

Frequently Asked Questions about Chronic Beryllium Disease (CBD) FAQ208

What is Chronic Beryllium Disease (CBD)?

Chronic beryllium disease (CBD) is a condition in which the immune system in the lungs of susceptible individuals reacts to the presence of beryllium-containing particles and the lung becomes inflamed. This inflammation, accompanied by scarring may stiffen the lung, make breathing difficult, and restrict the exchange of oxygen between the lungs and the bloodstream.

Before the late 1980s, CBD was diagnosed in workers only when they exhibited clinical symptoms of CBD and changes in their chest x-ray or lung function test. This is now referred to as clinical CBD. Clinical CBD can be a serious and sometimes fatal lung disease. During the late 1980s and early 1990s, the criteria for CBD diagnosis were changed to include workers without clinical symptoms or measurable impairment whose CBD was detected as a result of surveillance combining the beryllium blood lymphocyte proliferation test (BeBLPT) and bronchoscopy with biopsy. These workers are labeled as sub-clinical, or surveillance CBD, based on the positive BeBLPTs and the presence, upon biopsy, of microscopic biological lung formations called granulomas.

What causes CBD?

CBD is caused by breathing small airborne particles containing beryllium. Three factors are required, and all must be present for a person to develop CBD. First, the individual must be exposed to airborne beryllium in the form of a dust, fume or mist. Second, the particles must be tiny enough (approximately 10 times less than the diameter of a human hair) to reach the air sacs deep in the lungs; and third, the person must be sensitive to beryllium. CBD does not occur in most people and medical science suggests that development and progression of CBD may be related to a person's genetic makeup.

What are the symptoms of clinical CBD?

The symptoms of clinical CBD include shortness of breath, dry cough, wheeze, weight loss, night sweats or fatigue. These symptoms are also common to many lung and other conditions which may be confused with CBD. In individuals with clinical disease, chest x-rays can be normal, but may show small nodules, enlarged lymph nodes, or extensive scarring. Pulmonary function tests may show reduced lung volume, reduced air flow, or reduced diffusion of gases from the air sacs in the lung into the blood stream.

What is Beryllium Sensitization?

Beryllium sensitization means that a person's immune system can respond to the presence of beryllium. Beryllium sensitization is usually looked for using a BeBLPT. In a positive BeBLPT, cells taken from the blood respond by multiplying rapidly when exposed to beryllium. This is called lymphocyte proliferation. The amount of cell multiplication (lymphocyte proliferation) is measured and recorded. A person with two or more tests that exceed a rate of cell multiplication above a predefined normal level is considered to be sensitized to beryllium. Sensitization to beryllium is not an illness or disability and as such is not considered a health effect.

See our FAQ 203 - Frequently Asked Questions about the Beryllium Blood Lymphocyte Proliferation Test (BeBLPT), for more information on sensitization testing.

If a person's test results for beryllium sensitization indicate they are sensitized to beryllium, does it mean they have CBD and will get sick?

No, the results of the BeLPT alone do not establish that a person has CBD or will get sick.

Is it true that a person can be diagnosed as having CBD and not have any clinical symptoms?

Yes, this is described as sub-clinical CBD and is a term that originated after the criteria for the diagnosis of CBD was changed in the late 1980's. The diagnosis of sub-clinical CBD is based on two abnormal BeLPT's indicating beryllium sensitization and the presence of non-caseating granulomas in lung tissue samples taken during a medically invasive procedure called a bronchoscopy. Individuals diagnosed with sub-clinical CBD may not have any clinical symptoms or measurable impairment and may not progress to clinical illness.

How can I obtain assistance?

If you have any questions regarding the above information, please contact your sales representative or call the Product Safety Hotline at (800) 862-4118. Get product specific material safety data information at www.materion.com.