Patient Dosimetry in Radiography and Fluoroscopy

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The concepts and qualitative differences of the physical quantities commonly used for patient dosimetry are briefly reviewed. Common strategies and the use of standardized phantoms for developing patient dosimetry tables are presented and discussed. Examples of entrance skin exposure (ESE) and effective dose calculations are presented for common radiographic exams and fluoroscopic procedures.

Particular emphasis is placed on high dose interventional radiology and cardiac cath procedures. Also discussed are real time patient dose monitoring strategies. Dose comparisons are made for small, medium and large patients for different radiographic and fluoroscopic exams.

Educational Objectives:

- 1. Description of fundamental patient dosimetry quantities
- 2. Calculation of patient ESE and effective dose from radiation output data
- 3. The use of standardized phantoms for patient dose calculations
- 4. Description of the common methods for developing patient dosimetry tables
- 5. Description of real time patient dose monitoring strategies
- 6. Calculation of patient dose for interventional radiology and cardiac cath procedures
- 7. Description of patient doses for different exams and patient habitus