

Summary of the ICRP Committee 2 Virtual Meeting – May 10-12-14, 2021

C2 held a series of Zoom meetings on 10th, 12th, and 14th May, attended by all C2 members. The proposed membership for C2 (2022 – 2025) was presented. F. Bochud is the new Chair, F. Paquet is the Vice-Chair of C2.

- **Radiopharmaceutical Dosimetry – TG 36 (C2+C3).** Chair (C2) Augusto Giussani.

TG36 continues with the development of full compartmental biokinetic models for the radiopharmaceuticals in Publication 128, including revisions of the models of F-18 FDG and Tc-99m Pertechnetate. The update of an App / Data viewer is on-going. The revision of Publication 128 will be followed by work on dose coefficients for the embryo/foetus and the breastfed infant, based on mesh-based pregnant female phantoms. C2 held a discussion of possible future revisions of effective dose in which e.g. new sets of w_T could be computed by sex and age range. New terminology such as “detriment-weighted dose” or “patient-specific effective dose” versus “reference effective dose” was discussed.

- **Internal Dose Coefficients – TG 95.** Chair François Paquet.

OIR Part 5 (Occupational Intakes) was accepted for publication by the MC and is expected to be published during 2021. The TG95 is continuing work on EIR Part 1 (Public Intakes) and the Electronic Annex (Data Viewer with the QA-ed dataset) is expected by Autumn 2021. EIR Parts 1 and 2 will include elements from OIR Parts 1-4. Part 3 will include elements from OIR Part 5. Subsequent to EIR Part 3 will be documents on the pregnant female, embryo/foetus, and breastfed child. TG95 Membership will be updated.

- **Computational Phantoms and Radiation Transport – TG 96.** Chair Wesley Bolch.

The text of the Paediatric SAF Document will be ready for distribution to C2 members during 2021. Some discontinuities between the paediatric SAF series and the adult SAFs from Publication 133 were presented and solutions proposed.

- **Mesh-Type Reference Computational Phantoms – TG 103.** Chair Chan Kim

TG 103 has been developing the paediatric MRCP report. Work is progressing on the mesh-based pregnant female phantoms. Phantoms at the end of each trimester of pregnancy will be used for SAF computation (i.e., 10, 25, and 38 week phantoms). A full set of intra-fetal organ SAFs would be computed for intakes that cross the placenta and localize in the foetal organs.

- **Emergency Dosimetry – TG 112.** Chair Vladimir Berkovskyy

Prospective and retrospective assessments will be considered. The minimization of the risk of stochastic effects is presently based on effective dose and the prevention of tissue reactions is based on assessments of tissue absorbed dose, both for the reference person. The issue of inter-individual variability has to be addressed. The use of quantities such as AD(Δ) (RBE weighted absorbed dose delivered over a period of time Δ following the intake), the ICRU work in equieffective dose (EQDX) and the redefinition of the RBE as a ratio of EQDX values (not a ratio of absorbed doses) was discussed.

- **Dose Coefficients for Diagnostic X-ray Imaging – TG 113 (C2+C3).** Chair Nina Petoussi

The TG is developing dose coefficients for reference diagnostic imaging exams. For diagnostic radiography all procedures and MC simulations have been developed for the reference adults. A software tool has been developed for computing x-ray field specific organ dose coefficients. Work on CT dosimetry and fluoroscopy dosimetry was summarized. The TG has concluded that it is impractical for fluoroscopically guided interventions (FGIs) to define a “reference” procedure as these operations are highly dependent on several issues. For FGIs, the TG will instead work with the UF/NCI phantoms and perform individual dose reconstructions using RDSR files.

Other topics discussed during the meeting:

- Other TGs with C2 Membership: TG 64, TG 102, TG 115, TG 118.
- Research Needs (F. Paquet): at the end of 2020 C2 updated the list of research needs in the area of dosimetry.
- Revision of the System of Protection: ICRP will move toward the use of best science.

The committee gave its heartfelt thanks to John Harrison for his outstanding leadership as C2 Chair. Next virtual meeting will be held in November 2021, first meeting of the ICRP C2 in the new term.