

Knowledge of the magnitude and location of skin radiation doses received by patients undergoing cardiac catheterization procedures is crucial for cardiologists in evaluating the risk and benefit of a given procedure. For interventional studies, this information could result in the modification of the clinical protocol to minimize skin radiation doses while still acquiring the necessary medical data or performing the necessary interventional tasks. We have initiated a quantitative survey of radiation skin doses received by patients undergoing various diagnostic and interventional cardiac catheterization procedures at a major center to evaluate the magnitude and location of these doses. Lithium fluoride TLD chips calibrated for appropriate energies and intensities and placed in a specifically designed polyethylene carrier matrix were used to measure and map skin radiation doses. Data that will facilitate the relating of skin doses to fluoro and cine times and associated technique factors were also collected. Preliminary results indicate that the magnitude of radiation doses to the skin ranges from 10 to 150 cGy for diagnostic procedures and up to 400+ cGy for some interventional procedures.

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