THE FACTS OF SILICOSIS

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- In November 1988, 10 cases of silicosis were reported in west Texas. All of the workers were sandblasters employed at a company that sandblasted oil-well drilling pipes. Each had been exposed to silica dust and had high levels of silica in their lungs. Their job included use of sandblasting machinery that was in poor condition and leaked silica dust into the air. All of the workers were Hispanic males with an average age of 31 years. One of the workers died from silicosis at age 34 [CDC 1990].

- A tile-installer was diagnosed with advanced silicosis, emphysema, and asthma at age 49. Although he didn't directly perform risky tasks, he worked near sandblasting and was exposed to silica dust (tile installers can also be directly exposed to silica dust when cutting tile). He did not wear a respirator [NIOSH 1996].

- A 39-year-old sandblaster was diagnosed with progressive silicosis and tuberculosis in 1993. He had reported shortness of breath, wheezing, and lack of energy. He had worked for 22 years sandblasting welds during water tank construction. He wore a charcoal filter respirator while sandblasting, but it was the wrong type and did not protect him. Two brothers and three nephews who worked with him all tested positive for tuberculosis as well [NIOSH 1996].

- A 36-year-old man in Texas died in 1995 from advanced silicosis after working as a sandblaster for 11 years. He had been exposed to silica dust for only three years while sandblasting oil field pipes and tanks [CDC 1998].

- A 30-year-old sandblaster in Texas died 10 years after his first exposure to silica dust. He had been exposed to silica dust for only four years [CDC 1998].

WHAT IS SILICOSIS?

Silicosis is a disabling and often fatal lung disease caused by breathing dust that contains very small pieces of crystalline silica. Crystalline silica is found in concrete, masonry, sandstone, rock, paint, and other abrasives. The cutting, breaking, crushing, drilling, grinding, or abrasive blasting of these materials may produce fine silica dust. It can also be in soil, mortar, plaster, and shingles. The very small pieces of silica dust get in the air that you breathe and become trapped in your lungs. Even the very small pieces of dust you cannot see will harm you. As the dust builds up in your lungs, the lungs are damaged and it becomes harder to breathe.

TYPES OF SLICOSIS

1. Chronic silicosis: Usually occurs after 10 or more years of exposure to crystalline silica at low levels. This is the most common type of silicosis.
2. Accelerated silicosis: Results from exposure to higher levels of crystalline silica and occurs 5 to 10 years after exposure.
3. Acute silicosis: Can occur after only weeks or months of exposure to very high levels of crystalline silica. Death occurs within months. The lungs drown in their own fluids.

Chronic silicosis, the most common form of the disease, may go undetected for years in the early stages. A chest X-ray may not reveal an abnormality until after 15 or 20 years of exposure. The body's ability to fight infections may be overwhelmed by silica dust in the lungs, making workers more susceptible to certain illnesses, such as tuberculosis.

SYMPTOMS

- Shortness of breath following physical exertion
- Severe cough
- Fatigue

- Loss of appetite
- Chest pains
- Fever

Silicosis Facts

- Since 1968, more than 14,000 workers in the U.S. have died from silicosis.
- More than 200 workers die and hundreds become disabled by silicosis in the U.S. each year.

HAZARDOUS TASKS

- Removal of paint and rust with power tools
- Abrasive blasting of bridges, pipes, tanks, and other painted surfaces especially while using silica sand
- Grinding mortar
- Abrasive blasting of concrete
- Crushing, loading, hauling, chipping, hammering, drilling, and dumping of rock or concrete
- Chipping, hammering, drilling, sawing, and grinding concrete or masonry
- Demolition of concrete and masonry structures
- Dry sweeping or pressurized air-blowing of concrete or dust
- Jackhammering on various materials

WORKERS AT RISK

More than 100,000 workers in the United States encountered high-risk, silica exposures through sandblasting, rock drilling, and mining. Workers who remove paint and rust from buildings, tanks, and other surfaces; clean foundry castings; work with stone or clay; etch or frost glass; and work in construction are at risk of overexposure to crystalline silica, including the following workers:

- Highway and bridge construction and repair
- Building construction, demolition, and repair
- Abrasive blasting
- Masonry work
- Concrete finishing
- Drywall finishing
- Rock drilling
- Mining
- Sand and gravel screening
- Rock crushing

PROTECTION

If your work exposes you to silica dust, there are things you can do to prevent silicosis.

- Be aware of the heath effects of breathing air that has silica dust in it.
- Avoid working in dust whenever possible.
- Know what causes silica dust at your workplace.
- If there is no visible dust, you could be at risk. If there is visible dust, you are <u>almost definitely</u> at risk.

<u>To reduce silica dust:</u>

- Use water sprays and ventilation when working in confined spaces where silica dust is present.
  - Use a water hose to wet dust before it becomes airborne.
  - Use saws that add water to the blade.
  - Use drills that add water through the stem or have dust collection systems.
  - Use blast cleaning machines or cabinets to control dust.
- When water sprays and ventilation alone are not enough to reduce silica dust levels, your employer must provide you with a properly fitted and selected respirator designed for protection against crystalline silica, such as a particulate filter or airline supplied air respirator).
  - Don't change or alter the respirator
  - Workers who use tight-fitting respirators cannot have beards or mustaches because they do not let the respirator properly seal to the face.
  - Sandblasting or abrasive blasting requires the highest level of protection, which is a type CE abrasive blasting respirator.
- Take health or lung screening programs offered by your employer.
- Practice good personal hygiene at the workplace:
  - Don't eat, drink, or use tobacco products in dusty areas.
  - Wash hands and face before eating, drinking, or smoking outside dusty areas.
  - Park cars where they will not be contaminated with silica.
  - Change into disposable or washable work clothes at the worksite.
  - Shower (if possible) and change into clean clothes before leaving the worksite to prevent contamination of other work areas, cares, and homes.

It is your employers' legal responsibility to provide a safe workplace. If you think you are not protected call OSHA at 1-800-321-OSHA (6742).