Workshop 1
Radiation protection in interventional radiology from A to Z
David C, Kohout J

After active participation in this workshop attendants will have gained knowledge and understanding of

- all possibilities of reducing radiation stress of patients and staff during procedures in interventional radiology,
- the risk of radiation injuries of patients and staff,
- new technologies which help to minimize the radiation stress,
- protective means and the use of these
- results of radiation measurements during interventional procedures.

and will be able to:

- to ensure quality care with regard to radiation protection during in their departments

Workshop 2:
The imaging process in interventional radiology
Kohout J, David C

After active participation in this workshop attendants will have gained knowledge and understanding of:

- all pre and post processing operations which are ensured by radiographers,
- will underline the importance of working with the images during interventional procedures,
- be aware of the difficulty of artifacts, measurements and balloon sizing.

and will be able to:

- ensure physicians an adequate image for manipulation and catheterization and the best imaging documentation without artifacts
Workshop 3

**New developments in equipment, materials and procedures in Interventional Radiology**

Euthimios Agadakos  Diagnostic Radiographer (*BAppScMRT*)
Koumarianos Dmitris  Lecturer Radiographer  TEI Athens(*MSc*)

After active participation in this workshop attendants will have gained knowledge and understanding of:

- the current and future interventional imaging equipment, methods and materials.
- risk factors associated with Interventional Radiology
- the driving forces leading to the development of innovative technology in interventional Imaging
- ethical issues implicated in Interventional procedures.
- recent scientific literature

and will be able to:

- select the most appropriate equipment, materials and methods according to current knowledge and literature.
- identify the limitations associated with equipment, procedures and materials employed in Interventional Radiology
- classify the risk factors related to the interventional procedure undertaken
- demonstrate adequate communication skills and patient rapport
- operate as a member of a team
- be equipped to practice as a professional within the ethical code

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Workshop 4.

**Sharing experience in day-to-day practice of the supporting staff in Interventional radiology departments**

Dimitris Katsifarakis  Radiographer (*MSc*)
Evie Tzanalaridoy   Radiographer (*MSc*)

Learning Outcomes and Objectives:

After active participation in this workshop attendants will have gained knowledge of:

1. the differences in working methods of supporting staff in interventional radiology
2. how basic safety procedures with regard to radiation protection are applied
3. targets to set for basic and continuous professional education of the supporting staff in interventional radiology departments

and will be able to:

- assess diverging working methods
- assess the way radiation protection is applied
- define their individual needs for continuous professional education
1. Education and training for interventional radiographers: one size does not fit all

Jonathan McNulty
Marie-Louise Butler

Head of Teaching and Learning, Lecturer, Diagnostic Imaging
University College Dublin, School of Medicine and Medical Science, Ireland.

After active participation, through the use of interactive polling technology, in this workshop attendees will have gained knowledge and understanding of:

- the issues surrounding education and training of radiographers in the interventional arena
- the challenges presented by the range of roles undertaken by interventional radiographers across Europe
- the potential benefits in terms of patient care and service delivery of further education and training
- the importance of continuous professional development in the area of radiation protection for interventional radiographers
- an E-learning approach to the delivery of radiation protection training in this area

2. The use of E-learning in training Radiographers in Interventional Angiography

Iris-Cordula Slingsby
Lecturer Radiological Technologist (MSc)
Fachhochschule FH Campus Vienna - Austria

After active participation in this workshop/presentation attendants will have gained knowledge and understanding of:

- the theoretical benefits of E-learning techniques when applied to medical and educational training
- an E-learning module for teaching sterile techniques, materials, methods
- directly learning using this method with workshop participants providing the answers in the E-learning module during a live demonstration

and will be able to:

- understand the benefits and limitations of using E-learning to train the next generation of radiographers

3. Patient safety in Interventional Radiology

Jacob Lutjeboer
Senior radiographer in interventional radiology,
University Medical Center Leiden, Department of Radiology,
The Netherlands

After active participation in this workshop/presentation attendants will have knowledge and understanding of:

- The importance of patient preparation
- The use of digital orders in patient preparation for interventional procedures
• Which patient conditions must be checked before an interventional procedure
• The role of the interventional radiographer in the *time-out procedure* in the intervention suite
  (Discussion)
• What the interventional radiographer should know about hemostasis, nephropathy and allergy
  (Interactive voting session on patient safety about hemostasis and nephropathy using examples of case reports)

