Chronic Beryllium Disease and the Construction Worker

Beryllium Disease among Construction Trade Workers at Department of Energy Nuclear Sites

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Overview

Much is already known about the risks of acute exposure to beryllium dust; researchers have extensively documented the skin and lung disorders exhibited by workers who mine, smelt or otherwise encounter high exposures to the metal. However, many construction workers at nuclear weapons facilities operated by the Department of Energy (DOE) have been exposed to relatively low levels of beryllium for many years. Researchers used data from a medical surveillance program for these workers to establish disease rates for these workers. Blood tests of nearly 14,000 of these workers revealed beryllium sensitivity in 189, or 1.4%. Of these workers, at least 28 had exhibited sufficient evidence of Chronic Beryllium Disease (CBD), a chronic lung disease, to qualify for compensation from the federal government under the Energy Employees Occupational Illness Compensation Program Act (EEOICPA).

Key Findings

- Between 1998 and 2010, 13,810 workers received a blood test through the program, indicating that 189 (1.4%) were sensitized to beryllium.
- Workers in certain trades were found to have elevated rates of beryllium sensitivity: 2% or more of the boilermakers, roofers, and sheet metal workers tested positive for beryllium sensitivity.
- Researchers interviewed 136 surviving workers with beryllium sensitivity, finding that 86 had undergone additional diagnostic testing. Twenty-five (25) of the survivors had exhibited sufficient evidence of Chronic Beryllium Disease (CBD) to qualify for compensation under EEOICPA. In addition, researchers identified three additional workers who had suffered from CBD and qualified for EEOICPA compensation but who were deceased or unavailable for interview.
- Fifteen percent (15%) of all the beryllium-sensitized workers – 30% of those who underwent the additional diagnostic testing – were found to have CBD. This proportion of CBD diagnosed among sensitized workers is lower than what has been reported in other studies. The authors hypothesize that these construction workers may have had significant exposure to beryllium through skin contact rather than through inhalation, and that sensitization through skin contact may be less likely to result in chronic lung disease than sensitization through inhalation.

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