

## Beryllium disease among construction workers at U.S. DOE nuclear sites

### **Beryllium disease among construction trade workers at Department of Energy nuclear sites: A follow-up**

*Marianne Cloeren, John Dement, Joanna Gaitens, Stella Hines, Liliana Diaz, Yazmeen Tembunde, Kim Cranford, Janet Shorter, Terry Mosier, Knut Ringen, American Journal of Industrial Medicine, 2022.*

#### **Overview**

In the 1990s, the U.S. Department of Energy (DOE) recognized that workers at its nuclear facilities were at risk for occupational diseases related to beryllium exposure. The Building Trades National Medical Screening Program (BTMed), which provides free, periodic screening exams to former DOE construction workers, offers participants a blood test called the beryllium lymphocyte test that can identify beryllium sensitization (BeS). In this study, researchers used the records of 21,854 BTMed participants to estimate beryllium disease risks and claims-to-acceptance rate for chronic beryllium disease in a federal compensation program administered by the U.S. Department of Labor. Stratified analyses were used to explore trends in disease frequency by age, race, sex, DOE employment duration, site, trade group, and cigarette smoking history.

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#### **Read the abstract:**

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#### **Key Findings**

- Among workers found to be sensitized to beryllium, most had no understanding of how they were exposed.
- The study found that 202 of the workers tested—1.2% of the total—had beryllium sensitization (BeS).
- Of the 177 workers with BeS interviewed, 35 (19.8%) accepted a chronic beryllium disease (CBD) compensation claim.
- The claims acceptance rate among BeS workers increased with years of DOE employment, from 8.4% for those with fewer than 5 years to 33.3% for 25 or more years.
- Prevalence of BeS was highest for workers who worked at Brookhaven National Laboratory, followed by the Kansas City Plant.
- The risk of those with BeS then developing CBD relates to the number of years working on a DOE site.
- Construction workers are being exposed to beryllium in complex ways, which may require different control measures. The findings suggest that OSHA should reevaluate its guidelines on skin exposures given that these may be contributors to the cause of BeS.
- The study's data suggest the need for improved ways to identify routes of exposure in construction work, improved worker education about beryllium exposure risk and health hazards, and continued screening for BeS.



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