

EuroSafe Imaging Stars: a new initiative by the ESR

An interview with EuroSafe Imaging Steering Committee chair Prof. Guy Frija

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?

Guy Frija: 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 clinical indications, as well as ESR initiatives like the clinical audit tool that are supported by EuroSafe Imaging.

EuroSafe Imaging Stars is essentially a way to strengthen the implementation of these projects and make sure that our concepts create added value in the reality of clinical practice. Most importantly, recruiting institutions committed to using the ESR's tools in providing best

practice to their patients will have a real impact on quality and safety in these facilities, and hopefully create momentum so that more and more imaging departments will follow the EuroSafe Imaging Stars' lead.

ECRT: What, in your mind, constitutes the ideal EuroSafe Imaging Star?

GF: Ideally, EuroSafe Imaging Stars – and, for that matter, any healthcare provider – should have the highest standards of quality and safety so firmly embedded in daily practice that they become almost second nature to all the healthcare professionals involved. Providing the best care with the utmost safety for patients should not just be 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 provides 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.

ECRT: 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 fulfil 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 Is 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 fulfil and to keep track of their progress.

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

ECRT: 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 be recruited by invitation from the ESR. In addition, imaging departments can simply apply online by filling out an application form on the EuroSafe Imaging website.

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 fulfil. 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 of a certain level they fulfil. The criteria include elements like the use of CT protocols and automatic dose recording, dose optimisation, justification, equipment quality control policies, clinical audit, or the use of clinical decision support for imaging referral guidelines.

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Prof. Guy Frija from Paris, France, is a member of the ESR Radiation Protection Subcommittee and chair of the EuroSafe Imaging Steering Committee.



Spanish society outlines its position on radiation safety

HARMFUL EFFECTS OF RADIATION USED IN MEDICAL DIAGNOSTICS

Many radiological exams use ionising radiation. Most of these scans use relatively low doses (<100 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 'What no to do' recommendations to avoid unnecessary radiological practices. SERAM has also issued a statement with a recommended strategy to lower, as is reasonably achievable, 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. Ionising radiation, used appropriately, save 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 ionising 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 ionising radiation techniques with non-ionising ones wherever possible, especially in children.
- » Follow clinical guidelines or decision-support systems whenever possible.
- » Use exploration protocols with as low as possible dose 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 ionising 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 dosimetric history, following the provisions of Directive 2013/59/Euratom.

4 - Equipment

- » Use state-of-the-art equipment that enables 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 records visible to the prescribing physician, and also make it accessible for audits and research.
- » Optimisation 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 exploratory ones, are often underestimated by health professionals. Radiologists must develop strategies to minimise the risk of such effects, especially in the most sensitive patients such as children and pregnant women. Those measures should involve prescribing physicians, radiologists, technicians, health authorities, industry and the patients.