ANALYSIS OF RADIATION EXPOSURE AND CONTROL IN THE CARDIAC CATHETERIZATION LABORATORY

Jerrold T. Bushberg, J. Anthony Seibert,
Joan Gargano and Teresa Murphy
University of California Davis Medical Center
2315 Stockton Boulevard, Sacramento, California, USA

ABSTRACT

One of the highest groups of occupationally exposed personnel in medicine are those associated with cardiac catheterization. This paper reports on our experience and evaluation of the various radiological health aspects during cardiac catheterization. Dosimetric data for faculty, residents, fellows, nurses, and technicians are reported with a temporal analysis of mR/study and average fluoro time per study. Analysis of time and motion studies evaluates what procedures or circumstances lead to higher personnel exposure. Typical isodose profiles are presented, along with an evaluation of patient thickness versus scatter photon flux. Spectral analysis of the scatter radiation is presented, along with recommendations for effective shielding of personnel.