Earlier this year, the ESR and EuroSafe Imaging launched EuroSafe Imaging Stars, an initiative to recruit imaging departments across Europe as role models for best practice radiation protection and to support ESR projects such as clinical audit and patient safety standards or data collection on CT doses.

ECR Today sat down with EuroSafe Imaging Steering Committee Chair Prof. Guy Frija from Paris, France, to find out more about the initiative.

ECR Today: What is the main purpose and aim of the EuroSafe Imaging Stars initiative?

GF: Since its launch at ECR 2014, EuroSafe Imaging has succeeded in giving greater visibility to the ESR’s radiation protection efforts. Several projects were started as part of the EuroSafe Imaging Call for Action, including a series of surveys on CT doses for frequent examinations which allow the evaluation of the best care with the utmost concern for patient safety and not just a bureaucratic exercise, but part of an imaging department’s culture and professional attitude.

This is, of course, easier said than done, which is why EuroSafe Imaging Stars provide facilities with a blueprint of the most important elements that constitute a best practice environment, and supports participating organisations in using tools developed by the ESR to improve their performance.

ECR Today: What efforts and contributions are EuroSafe Imaging Stars expected to make, and what do they get in return?

GF: We envisage a win-win relationship in that the ESR hopes to learn from EuroSafe Imaging Stars’ experience while supporting them in improving quality and safety and giving them recognition and visibility through the ESR’s channels and events. We are also planning to give Stars a certification depending on how well they have met the list of criteria that is part of the EuroSafe Imaging Stars initiative, with stars awarded on a scale of one to five.

One requirement for EuroSafe Imaging Stars is to participate in the If Your Imaging EuroSafe surveys on CT doses. The results of these surveys will be used for benchmarking, which in turn will be helpful for imaging departments in assessing how their dose levels compare.

Secondly, participating facilities will conduct a simple self-assessment test every two years to determine how many criteria they fulfill and to keep track of their progress.

ECR Today: Finally, could you please briefly explain the application process and criteria, and inform our readers where they can sign up their institutions?

GF: There are several ways to take part in the initiative. Imaging departments may be nominated by the national radiology society in their country and some institutions will conduct a simple self-assessment test every two years to determine how many criteria they fulfill and to keep track of their progress.

As part of the evaluation process, applicants have to submit their first self-evaluation. This is a straightforward assessment of how many of the EuroSafe Imaging Stars criteria they fulfill. The list of criteria is divided into five sections, and facilities will be awarded anywhere from one to five stars depending on how many criteria they fulfill.

The criteria include elements like the use of CT protocols and automatic dose recording, dose optimization, justification, equipment quality control, professional behavior, clinical audit, or the use of clinical decision support for imaging referral guidelines.

More information on EuroSafe Imaging Stars, and all you need to know about the EuroSafe Imaging campaign itself, is available at www.eurosafefilmaging.org.

Spanish society outlines its position on radiation safety

HARMFUL EFFECTS OF RADIATION USED IN MEDICAL DIAGNOSIS

- Radiation exam involves ionizing radiation. Most of these can use relatively low doses (100-300 mSv). It is known that these doses of radiation can increase the risk of cancer. The main radiological societies, including the European Society of Radiology (ESR), the American College of Radiology (ACR), and the Radiological Society of North America (RSNA), have launched campaigns following the joint position taken by World Health Organization (WHO) and the International Atomic Energy Agency (IAEA) in the Bonn Document’s call for action to reduce doses in medical imaging as much as possible. In this context, the Spanish Society of Radiology (SERAM) has published a list of recommendations to avoid unnecessary radiological practice. SERAM has also issued a statement with a recommended strategy to lower, in an achievable manner, the dose to the patients.

The general criteria of this statement are:

1. The application of the ALARA (As Low As Reasonably Achievable) principle.
2. The principle of justification. Ionizing radiation, used appropriately, saves lives, but it must be used only when justified especially in those who are most vulnerable such as children and pregnant women.
3. The application of the precautionary principle in the protection of patients. This universal legal principle proclaims that when an activity can damage human health, precautionary measures should be taken even if a definitive cause-and-effect relationship has not been fully demonstrated.
4. The application of the linear no-threshold model for risk assessment of ionizing radiation as international agencies recommend.

RECOMMENDED STRATEGY

SERAM recommends a strategy based on four pillars:

1. An appropriate practice

- Never perform a non-justified radiological examination. Replace ionizing radiation techniques with non-ionizing ones whenever possible, especially in children.
- Follow clinical guidelines or decision-support systems whenever possible.
- Use protocols for CT imaging that keep the dose as low as possible to maintain a sufficient quality of exploration, especially on CT. Avoid obtaining series that are not necessary.
- Adjust the scan protocols to patient volume, especially when examining a child.
- Use radiation protection clothing or shields when appropriate.

2. Training

- Train radiologists and technicians to use the most appropriate technique to get the lowest possible dose without compromising diagnostic quality.
- Educate both radiologists and other physicians to be aware of the risks associated with ionizing radiation used in radiology, especially those techniques and procedures that carry higher dose rates such as interventional radiology and CT.

3. Information to the public

- Inform patients clearly of the estimated risk from medical diagnostic tests and the benefits expected of them in each case, as required by law, to avoid a potential source of distrust that eventually drives the patient to the dangerous Dr. Google.
- Make information available to the patient on the dose received and their document history following the provisions of Directive 2013/59/Euratom.

4. Equipment

- Use state-of-the-art equipment that enables a further reduction of the dose to the patient.
- Upgrade the technology when necessary to obtain quality examinations with the lowest possible dose.
- Implementation of dosage alarms and warnings in the equipment, especially in the paediatric population.
- Have the patient dose record visible to the prescribing physician, and also make it accessible for audits and research.
- Optimization of equipment and protocols for the exploration supervised by a medical physicist and periodically audited by the authority.

All these recommendations are important as they all have a cumulative effect and none of them should be ignored. The harmful effects of radiation used for medical purposes, especially the non-ionizing ones, are often underestimated by health professionals. Radiologists must develop strategies to minimize the risk of such effects, especially in the most sensitive patients such as children and pregnant women. These measures should involve prescribing physicians, radiologists, technicians, health authorities, industry and the patients.