

Reference Values

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The concept of Reference Values (RVs), or Reference Levels, was introduced by the International Commission on Radiological Protection in the early 1990s. Reference Values have been implemented in most European countries as well as other countries throughout the world. RVs are advisory in nature and should be developed by professional organizations in specific countries—they should not be used for regulatory purposes. Reference Values can best be thought of as investigational levels.

An AAPM Subcommittee of the Radiation Protection Committee has established RVs for use in the United States. These values were developed based on (approximately) the 80th percentile of the FDA's Nationwide Evaluation of X-Ray Trends survey and surveys by the state of Pennsylvania of computed tomography doses.

This refresher course will review the concept of Reference Values and discuss the methodology used to determine the present RVs. Measurement techniques will be discussed along with suggested methods for bringing facilities with doses higher than the RVs into compliance.

Educational Objectives

1. Understand the concept of Reference Values and how these apply in the clinical setting
2. Appreciate how these RVs were developed and the need for RVs in optimizing patient doses
3. Understand the measurement techniques required to compare clinical patient doses to the Reference Values
4. Be able to provide suggestions to clinical facilities on simple and inexpensive means to reduce their patient doses when these doses exceed the reference values