

A Cohort Mortality Study of Chemical Laboratory Workers at Department of Energy Nuclear Plants

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Prevention**



Presentation Outline

- Description of the Study Population
- Study Exposure Assessment
- Summary of Findings
- Study Limitations

Study Population

- A total of 6,157 men and women of all races employed as laboratory workers for at least one day
 - Oak Ridge (X-10, Y-12, and K-25) and the Savannah River Site between 1/1/1943 and 12/31/1998
- 3,382 were employed only in the laboratory [Non-processing]
- 2,775 were employed in both a laboratory and support production area [Processing]

Exposure Assessment

- Length of employment as a chemical laboratory worker was used to characterize chemical exposures because information on actual chemical exposures was not available.
- Laboratory Worker Job Titles Included
 - Biochemists, Chemists, Chemical operators, Electricians, Instrument mechanics, Lab analysts, Lab technicians, Metallurgists, Process engineers
- Oak Ridge and SRS facilities selected
 - Adequate and accessible work history information

Summary of Results

- Deaths from all causes lower than the general U.S. population
- Deaths from all cancers lower than the general U.S. population
- Smoking related cancers not elevated
- Deaths from multiple myeloma (a cancer of the blood) were higher among female workers compared to women in the general population.

Summary of Results Continued

- Lung cancer deaths
 - Compared to the general population, workers were less likely to die of lung cancer.
 - We compared workers to workers, based on length of employment and found the likelihood of dying of lung cancer went up slightly the longer workers were employed at these facilities.

Summary of Results Continued

- Leukemia (a cancer of the blood) deaths
 - Compared to the general population, workers were less likely to die of leukemia
 - We compared workers to workers, based on length of employment and found the likelihood of dying of leukemia went up slightly the longer workers were employed at these facilities.

Study Limitations

- The small number of deaths for multiple myeloma cautions against over-interpretation of findings.
- Smoking information was not available, so it could not be taken into account in looking at cancer mortality.
- Individual chemical exposures were not directly measured.

Other Related Studies

- A NIOSH case-control study is underway to examine more closely the relation of multiple myeloma with ionizing radiation and a variety of chemical exposures among workers employed at the Oak Ridge K-25 facility.

Further Information

- This study was done by the NIOSH Occupational Energy Research Program (OERP) and was funded by the Department of Energy (DOE).
- To learn more about OERP or to get more copies of this worker notification, visit: www.cdc.gov/niosh/oerp/ or call 1-800-CDC-INFO