WG 3: Education, training and communication to improve ALARA in the medical sector

Preamble

- The right of the patient is to have a justified and optimised diagnosis or treatment
  - These are the main duties of the personnel
  - The inform consent has to include information on the radiation risk related to the procedure
- RP should be part of the safety programme of an health care organisation
- RP education and training should be included as a performance indicator of the human resource management
- ALARA should be seen as part of good medical practice and promoted by various professional organisations

Education and training of health care personnel

- Contents and length of training of personnel is always a matter of discussion; ICRP and EC guidelines are providing recommendations for long training sessions including all aspects of RP from physics, radiobiology, etc; these recommendations are difficult to follow in clinical environment
- Countries with well established system of ET (e.g. Belgium) requiring long training course are reporting low impact on daily practice
- There are good experiences of very short and satisfactory training courses
- Practical aspects of RP implementation should be part of the training

→ RP education and continuous training should be part of the safety programme of the health care organisation

→ success examples and consensus on successful training have to be reached

→ all hospital staff (including nurses, support personnel) should follow education in RP

→ education should underline, when appropriate, the link of staff with patient exposure

→ all these aspects are identifying stakeholders to involve in a team work

Education and training of health care personnel

- **Introduction of new equipment, technologies and procedures**
  - Initial training of personnel provided by manufacturers via application specialists is not sufficient, repeated training is necessary

  →Purchase procedure should require an initial and repeated/extensive training, including RP (HERCA)

  → initial training should include RP and optimisation aspects and has to be approved by RPE and MPE of the hospital; in hospitals it is recommended that RPE and MPE actively participate to the initial training

- Initial training is provided by application specialists whose education and training in RP and practical optimisation is not known

  → manufacturers should ensure and prove RP and QA training of specialists

Education and training of maintenance service personnel

- Maintenance of radiological equipment
  - Maintenance personnel have usually limited education in RP and optimisation of equipment performances

→ maintenance services should ensure and prove RP and QA training of their maintenance personnel

Education and training of health care personnel

- Clinical audit
  - Important tool to identify deficiencies and give recommendations to improve ALARA practice

→ Clinical audits may identify the needs for further education and training

Education and training of inspectors

- Regulatory bodies
  - In some countries inspectors have low knowledge of hospital activities, mostly concentrating on formal aspects, reports, documents, etc without attention, for example, to level of staff knowledge, skills and competences in RP

→ education of inspectors in the field of hospital activities (HERCA)

→ inspections should include the evaluation of the staff knowledge, skill and competences in RP

Communication

- **Communication of dose to stakeholders**
  - Operational dose quantities (KAP, ESAK, DLP, AGD, etc.) are used for QA, DRLs compliance, etc, but cannot be the appropriate tool for the communication to the patient (but present DICOM images provided to the patients are containing these quantities in DICOM objects
  - Operational quantities are also frequently confusing operators (different symbols, names, units; difficult to compare exposures from different modalities)
  - Exact E or risk values are difficult to estimate with acceptable accuracy in most of the cases, due also to differences in patient size, age and sex.

→ it seems that 4-5 dose bands can be a reasonable and correct form to provide information to patient and, probably, to large majority of the staff (example of dose bands used in some national referral guidelines)

→ should these band values be displayed at the console (to inform operator) and be added to DICOM objects (to inform the patient and prescriber)?

Communication

- Role of DRLs as a communication of optimisation levels
  - Are a well known tool for optimisation and stimulation of ALARA principle
  - Some countries are still using DRLs assessed in the 80'
  - It is necessary to underline that DRLs, when respected, are not representing an optimised practice
  - Some countries (e.g. Belgium, Netherland) are recommending to reach the 1st quartile of the patient dose distribution, assuming such a value as the "desirable value"

→ DRLs should be updated frequently accordingly with the change of the practice and technology

→ to properly communicate that DRLs are purely used to identify poor practices

→ if the doses are too low it is necessary to verify that image quality is adequate

→ do we need to introduce "desirable levels" as another more appropriate optimisation tool ?