined by three leading advocates of radiation protection for a highly informative session on how radiologists, radiographers, and medical physicists are making imaging safer for their patients.

"Europe has a great tradition of placing much importance upon medical radiation protection," Rehani said. "However, for each new generation, each decade since the introduction of the CT increases the risk of harmful exposure. While someone of my age may only have several high dose imaging exams in their lifetime, a child may have a dozen or more. In 2001, when I joined the International Atomic Energy Agency (IAEA) as a Radiation Safety Specialist, there was not much discussion about this subject except with respect to protecting staff (e.g. radiologists and radiology department staff) from exposure to radiation. Now the focus is predominantly on the patient."

The objectives of the EuroSafe Imaging campaign are to promote appropriateness in radiological imaging, to maintain radiation doses within diagnostic reference levels (DRLs), and to use the ALARA (as low as reasonably achievable) principle to further reduce doses without compromising clinical image quality. "The campaign will also join forces with national radiological societies, subspecialties societies, related medical professions, international organisations, industry and utilise social media effectively," he explained.

To be supported by a major media campaign, a variety of outreach programmes, and a dedicated website, EuroSafe Imaging has an ambitious number of activities planned. Educational material prepared in multiple European languages will include development of lists of criteria for safe radiological exams for CT, mammography, radiography, and other less used but high radiation dose procedures. Radiation protection sessions for department chairs and senior radiologists will be held. Training material and electronic self-assessment modules on radiation protection topics for residents will be developed and every ESR electronic newsletter will include an article on this topic.

On the healthcare IT front, the ESR will continue to work on its current large scale project to develop European imaging referral guidelines and to embed them into a web-based clinical decision support (CDS) system at the point-of-care to increase their use. CDS deployment has been proven to reduce the number of exams ordered for patients that are either clinically inappropriate or unnecessary.

Development of a certification scheme for hospitals that complies with the campaign's recommendations is planned, and the Friends of EuroSafe Imaging group is being established. Both this group and the ESR will be lobbying for funding of medical radiation protection activities.

"This campaign is building upon excellent projects supported by the European Commission which have produced valuable results. The ESR itself has been coordinator of a number of projects on medical radiation protection. The goal is to consolidate these efforts, present a coherent picture, and increase visibility throughout Europe. One of the most important aspects of the campaign is to show how much we have achieved in terms of patient protection. It's a 'what we have done and achieved in Europe' and 'what we can do' focus," Rehani noted.

One of its projects is to implement a European Commission Tender project to provide European DRLs for children and to promote their use. The project will be undertaken by a consortium that includes the European Society of Paediatric Radiology, one of more than 75 members of the Alliance for Radiation Safety in Pediatric Imaging, European Federation of Radiographer Societies (EFRS), European Federation of Organisations in Medical Physics (EFOMP) and Finnish Radiation and Nuclear Safety Authority (STUK).

With this perspective, it's no surprise that the ESR also plans to link the campaign with Image Gently. Prof. Marilyn J. Goske, professor of radiology at the Cincinnati Children's Hospital Medical Center in Ohio, was one of the original team of concerned paediatric radiologists to launch the Image Gently campaign. She remains one of its most active leaders.

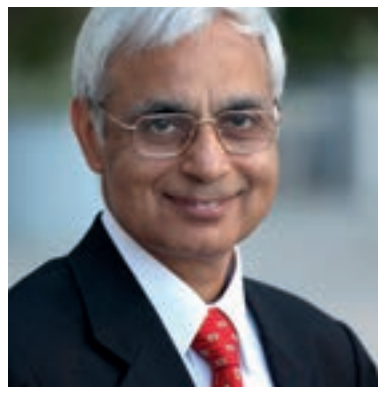
Since its inception, the Alliance has conducted six major international campaigns, starting with an initiative to 'child size' CT scans and to encourage physicians to order alternative exams if possible. Alliance members have worked diligently with medical device vendors to encourage them to adopt a standardised exposure index, to provide better and more comprehensive training to radiographers on imaging children, both with respect to educational materials and on-site training by application specialists. CT vendor accomplishments in particular have included new scan protocols to reduce radiation exposure and reconstruction software that improves the quality of a low dose image. But the routine display of size-specific dose estimates on CT scanners will better estimate patient dose for quality improvement within radiology departments and in dose registries, she commented.

