Professional organisations, radiation protection priorities and project collaboration

**European Medical ALARA Network (EMAN)**

The EMAN Secretariat is managed by the European Society of Radiology (ESR).

Building a Bridge Between Researchers, Health Professionals and Policymakers

**Background**

Medical diagnostic procedures constitute by far the greatest man-made source of ionising radiation exposure to the general population. Although the benefit for the patients exposed normally outweighs the risk associated with the radiation, there is concern that patients may undergo radiological examinations that will not have any positive impact on their health, or that unnecessarily high doses of radiation could be delivered with regard to the diagnostic outcome. Moreover, the increasing use of ionising radiation in the medical sector also has an impact on occupational radiation exposure. In order to strengthen radiological protection in the field of medicine a variety of stakeholders have to be addressed and involved, pinpointing the specific roles of the different experts, as well as training, organisational and ethical aspects. To support the task regarding optimisation of procedures, the European Commission funded the EMAN Tender Project that formally ended in October 2012.

**EMAN EC Tender Project**

The EC-funded EMAN Tender Project was carried out by a consortium, which was composed of seven organisations, the Swedish Radiation Safety Authority (SSM, project coordinator), the Federal Office for Radiation Protection in Germany (BfS), the Nuclear Protection Evaluation Centre, France (CEPN), the European Federation of Organisations for Medical Physics (EFOMP), the European Federation of Radiographer Societies (EFRS), the European Radiation Dosimetry Group (EURADOS), and the European Society of Radiology (ESR).

**Objectives:**

The main objective of the EMAN Tender Project was to establish a sustainable network where different stakeholders within the medical sector had the opportunity to discuss and to exchange information relating to the implementation of the ‘As Low As Reasonably Achievable’ (ALARA) principle in the field of medicine. Another overarching objective of the Tender Project was to give specific advice and suggestions to the European Commission.

**Work Packages:**

The EMAN Tender Project was divided into seven Work Packages, each of which covered specific tasks, which contributed to the establishment of the European Medical ALARA Network.

The main tasks were to develop radiation protection optimisation strategies in three areas of diagnostic and interventional radiology: computed tomography, interventional radiology and cardiology and radiological practices performed outside the radiology department.

Three working groups with representatives of the professionals involved, medical radiologists and cardiologists, radiographers, medical physicists and regulators, worked spent two years identifying the needs and priorities for the implementation of elements to increase the level of radiation protection, both for patients and, when relevant, involved staff.

The results achieved by the three multidisciplinary groups provide the methodology to apply in other fields of diagnosis and therapy. It is recommended that the same methodology be applied at the hospital level, establishing multidisciplinary “core teams” to implement exposure optimisation in the different areas.

The role of the core team is to develop optimised procedure protocols, train staff and supervise practice. The knowledge, competence and skills of the members of the core team have to be defined together with training initiatives, supported by EMAN and scientific societies.

Each working group developed synthesis documents and recommendations addressed towards the European Commission, standardisation and regulatory bodies, manufacturers, and users that are available on the EMAN website (www.eman-network.eu) for consultation and dissemination.

**Sustainable European Medical ALARA Network**

After the successful conclusion of the EC-funded Tender Project, the three professional organisations involved - The ESR, EFRS and EFOMP - decided to ensure sustainability of the Network and signed a letter of intent in September 2012, forming the new EMAN Steering Committee. This paved the way for the post-project activities of the Network and further outreach to other relevant stakeholders.

**The EMAN Network structure includes a Steering Committee (ESR, EFRS, and EFOMP), a Management Office (ESR), Stakeholders, and Observers. To date the following organisations have joined EMAN:**

- **Stakeholder:** CEPN
- **Observers:** EURADOS, BfS, SSM and the European Commission (EC).

The Steering Committee has reached out to a number of additional professional medical organisations, international organisations and regulatory bodies inviting them to join the Network, and it hopes to further enlarge the Network in the near future.