

EURADOS Working Group 12

Dosimetry in Medical Imaging

Motivation

Medical procedures using ionising radiation constitute by far the largest contribution to people by man-made sources. Although the benefit for the patients exposed will normally outweigh the risk associated with the radiation, there is concern that patients may undergo radiological examinations that will not have any impact on their health, or that unnecessary high doses could be delivered with regard to the diagnostic outcome. Moreover, the increasing use of ionising radiation in the medical sector has also an impact on occupational exposures, and there are concerns that practices such as interventional procedures may cause high individual doses. Furthermore, the recent decrease in the eye lens limit for the occupationally exposed personnel sets stricter scenery in individual monitoring from a technical and regulatory point of view. That means that it is essential to foster the implementation of the basic principles in radiation protection, justification and optimisation, and for occupational exposures also dose limitation.

Aims

- EURADOS started to give input to the EMAN, the European Medical ALARA Network. While EMAN is at the moment not really active, the WG12 has been increasing in size and activities. It is therefore proposed in 2013 to continue with WG12, independent of the evolution of EMAN. WG12 would focus on patient and staff dosimetry in the medical field, excluding radiotherapy.
- The radiation exposures in the medical field are getting more and more attention on all levels. Also the members of EURADOS are extremely active in this field, as proven by the several projects with EURADOS participants, and the interest shown for this WG12. Through WG12, EURADOS can position itself as the expert organisation concerning dosimetric aspects both for patients and staff in medical applications.
- The aim of the WG12 will be focussing on harmonization, intercomparisons, literature reviews, overviews through collecting data, set-up measurements campaigns, etc. Through the work of WG12 and its members EURADOS is becoming more and more visible in the medical sector. Part of the results are spread in typical medical conferences and journals.

Actions

- **Staff dosimetry (SG1):** Eye lens dosimetry:
 - Task 1 a: State of the art: This task is finished
 - b: Hospital questionnaire for eye lens monitoring: This task is finished
 - Task 2: Data collection and measurements: Action in progress
 - Task 3: Protection means (lead glasses): Task finished
 - Task 4: Intercomparison of eye lens dosimeters for medical applications (IC2016eye):
 Action in progress
 - Task 5: Eye lens dosimetry: guidelines/double dosimetry: Action *ON HOLD*

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J Farah, A Trianni, E Carinou, J Dabin, C De Angelis, J Domienik, C Huet, H Järvinen, Ž Knežević, R Kopec, M. Majer, F Malchair, A Negri, L Novák, T Siiskonen, F Vanhavere and I Clairand, Measurement of maximum skin dose in interventional radiology and cardiology and challenges in the set-up of European alert thresholds. Radiat. Prot. Dosim. 2015 Apr; 164 (1-2)

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I. Clairand, M. Ginjaume, F. Vanhavere, E. Carinou, J. Daures, M. Denozziere, E. Honorio da Silva, S. Principiand and L. Van Rycheghem. First EURADOS intercomparison exercise of eye lens dosimeters for medical applications. Radiat. Prot. Dosim. 2015 accepted for publication (doi: 10.1093/rpd/ncv368)

Additional information

WG12_AM2016_Progress_report