

Do you have a safe *and* healthful workplace?

At OR-OSHA we believe workplaces should be safe and healthful — which leaves one wondering: Is it possible for a workplace to be safe and not healthful? This issue of the Construction Depot helps you answer that question. We'll examine three hazards that can affect your health, even as you think you're working safely: dermatitis, silicosis, and noise-induced hearing loss.

Dermatitis



What is it?

Dermatitis is a skin disease characterized by inflammation, redness, and itchiness. The type likely to affect construction workers is **contact dermatitis**, which results from handling substances that cause an allergic or inflammatory reaction. Some people are more sensitive than others, and even the same individual can become more or less sensitive to a particular substance over time.

Contact dermatitis usually results from direct contact with irritants such as acids, soaps, detergents, solvents, cement, and other chemicals. A history of any type of allergy increases the risk. Although you may have no initial reaction to these substances, repeated exposure can eventually cause an allergic response.

What are the symptoms?

The symptoms of exposure — hard to miss or avoid — include the following:

- Itching, redness, or inflamed skin
- Tender to the touch
- Localized swelling
- Warmth of the exposed area
- Rash, pimple-like papules, and blisters
- Oozing, draining, or crusting skin
- Skin becomes scaly, raw, or thickened

How to control exposure

You can usually prevent contact dermatitis by following a few simple safe-work practices:

- Avoid handling irritating substances
- Use protective gloves or barrier creams if you have to handle them
- Wash your skin thoroughly after handling them

Silicosis



What is it?

Silicosis is a lung disease caused by breathing dust containing particles of crystalline silica, one of the most common minerals on our planet. Crystalline silica is abundant in soil, sand, dust, quartz, and granite rock. The cause of silicosis has been known for centuries — the earliest cases of silicosis were recorded before the first century, A.D.

Crystalline silica can cause silicosis only when you breathe it into your lungs as dust or a fine powder. Here's what happens: The silica particles become trapped in the lungs and damage the tissue. As a result, the lung tissue scars and forms small, rounded masses called nodules. Over time, the nodules grow, making breathing increasingly difficult.

You may be using products or materials — such as the following — that contain crystalline silica and not even know it.

- Asphalt paving material
- Cut stone
- Abrasives
- Concrete or masonry

If your workplace is a dusty one or if you work with materials that produce dust, you should be concerned about silicosis.

What are the symptoms?

Though silicosis shows no symptoms at first, the victim eventually has trouble breathing and develops a severe cough. Other symptoms include fatigue, loss of appetite, chest pains, and fever. Only a complete work history, a chest X-ray, and a lung-function test will determine whether or not one has the disease.

How to control exposure

Silicosis isn't curable — sadly, workers still die from the disease — but it is preventable. The keys to prevention are straightforward: Identify workplace activities that produce crystalline silica dust and then eliminate the dust or control it so that workers aren't exposed.

- Use materials that don't contain crystalline silica
- Use dust-containment systems on machines that generate dust
- Work wet: use wet drilling or sawing methods to reduce dust
- Ventilate: Use local-exhaust ventilation systems to keep work areas dust free

- Use personal protective equipment when it's necessary
- Monitor the air to determine workers' exposure to silica dust
- Monitor workers who may be exposed with regular medical exams that include work histories, chest X-rays, and tuberculosis evaluations
- Practice good personal hygiene: wash your hands before eating and drinking; if possible, shower and change clothes before leaving the workplace

Noise-induced hearing loss



What is it?

Noise-induced hearing loss is the term for hearing damaged by excessive noise — above 85 decibels averaged over an eight-hour period. Most of us take hearing for granted — when we go home at the end of a workday and when we get up in the morning we expect to hear well. When noise is too loud, however, it can damage the sensitive hair cells in your inner ear. As the number of damaged hair cells increases, you brain receives fewer impulses to interpret as sound. As you damage hair cells, you damage hearing.

What are the symptoms?

People differ in their sensitivity to noise and there's no way to determine who is most at risk for hearing damage. Factors such as sound pressure, frequency, and exposure time all play a role in determining whether noise is harmful or just annoying.

You should consider your hearing at risk, however, if noise affects you in one of the following ways:

- Normal conversation is difficult; you have to shout above the noise to make yourself heard
- You have ringing in your ears for several hours after exposure to noise
- You have difficulty hearing normal sounds for several hours after exposure to noise

How to control exposure

Before you can control workplace noise, you need to determine its source, who's affected by it (the listeners), how the noise is reaching them (the noise path), and the noise decibel levels (at the source and at the listeners). Special instruments — a *sound-level meter* and a *dosimeter* — will record sound and exposure levels. You can have someone trained to use these instruments conduct a **sound survey** of your workplace which should give you enough information to understand a noise problem.

When you understand a noise problem, you can make an informed decision

about how to control it. Critical noise-control tools include the following:

- **Exposure monitoring:** gives you information to determine if individual employee's are exposed to hazardous noise levels
- **Audiometric testing:** determines whether an employees hearing is stable or getting worse over time
- **Engineering controls:** controls noise at its source so that it's no longer hazardous
- **Administrative controls:** controls noise by managing workers' activities to reduce their exposure
- **Hearing protectors:** Earmuffs and ear plugs; they reduce noise by decreasing the pressure of sound that reaches the eardrum ■

Want to learn more?

OR-OSHA's Public Education Section and the Joint Emphasis Program (JEP) are offering a series of four-hour workshops that will help you learn about health hazards in construction workplaces. Wondering what JEP is? It's a cooperative effort between business, labor, and government representatives to reduce injuries and fatalities in the construction industry.

You can register for the workshops on line at www.orosha.org or by calling the OR-OSHA Public Education Section: (888) 292-5247.

Workshop schedule

Location	Date	Time
Roseburg	11/14/01	8 am-Noon
Salem	11/20/01	1 pm-5 pm
Bend	11/27/01	1 pm-5 pm
Portland	12/18/01	8 am-Noon
Eugene	1/10/02	1 pm-5 pm

Want to read more?

The following OR-OSHA publications will tell you more about silicosis and noise-induced hearing loss:

- **It's not just dust! What you should know about silicosis and crystalline silica**
- **Quiet! Oregon OSHA's concise guide to a noise-free workplace**

You can request them from our Resource Center, (503) 947-7447, or download them in PDF format from our Web site: www.orosha.org.