

Tool Box Talk



SILICA DUST EXPOSURE

April 2017

What is silicosis?

Silicosis is a condition caused by inhaling too much silica over a long period of time. Silica is a highly-common, crystal-like mineral found in sand, rock, and quartz. Silica can have deadly consequences for people who work with stone, concrete, glass, or other forms of rock.

Silica dust particles act as tiny blades on the lungs. These particles create small cuts that can scar the lung tissue when inhaled through the nose or mouth. Scarred lungs do not open and close as well, making breathing more difficult.

Any level of silica exposure can result in silicosis. There are three types of silicosis:

- ✘ **Acute silicosis** forms a few weeks or months after high levels of silica exposure. This condition progresses rapidly.
- ✘ **Accelerated silicosis** comes on five to 10 years after exposure.
- ✘ **Chronic silicosis** occurs 10 years or more after silica exposure. Even low exposure levels can cause chronic silicosis.

Symptoms of silicosis

Silicosis is a progressive condition, meaning it gets worse over time. Symptoms may start out as an intense cough, shortness of breath, or weakness. Other possible symptoms include:

- ✘ chest pain
- ✘ fever
- ✘ night sweats
- ✘ weight loss
- ✘ respiratory failure

Having silicosis increases your risk for respiratory infections, including tuberculosis.

You should seek medical attention if you suspect you have silicosis. Your doctor will ask questions about when or how you may have been exposed to silica. They can test your lung function with pulmonary function tests.

How silicosis is treated

Silicosis doesn't have one specific medical treatment. The aim of treatment will be to reduce your symptoms. Cough medicine can help with cough symptoms and antibiotics can help treat respiratory infections. Inhalers can be used to open up the airways. Some patients wear oxygen masks to increase the amount of oxygen in their blood.

Patients with severe silicosis may require a lung transplant.

Silicosis has become less common over time thanks to improved work safety measures. However, silicosis can still occur, and there is no cure for it at present.

Your long-term outlook depends on the severity of your condition. Intense lung scarring can develop in both accelerated and chronic silicosis. Scarring destroys healthy lung tissue, reducing the amount of oxygen the lungs can transmit to the blood.

How to protect yourself

Workers can wear respirators to keep from inhaling silica. These masks may be marked for "abrasive blasting" use.

Water sprays and wet cutting methods reduce the risk of silica exposure. Workplaces should meet Occupational Health and Safety (OHS) standards. This includes proper ventilation. Employers can monitor air quality at worksites to ensure that there's no excess silica in the air.

Workers should eat, drink, and smoke away from dust that may contain silica. They should also wash their hands before doing any of these activities to clear their hands of any dust.

Workplace Hazardous Materials Information System (WHMIS) 2015 classifies Crystalline Silica in the form of Quartz as:

- ✘ **Danger! Lung injury and cancer hazard.**

Globally Harmonized System (GHS) Classifications:

- ✘ **Carcinogenicity** – Category 1A (H350)
- ✘ **Specific target organ toxicity, single exposure; Respiratory tract irritation** – Category 3 (H335)
- ✘ **Specific target organ toxicity, repeated exposure** – Category 1 (H372)



GHS Pictograms



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