Research Needs in Radiological Protection

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ICRP Draft Document of Research Needs

One of the five initiatives, “Recommending research needed to strengthen the System of Radiological Protection”, was outlined in the **ICRP Strategic Plan for 2011 – 2017**.

Consequently ICRP has developed a list of priority research areas identified as potentially important for strengthening the system of radiological protection. The intention is to encourage research efforts in these areas, and to encourage research organizations to share results of pertinent work with ICRP and the radiological protection community in general.

Research Needs – Dosimetry

Biokinetic models

- Evaluation of the reliability of key ICRP biokinetic models used for inhaled and ingested radionuclides for humans. Need for further research into age-dependence of model parameters.

- Studies to improve models for non-human biota

Dosimetric models

- Evaluation of dosimetric models for external and internal exposures. Consideration of individual dosimetry, and evaluation of dosimetric assessment and uncertainties that include microdosimetric considerations.

Radiation quality

- Radiation quality and relative biological effectiveness evaluations for cancer and non-cancer diseases

Research Needs – Medicine

- Approaches to improve occupational protection (with emphasis on the lens of the eye, skin, and extremity dose estimation and protection) in interventional and nuclear medicine procedures.

- Patient dosimetry and protection in high dose procedures (interventional) and CT, with emphasis on the lens of the eye, skin, and organ dose evaluation. Develop strategies for patient risk assessment and risk communication.

- Dosimetric data to help in the assessment of cardiovascular and cerebrovascular effects in radiotherapy and high dose imaging procedures.

- Development and validation of newer methods to improve image quality while reducing patient doses.

Thank you for your attention

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