


Chronic Beryllium Disease (CBD) - Awareness

- Home
- Overview - Roadmap to Content
- What is CBD?
- Symptoms & Clinical Findings
- Treatment & Consequential Conditions
- Worker Community
- Resources for:
 - Workers
 - Clinicians
 - Health Care Educators and Researchers
- List of Peer-Reviewed Publications
- Feedback

Energy Employees Occupational Illness Compensation Program



[Home](#)



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Overview

What is CBD?

Symptoms & Clinical Findings

Treatment & Consequential Conditions

Worker Community

Resources

Peer-Reviewed Publications & Feedback

What is CBD?

CBD is a disease that is caused by an allergic reaction to the metal beryllium after it has been inhaled either in powder or fume form into the lungs. The disease primarily affects the lungs by causing inflammation and scarring of the lung tissue, which makes it more difficult for the lungs to get oxygen to the bloodstream and body. Although not everyone has an allergic reaction to beryllium (which is called "beryllium sensitization"), those that do are at an increased risk for developing CBD.

Beryllium sensitization does not have any symptoms but occurs when the body's immune system reacts to beryllium as a threat to the body. The body will respond to the presence of beryllium by producing white blood cells called lymphocytes. These cells can be detected using a blood test called the beryllium lymphocyte proliferation test (BeLPT).

You are most likely to be exposed to beryllium and be at increased risk for developing CBD if you are currently working with or have worked in the past with:



It is important for you to try to remember any jobs or processes that might have brought you into contact with beryllium and beryllium compounds. Explain these carefully to any health provider who asks you about your work history.



What is Beryllium?

Beryllium is a naturally occurring element found in soil in the form of beryl and in rock in the form of bertrandite (beryllium sorosilicate hydroxide). Beryllium is lighter than aluminum yet stiffer than steel.

Beryllium and beryllium compounds have many industrial uses. Beryllium copper alloys and beryllium oxide ceramics are used in the electronic, nuclear and aerospace industries. Consumer products that contain beryllium include:



While beryllium occurs naturally in soil and in coal, an individual cannot develop beryllium sensitization from exposure to soil and rocks. Beryllium sensitization and CBD can only occur when it is refined from its original form and the dust or fumes created by this process are inhaled into the lungs.

Beryllium has been used at a number of DOE facilities since the 1940s, and until the late 1940s, little was known about the delayed health effects possible from exposure to beryllium. For many years it was assumed that CBD had been eliminated within the DOE complex. However, in the late 1980s several CBD cases arose at the DOE Rocky Flats Plant. Following the onset of these CBD cases, DOE established the Former Beryllium Worker Medical Surveillance Program (Be Program). In 2005, the Be Program was merged with the more encompassing Former Worker Medical Screening Program (FWP), which provides targeted medical screening based on all exposures, not just beryllium.

In 1999 DOE issued 10 CFR 850, Chronic Beryllium Disease Prevention Program, which established requirements for current worker medical surveillance programs. This Rule has increased the awareness of CBD throughout DOE's workforce and ensured that beryllium work is conducted safely.

Additional information about beryllium can be found on the following links:

- Occupational Safety and Health Administration (OSHA) - Beryllium
- U.S. Department of Energy - Chronic Beryllium Disease Prevention Program



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