

WP 3: Development of a radiation protection culture to support governance of radiological risk

Building and enhancement of a radiation protection culture among medical specialties participating to fluoroscopically guided medical procedures

13-15 February 2019, Athens, Greece

Sotiris Economides - EEAE

Characterization of case study including type of actions and processes

- National competent authority for radiological and nuclear safety;
- Actions for the development and enhancement of radiation protection culture in the country.



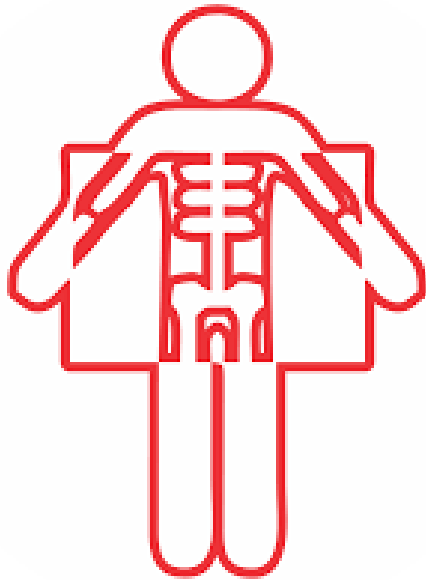
Characterization of case study including type of actions and processes

Fluoroscopically guided interventional procedures

- Interventional radiology, interventional cardiology, orthopedics, urology, gastroenterology, etc.
- High exposures of the patients but also of the participating staff.
- Area which requires further attention regarding radiation protection.
- The personnel involved should have the required E&T on RP but also the necessary RP culture.



Characterization of case study including type of actions and processes



Fluoroscopically guided interventional procedures

- European Directive 2013/59/Euratom introduces specific requirements for the continuous E & T on RP.
- EEAE in cooperation with the professional societies initiated the organization of training courses covering both theoretical and practical aspects of RP emphasizing on RP culture.

- Training on RP during the first years of undergraduate studies in the medical school.
- Main topics covered include among others:
 - Physics of ionizing radiation;
 - Biological effects of ionizing radiation – risk;
 - Dosimetric quantities and units;
 - Theoretical and practical aspects of RP in diagnostic and therapeutic applications, etc.;



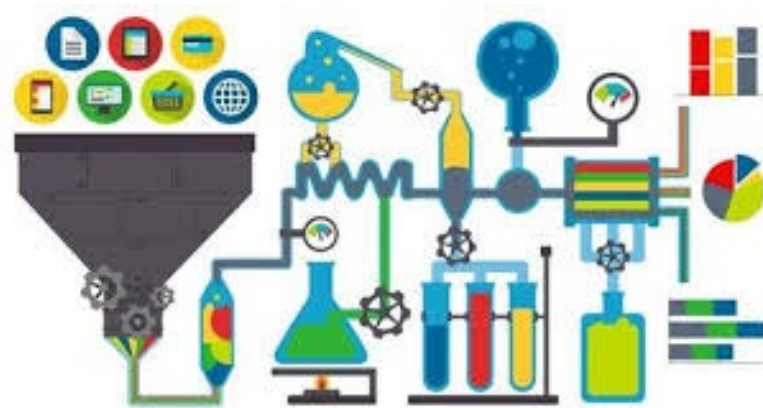
Characterization of RP Culture



- Elements of RP culture during undergraduate studies or/and postgraduate training (theoretical base).
- Safety culture is related to the general clinical practice. Difficult to emphasize the radiation protection aspects of it.

EEAE

- Appropriate indexes for the evaluation of the RP culture.
- Seminars covering all the aspects of RP (theoretical & practical) in fluoroscopically guided interventional procedures.
- Monitoring and evaluation in a systematic way the RP culture among interventionists during the on-site inspections.
- Appropriate educational material for interventionists.



EEAE:

- In 2018 organized a two-day seminar on RP for angiosurgeons.
- Last April participated with presentations to two conferences:
 - one organized by the scientific association of cardiac radiology;
 - The other organized by the scientific associations of gastroenterologists and medical physicists.



Development of tools, methods & processes to build, enhance and transmit RP culture

- The role of “experts” in the development and continuous improvement of the RP culture has to be pointed out.
- Qualified Experts (QE) evaluate the RP of the applied practices and suggest specific measures for their improvement.
- Effective cooperation with the interventionists which requires a well-developed RP culture.
- QEs provide appropriate and continuous training on RP to the interventionists.
- The syllabi of the training should be approved by EEAE.



Development of tools, methods & processes to build, enhance and transmit RP culture

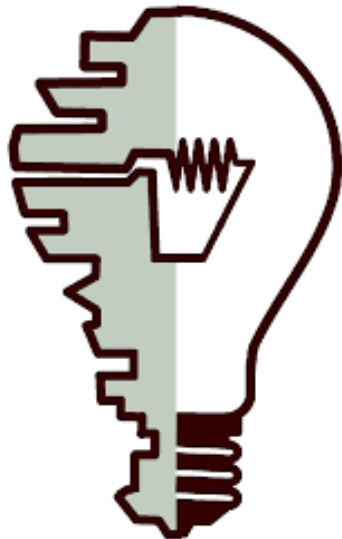


The implementation of Quality Assurance programmes is considered crucial for the standardization of the procedures regarding the provision of training, the information dissemination and the evaluation of practices.

- The RP culture of the interventionists is evaluated at two levels.
- The first level of evaluation is performed within their departments by the QEs.
- Possible gaps should be identified, analyzed and discussed with the physicians.



Evaluation of the level of RP culture



EVALUATE

- Qualitative indexes :
 - Patient typical doses;
 - Occupational exposures;
 - Number of accidents and inadvertent exposures.

- The second level of evaluation is carried out during the inspections performed by EEAE.
- EEAE inspectors check, among others:
 - the files of personnel training;
 - the applied practices in terms of RP;
 - the role and contribution of the personnel in the optimization of the applied procedures.



Highlighting the role RP culture



- The effect of providing additional training to interventionists is encouraging.
- They started to:
 - perceive the risk associated with ionizing radiation in a more realistic way;
 - use regularly this risk as an additional criterion in their decision making.
- With simple, practical measures during their clinical routine they could improve their RP performance and benefit the patients, themselves and the rest of the participating personnel.

- For some interventionists the content and use of the Diagnostic Reference Levels (DRLs) and Trigger Levels was not so well understood.
- The training was an excellent opportunity to:
 - get more familiar with these optimisation tools;
 - understand their significance for the fluoroscopically guided interventional procedures;



Highlighting the role RP culture



- Positive effect to the communication with the QEs.
- Facilitating the exchange of information on issues related to the optimization of the interventional procedures.
- The communication channels created improved the level of cooperation.

- The provision of E&T to medical specialties is crucial for building and enhancing an RP culture.
- It is of great importance to:
 - continue the provision of training on RP through appropriate seminars.
 - support the establishment of sustainable mechanisms for the provision of re-training on RP within the institutes.
- Evaluation on a regular basis of the training and retraining needs.



