AbstractID: 2257 Title: Dose considerations, the relevance of patient dosimetry to clinical practice

Patients undergoing radiological examinations are subjected to a complex three-dimensional dose distribution. Individual organ doses predict the possibility of inducing deterministic effects, whereas the effective dose is related to the risk of the stochastic processes of carcinogenesis and the induction of genetic effects. Virtually all doses in diagnostic radiology are below the threshold dose for the induction of deterministic effects, and the dose descriptor of interest to the radiology community is the effective dose. This talk will present an overview of how to compute values of the patient effective dose in a clinical setting. Knowledge of the patient effective dose will be shown to be helpful for assessing individual patient doses and risks, quantifying the impact of medical procedures on population doses, as well as optimizing digital radiological examinations.

Educational objectives.

1. To understand how the amount of radiation to the patient may be quantified, and how these measures are related to deterministic and stochastic risks.

2. To understand patient dose parameters may be quantitatively obtained in a clinical setting.

3. To understand how patient doses may be used to quantify individual and collective patient exposures, and to optimize digital radiological procedures.