

AbstractID: 11978 Title: Risks from Occupational Radiation Exposures

Radiologists and radiologic technicians were among the earliest occupational groups to be exposed to ionizing radiation, and still constitute one of the largest groups of workers exposed to man-made sources of radiation whilst at work. Studies of human populations exposed to acute, high doses of ionizing radiation have proved valuable in assessing the link between radiation and cancer and have been used to derive quantitative estimates of risk. However, the applicability of these estimates to the assessment of risks following fractionated or low level exposures remains uncertain. A number of epidemiologic studies have been conducted therefore to assess the potential risks from medical occupational exposure directly, including studies of radiologists in the UK, US and China and a cohort of radiologic technicians radiographers in the U.S.

This lecture will provide an overview of these epidemiological studies and their findings, as well as a description of a new study of physicians that perform fluoroscopically guided procedures that we are currently running at the National Cancer Institute. The use of cancer risk projection models that we have developed to estimate potential lifetime cancer risk following specified exposure histories will also be described with examples.

Educational objectives:

1. Understand the strengths and limitations of the epidemiologic studies of medical radiation workers
2. Understand the strengths and limitations of risk projection models to estimate lifetime cancer risks from occupational radiation exposures