1. To understand the international system of radiation protection and learn about the International Commission on Radiological Protection (ICRP)

2. To understand the recommendations that ICRP has provided over the years and how it develops its recommendations

3. To learn about the ICRP’s ongoing and recent activities of interest to medical physicists and health physicists

Since 1928, the ICRP has developed, maintained, and elaborated the International System of Radiological Protection—The system has been used worldwide as the common basis for radiological protection standards, legislation, guidelines, programs, and practice. For nearly a century it has played a major and global role in radiation protection.

ICRP has been instrumental in establishing

- the principles of radiation protection
- providing and periodically revising radiation and tissue weighting factors,
- developing the dose quantity “effective dose”,
- providing and updating the recommended dose limits for occupational and public exposures,
- Concept of DRL
- recommending dose levels for termination of pregnancy, estimating threshold doses for tissue reactions (deterministic effects).

Unlike WHO and the IAEA, which are United Nations international organizations, ICRP is an independent charitable organization, registered in the United Kingdom. Nonetheless, its reputation is such that most countries adhere to its recommendations. ICRP has no enforcement powers, but its recommendations form the basis for international safety standards and for many national regulations.
The mandate of Committee 3 is to develop recommendations and guidance for protection of patients, staff, and the public against radiation exposure when ionizing radiation is used for medical diagnosis, therapy, or biomedical research.

For more than half a century every medical physicist in the world has used ICRP’s work in some way. The radiation protection component of the work of medical physicists has been increasing in recent years. Earlier radiation protection was dominated by occupational protection but in recent years it is patient protection that has taken centre stage.

Medical Physicists

- Further there has been shift from equipment focus to patient focus.
- During the last 15 years QC testing of equipment and dosimetry in phantoms
- Important place to survey of patient doses in particular in CT and interventional procedures, dose management actions and optimization of protection.

Work of organizations like ICRP and IAEA has created importance shift
- This coupled by need arising from increasing doses to individual and population,
- Many areas where guidance by ICRP becomes important.

Medical Physicists

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- The radiation protection component of the work of medical physicists has been increasing in recent years.
- Earlier radiation protection was dominated by occupational protection but in recent years it is patient protection that has taken centre stage.
Annual Dose Limit (mSv)

| Effective dose, worker (average) | 50 (5 rem) |
| Equivalent dose to lens of eye | 150 (15 rem) |
| Equivalent dose to skin | 500 (50 rem) |
| Equivalent dose to hands and feet | 500 (50 rem) |
| Effective dose to embryo or fetus | 5 (0.5 rem) |

Effective dose, public

- Please follow the recommendations as prescribed by your national or local authority.
Lens of the eye, threshold in absorbed dose is now considered to be 0.5 Gy (against 0.5 to 2 for detectable opacities and 5 for visual impairment).

Occupational Exposure Lens of Eye Limit
- 20 mSv in a y (against 150), averaged over defined periods of 5 y, with no single y exceeding 50 mSv.

NCRP is soon finalizing its recommendations

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**ICRP Lens of Eye**
- Threshold dose: 0.5 Gy (50 rads)
- Occupational dose limit: 20 mSv (2000 m rem) averaged over 5 years.

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**Current Work Plan of Committee 3 (a)**
- WP on Diagnostic reference levels (DRLs) in Medical Imaging. Final draft completed (E. Vario).
- WP on Occupational protection issues in interventional fluoroscopically-guided and CT-guided procedures. Final draft to be approved by C3 (P. Ortiz).

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**Current Work Plan of Committee 3 (b)**
- WP on Justification (K. Åhlström-Riklund).
- WP on Radiological Protection in Therapy with Radiopharmaceuticals (Y. Yonekura and S. Mattsson).
- WP (with C1) on Radiological Protection in Medicine Related to Individual Radiosusceptibility (M. Bourguignon).
- WP on Radiation and Patient Protection (educational document) (S. Demeter).
To be more Open

- International organizations and stakeholders are encouraged to propose topics of interest for new reports.
- In addition, a new mechanism, introduced at the second ICRP symposium, provides opportunities for symposium participants to provide input on suggested topics to the Commission’s committees.

Nominations to ICRP

- ICRP has introduced since 2012, a new open system for nomination for its membership every 4 years.
- Anyone can apply and go through process to be member of ICRP.
- The members of Task Groups and Working Party are selected by Chairs in meeting of Committee and thus in consultation with Committee.