4. Interventional Neuroradiology – *The role of the radiographer*

**Hedvika Šauperl,** B.Sc. Radiographer  
**Simona Klampfer,** B.Sc. Radiographer,  
University Medical Center Maribor, Department of Radiology  
Slovenia

After active participation in this workshop/presentation attendants will have knowledge and understanding of:

• the purpose of proper training in all steps of interventional neuroradiological procedures (collaboration with neuroradiologist and participation in the team)
• selecting the ideal protocol on the modality according to requested radiological procedure (fluoroscopy mode, radiography mode, no of frames, collimation,...)
• the importance of proper and responsible use of contrast media
1. Radiation protection of workers and patients in the Interventional Lab  
- AITRI guidelines

Diego Catania  Senior radiographer in interventional radiology. San Raffaele Scientific Institute - Milan -Italy  
President AITRI (The Italian Association of Interventional Radiographers)

Sonia Cuman  Senior radiographer. Macchi Foundation Hospital – Varese - Italy  
AITRI Scientific Commission Member

After active participation in this workshop/presentation, through the presentation of the AITRI guidelines for radioprotection, attendants will have gained knowledge and understanding of:

- allowed threshold doses
- the importance to use adequate protection during radiation exposures in interventional labs of patients and workers
- diseases induced by radiation exposure
- measures to reduce radiation induction to workers and patients
- the importance for workers to share operational standards, appropriate criteria, structural and technological equipments as described in the AITRI guidelines.

Method: set up of the Workshop

- Oral presentation of the macro topic in 5 “focuses”

Interactive elements:

- Open questions at the end of each focus
- Final questionnaire on the highlighted topics

Background information:

The AITRI (Italian Association of Interventional Radiographers) states in its guidelines that the involvement of professionals, specifically trained in the use of ionising radiation, will lead to higher quality procedures and will minimise the radiation dose to both patient and operators. It is highly recommended to draft European guidelines with operational standards, criteria for justification of the procedures, minimum technical requirements and last but not least specific education of the staff. Factors which should be common for all interventional labs.
2. The role of the radiographer in the angiography department

Synne Hveding Huse  
Per Henric Søderlund  
Radiographers at Oslo University Hospital, division Angiography-Radiology and Nuclear medicine. Clinic for diagnostic imaging and intervention.

After active participation in this workshop/presentation, attendants will have gained knowledge and understanding of:
- the challenges presented by the wide range of roles undertaken by interventional radiographers
- the benefits of a team approach
- the variety of roles undertaken by interventional radiographers across Europe

Method: set up of the Workshop
Demonstration by video and photos from angio-/intervention procedures of:
- Sclerosation
- Stroke
- Pediatric cardio
- RF-ablation
- Transarterial Chemo Embolization, TACE?

Interactive elements:
- Discussions, dialogue and exchange of experience
1. Organization and operational standards for a service of interventional radiology lab

Simone Panc  Interventional Radiographer - AITRI Scientific Member
“San Giovanni di Dio Hospital” Florence Italy

Carmine Ciaralli, Interventional Radiographer - AITRI Scientific Director
“San Filippo Neri Hospital” Rome Italy

After active participation in this workshop/presentation, through the presentation of the AITRI guidelines, attendants will have gained knowledge and understanding of:

- Description of activities and methods aimed to organize a service of Interventional Radiology (IR) according to the volume and type of diagnostic tests and therapeutic treatments performed.
- How to evaluate the needs (materials and devices) and how to supply and manage human resources.
- What level of collaboration between the different professionals involved (interaction, tasks and competences).
- The responsibility of radiation protection and supervision of the maintenance of operational standards and appropriate criteria.
- Training and up-to-date courses for health professionals.

Methods
- Oral presentation of the macro topic in 5 “focuses”
- Interactive elements: Open questions at the end of the WS

2. Radiation protection of patient and staff in interventional procedures

Anders Widmark  Associate professor
Reidun Dahl Silkoset  Assistant professor
Norwegian Radiation Protection Authority P.O. Box 55, Østerås Norway

After active participation in this workshop/presentation attendants will have knowledge and understanding of:

- The principles of radiological protection in fluoroscopically guided interventions.
- Protection of staff during interventional fluoroscopy.
- Recommended radiological protection training for staff.
• The radiation risk factors and possible harm in interventions radiology for staff and patient. Dose limits for staff; the lens of the eye and radiation (cataract); examples of tissue reactions.

**Method:** Oral presentation

**Interactive elements:** Question and discussion