"The Image Gently website is filled with educational information, some of which is available in several languages, for parents, ordering physicians, radiographers, radiologists, and medical physicists. Recent campaigns, such as the ones developed for fluoroscopy and nuclear medicine, had a lot of input from European societies," said Goske. "Until Image Gently began, Europe was at the forefront in protecting its paediatric patients from ionising radiation. Look at its use of ultrasound. We think that Image Gently has this desire to protect children global."

In her talk, she intends to provide an update on the Image Gently campaign. In particular, she will discuss the need for diagnostic reference levels in paediatric radiology, and the importance of educating parents about what they need to do and to ask in this digital age. Unlike several generations alive today, children now have the unique opportunity of having all of the imaging exams and reports of their lifetime consolidated electronically. "Young parents especially have become social media astute. Our social media efforts can make them knowledgeable about how they can keep track of the radiation exposure of their children and also to ask if a non-ionising radiation exam can be used," she added.

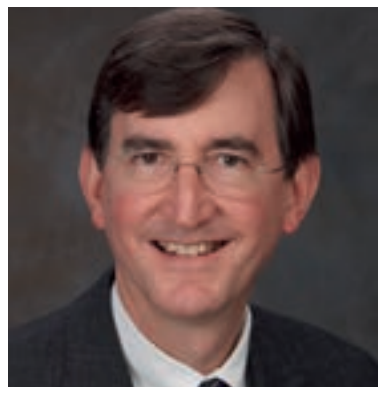
Social media is also at the heart of the Image Wisely campaign, which will be discussed by Dr. James A. Brink, radiologist-in-chief of Massachusetts General Hospital and professor of radiology at Harvard Medical School. Image Wisely, launched at the RSNA 2010 annual meeting by the ACR and the RSNA, is a predominantly North American-focused campaign but with a global message. Its goal is to encourage radiology professionals to take personal responsibility for keeping patients safe from inappropriate and excessive exposure to radiation dose.

One recent development that Brink plans to discuss is the series of radiation safety cases being developed. Each year, Image Wisely develops six radiation safety cases. These allow radiologists, radiographers, and medical physicists to assess their own understanding of important radiation safety concepts such as radiation dose monitoring and interventions. He'll also update session attendees on other developments, including how Image Wisely plans to work with and support the ECR and its EuroSafe Imaging campaign.



Dr. Madan Rehani is the ESR's director of radiation protection.

Prof. Marilyn J. Goske from Cincinnati, Ohio, is one of the leaders of the Image Gently campaign.



Dr. James A. Brink from Boston is one of the Image Wisely campaign task force members.

ESR Radiation Protection Session

Friday, March 7, 10:30–12:00, Room P #ECR2014P

Launch of the ESR EuroSafe Imaging campaign: dealing with the challenges of radiation protection

Moderators: C. Owens; London/UK
P. Vock; Spiegel/CH

» **ESR EuroSafe Imaging Campaign**
M.M. Rehani; Vienna/AT

» **Image Gently Campaign**
M.J. Goske; Cincinnati, OH/US

» **Image Wisely Campaign**
J.A. Brink; Boston, MA/US

» **Lessons from a national approach to patient safety in radiation protection**
P. Cavanagh; Taunton/UK

» **Current challenges for radiation protection research in Europe**
J. Repussard; Paris/FR

» **Panel Discussion:**
Moderator: L. Bonomo; Rome/IT

Panellists:
Speakers (as listed above)
European Commission, G. Simeonov; Luxembourg/LU
IAEA, R. Chhem; Vienna/AT
WHO, M. del Rosario Perez; Geneva/CH
HERCA and Federal Office for Radiation Protection (Bfs), J. Griebel; Munich/DE
Art. 31 Group of Experts/ICRP, E. Vano; Madrid/ES
COCIR, N. Denjoy; Brussels/BE
EFRS, G. Paulo; Coimbra/PT
EFOMP, J. Damilakis; Iraklion/GR
CIRSE, W. Jaschke; Innsbruck/AT
EPF, N. Bedlington; Brussels/BE