

Silicosis on the Internet

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Introduction

From reading the title of this article, one would think that the Internet has a lung disease, but that is not the situation. However, you can find much information about silicosis on the World Wide Web.

Silicosis is a disabling, nonreversible and sometimes fatal lung disease caused by overexposure to respirable crystalline silica or inhalation of silica dust. Silica is the second most common mineral in the earth's crust and is a major component of sand, rock, and mineral ores. Overexposure to dust that contains microscopic particles of crystalline silica can cause scar tissue to form in the lungs, which reduces the lungs' ability to extract oxygen from the air we breathe.

According to the U.S. Department of Labor, more than one million U.S. workers are exposed to crystalline silica. Each year, more than 250 American workers die with silicosis. There is no cure for the disease, but it is 100 percent preventable if employers, workers, and health professionals work together to reduce exposures. In addition to silicosis, inhalation of crystalline silica particles has been associated with other diseases, such as bronchitis and tuberculosis. Some studies also indicate an association with lung cancer.

Health behavioral specialists must be aware that anyone working in any dusty environment where crystalline silica is present can increase a person's chances of getting silicosis. Some examples of the industries and activities that pose the greatest potential risk for worker exposure include:

1. Construction (sandblasting, jack hammering, rock drilling).
2. Mining (cutting/drilling through sandstone or granite)
3. Ceramics (clay and pottery)
4. Manufacturing of soaps and detergents
5. Glass manufacturing
6. Agriculture (any dusty conditions)
7. Shipbuilding (abrasive blasting)

Some Silicosis Statistics

I have found some good mortality data by state and age (1968-1992), proportionate mortality ratio by industry, state, year and age, and mortality for males, by age relating to silicosis. These three (3) Web sites are:

<http://www.cdc.gov/niosh/w7silt9.html>

A case study on the epidemic of accelerated silicosis in oilfield sandblasters is accessible from the Environmental and Occupational Pathology Division, State University of New York Health Science Center at Syracuse. For those interested in the effect of silica on the lungs might want to view the Web site:

<http://www.hscsyr.edu/~pathenvi/studies/case3.html>

NIOSH

Since the time in November 1992 when the National Institute for Occupational Safety and Health issued a Nationwide Alert (DHHS [NIOSH] 92-107) to warn workers involved in rock drilling that they may be at risk for developing silicosis, detailed information about silicosis has been available. This alert discusses who is at risk, how does exposure occur, what are the health effects, and how workers can be protected. This alert can be found at:

<http://www.cdc.gov/niosh/93-123.html>

In June 1996 NIOSH issued Alert 96-112 which warns of silicosis risks during construction activities. This alert stated that exposure to respirable crystalline silica dust during construction activities can cause serious or fatal respiratory disease. Also, employers and workers were alerted to the fact that they could take several steps to reduce exposures and lower risks. Some of the measures included using engineering controls and containment methods such as blast-cleaning machines and cabinets, wet drilling, or wet sawing of silica-containing materials to control the hazard and protect adjacent workers from exposure. Alert 96-112 is available at:

<http://www.cdc.gov/niosh/silicupd.html>

OSHA

OSHA has some good information relating to silicosis on the Internet. Joseph Dear's 2 May 1996

memorandum on the Special Emphasis Program (SEP) for Silicosis provides inspection targeting guidance for implementing an OSHA-wide program to help reduce the eliminate the workplace incidence of silicosis from exposure to crystalline silica. This memorandum is available at:

<http://osha.gov/oshdocs/silic.html>

The SEP provides targeting for general industry and construction, the direction and application of inspections, the recording of inspections, consultation requests, and some excellent appendices on crystalline silica and silicosis.

Prevention

NIOSH has two good URLs for preventing silicosis:

<http://www.cdc.gov/niosh/silfact1.html>

<http://www.cdc.gov/niosh/silicpag.html>

The first site reviews the risk of crystalline silica, discusses the different types of silicosis (chronic, accelerated, and acute), and how silicosis can be prevented. The other Web site highlights some of the same information, but has some of the hotlinks to silicosis prevention.

Through the U.S. Mine Safety and Health Administration Web site, you can download as a PDF file two of the best resources on silicosis available on the Internet. The first document is titled "A guide to working safely with silica- If it's silica, it's not just dust" and second is "Tips for preventing silicosis." I have found that both documents can be very useful for both employers and employees. Both documents can be accessed and viewed on the World-Wide Web at:

<http://www.msha.gov/S&HINFO/SILICO/SILICO.htm>

This same URL also provides some good hot links to other silicosis prevention Web sites. Some of sites include Oklahoma State University's document on silicosis and your health, an epidemic of accelerated silicosis in oilfield sandblasters, the Steel Structures Painting Council's protecting workers from crystalline silica.

Medical/Health Web Sites

There are some good Web sites which can provide the safety, health, and environmental professional with medical and health information on silicosis. Most of these will discuss the causes, incidence, risk factors, prevention, symptoms, signs, medical tests, treatment, expectations (prognosis), and complications of silicosis. The URLs for these Web sites are:

<http://www.healthanswers.com/database/ami/converted/000134.html>

<http://www.mtsinai.org/pulmonary/papers/pitfalls/pitfalls-intro.html>

Recent Conferences on Silicosis

On 25-26 March 1997, MSHA, NIOSH, OSHA, and the American Lung Association sponsored the National Conference to Eliminate Silicosis. Resources about the conference and related silicosis information can be accessed at one of two (2) Web sites:

<http://www.cdc.gov/niosh/nmsilcon.html>

<http://www.msha.gov/confmenu.htm>

This conference provided an opportunity for representatives of business, labor, health professionals, and the government to exchange information and share specific techniques to prevent silicosis.

The Web sites listed should provide you with a wide range of information about silica and silicosis.

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