

Beryllium Toxicity

Patient Education Care Instruction Sheet

What Is Beryllium?

Beryllium is a mineral found in nature. It is extracted from mineral deposits and used for many commercial purposes. Industries that use beryllium include

- aerospace,
- aircraft manufacture and maintenance,
- computer,
- dental laboratories,
- telecommunications, and
- foundries and metal reclamation.

How Can I Be Exposed to Beryllium?

The general population is exposed to normally low levels of beryllium in air, food, and water in the course of their daily lives. People working or living near beryllium industries have the greatest potential for exposure to it.

- People working in industries where beryllium is mined, processed, machined, or converted into metal, alloys, and other chemicals may be exposed to high levels of beryllium.
- Higher-than-normal levels of beryllium may be in soil at hazardous waste sites so those living near uncontrolled hazardous waste sites may be exposed to higher than normal levels of beryllium.

How Can Beryllium Affect My Health?

Exposure to beryllium can affect the lungs and/or skin. However, not everyone will develop health effects from beryllium exposure.

People who work closely with beryllium as part of their employment have the greatest risk of developing health effects from beryllium. However, people who have had only infrequent exposure to beryllium may still develop health effects. Some individuals develop health effects shortly after exposure, while others may develop health effects many years after exposure has stopped.

Once a person has been exposed to beryllium, they have a lifelong risk of developing disease even if exposure stops.

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Beryllium usually affects the respiratory system, although it can affect other parts of the body as well. Listed below are different types of illnesses or health effects associated with beryllium.

Health Effect	Description	Symptoms
Beryllium sensitization	The body develops hypersensitivity to beryllium.	No symptoms, but the body identifies beryllium as foreign.
Chronic Beryllium Disease (CBD)	A chronic scarring lung disorder where scarring prevents oxygen from moving freely from the lungs to the blood.	Usually: <ul style="list-style-type: none">• cough,• shortness of breath,• chest pains,• night sweats, and• fatigue. Sometimes: <ul style="list-style-type: none">• difficulty breathing
Lung Cancer	Lung cancer is rare. If it occurs it is the same type of cancer caused by smoking and other cancer risk factors.	Usually: None (until late stage). Sometimes: <ul style="list-style-type: none">• bloody sputum,• weight loss,• cough,• wheezing, and• difficulty breathing.
Acute Beryllium Disease	A pneumonia-like illness that follows exposure to high levels (50-100 micrograms/cubic meter) of beryllium. Uncommon in modern industry.	Usually: <ul style="list-style-type: none">• pneumonia, and/or• chest pain. Sometimes: <ul style="list-style-type: none">• cough,• chest pain, and• difficulty breathing.
Skin Diseases	Allergic reaction/dermatitis.	Small, red, raised bumps. Rash.

How Can Families Reduce the Risk of Exposure to Beryllium?

There are several ways families can reduce exposure to beryllium.

If you live near a hazardous waste site, minimize or avoid soil and dust exposure by

- making sure to wash hands frequently, and before eating,
- discouraging your children from eating dirt, putting their hands in their mouths or engaging in other hand-to-mouth activities, and
- avoiding outdoor activities on windy, dusty days.

Some adults and children may be exposed to beryllium by contact with a family member who works in a facility using beryllium.

- If you work at a facility that uses beryllium, make sure you change your clothes and clean your hair and skin before leaving your job and returning home.
- Also, do not bring objects home such as work tools that may be contaminated with beryllium.

Clothing worn while working with beryllium should not be laundered with other family clothing to avoid cross contamination. Also, there is a beryllium exposure risk to the person handling and washing the contaminated clothing. Therefore, it is best if work clothing is removed and washed at your work place.

Is There a Medical Test to Show if I Have Been Exposed to Beryllium?

Beryllium can be measured in the urine, blood, lung and skin samples. The amount of beryllium in blood or urine may not indicate how much or how recently you were exposed.

A more specific blood test, the blood beryllium lymphocyte proliferation test (BeLPT), identifies beryllium sensitization which may lead to chronic beryllium disease.

These tests are not usually available at your doctor's office, but your doctor can send the samples to a laboratory that can perform the tests.

**When to
Call or See
Your Doctor**

Call your doctor if you develop any of the following symptoms:

- chest pain,
- fever, night sweats,
- increased coughing, wheezing, difficulty breathing,
- increased fatigue or weakness,
- shortness of breath on exertion,
- swollen ankles or feet,
- thickening, foul odor, or color changes in mucus, or
- weight loss of more than 6 pounds within a week.

Make sure to tell your doctor about your past and/or current beryllium exposure.

**Follow-Up
Instructions**

The items checked below require your attention.

Please make an appointment to:

- Have a blood BeLPT.
- Have a chest X-ray.
- Undergo pulmonary function tests (simple breathing tests).
- Undergo pulse oximetry tests.
- See a pulmonologist (lung specialist) _____.
- Have flu and pneumococcal shots.
- See a specialist: _____
- Have other tests: _____
- Return for office visit (date/time): _____