

(/niosh/index.htm)

Worker Health Study Summaries

On This Page

- Background
- Study Results
- Reference
- Sources of Information

Research on long-term exposure

Talc Miners and Millers (Talc)

1995

Study Background

NIOSH studied the health effects of mining and milling talc.

The study included 710 men who mined or milled talc. The study included all men who had worked for at least 1 day between 1947 and 1978. The purpose of the study was to see if exposures at this work site were associated with lung disease, including cancer.

We call this a mortality study because it looked at death rates of disease. Since the mortality study was based entirely on records (work records and death certificates), we did not contact individual workers.

In 1975, we also did a medical study looking at the lung involving 121 employees who were then currently employed. This involved breathing tests, chest x-rays, and answering questions. The following also gives the results of the medical study.

Mortality Study Results

In the mortality study, we compared death rates in talc workers to death rates in the general U.S. population. The U.S. rates gave us the number of expected deaths in workers.

Compared to the general public, talc workers were more likely to have non-cancer lung diseases (8 deaths found, about 3 expected). These include lung diseases caused by breathing in dust, as well as by smoking. Some lung diseases cause problems with breathing, which may be permanent.

Talc workers were also more likely to get lung cancer (17 found, about 8 expected). The interpretation of this finding has been a matter of debate because 8 of these people worked with talc for less than 1 year. This suggests that their work with talc may not be related to lung cancer. However, NIOSH believes that the lung cancer might have been linked to mining and milling talc at this site. Although smoking or work exposures at other jobs may have contributed to these deaths, we do not think they explain the entire excess. We believe talc was also responsible.

The total number of deaths (from all causes) in talc workers was greater than expected (161 found, about 125 expected). This was an unusual finding because working people usually are healthier than the general U.S. population. The elevation in lung disease and lung cancer did not entirely explain this excess.

Some other researchers who have studied workers producing talc have reached different conclusions. They think that the excesses of lung cancer and other lung diseases were due to smoking or to exposures at other work sites.

Medical Study of the Lung

The lung study found that the lungs of some talc workers in 1975 had been affected. This was probably due to breathing dust produced while mining and milling talc, as well as by smoking. In the breathing tests, we found signs that workers' lungs weren't working as well as expected, even after taking the effects of smoking into consideration. We also saw signs of dust-related lung disease on some chest x-rays. These signs were the type that can be seen as a consequence of talc or asbestos lung disease.

This study supports the findings for non-cancer lung disease seen in the mortality study. It also supports similar findings from surveys conducted by the State of New York since 1943.

What Can You Do to Protect Your Health?

NIOSH recommends that exposure to talc containing asbestos be controlled to the lowest possible concentration. Exposure should be no higher than 0.1 fiber/cc in a 400-liter air sample (fibers more than 5 microns long) averaged over 100 minutes. We recommend that exposure to talc not containing asbestos be no higher than 2 mg/m³ averaged over 10 hours.*

Smoking cigarettes is terrible for the lungs and causes lung cancer. If you smoke, NIOSH recommends you quit. Even if you have smoked for a long time, stopping now will improve your health. In addition, we have included telephone numbers at the American Lung Association for classes on stopping smoking.

If you have problems with your lungs or trouble breathing, see your doctor. Your doctor can check your lungs.

Reference

Brown D, Dement J, Wagoner J (1979). Mortality patterns among miners and millers occupationally exposed to asbestiform talc. Conference on occupational exposure to fibrous and particulate dust and their extension into the environment. SOEH. Richard Lemen and John M. Dement (Editors). Park Forest South, IL. Pathotox, 317-324

Sources of Information

If you or a family member would like to ask questions about the information please call the NIOSH toll-free number. 800-356-4674.

The Mine Safety and Health Administration (MSHA) is the federal agency that regulates safety and health in mines. They can answer questions about occupational safety and health. (In contrast, NIOSH makes recommendations).

Mine Safety and Health Administration
Watertown Field Duty Station
P.O. Box 158
Fort Drum, New York 13603
315-789-0522

The current MSHA limit for asbestos fibers longer than 5 microns (μm) is 2 fibers/ml averaged over 8 hours and 10 fibers/ml averaged over 15 minutes. The current MSHA limit for talc that does not contain asbestos is 20 mppcf (million particles per cubic foot of air).

MSHA is currently in the process of changing most of their air limits. The American Lung Association in holds classes to quit smoking. Classes meet once a week for 7 weeks and cost \$65. For more information contact:

The American Lung Association
Call toll-free 800-586-4872.

The following clinic has doctors who specialize in diseases related to work (occupational medicine).

Central New York Occupational Health Clinical Center
550 Harrison Center, Suite 300
Syracuse, New York 13202
315-432-8899

The following group can answer questions about occupational health.

Rochester Council on Occupational Safety and Health (ROCOSH)
797 Elmwood Avenue
Rochester, New York 14620
716-244-0420

Follow NIOSH

Facebook (<http://www.facebook.com/NIOSH>)

Flickr (<http://www.flickr.com/photos/NIOSH>)

Pinterest (<http://www.pinterest.com/cdcgov/workplace-safety-and-health/>)

Twitter (<http://twitter.com/NIOSH>)

YouTube (<http://www.youtube.com/user/NIOSHSafetyVideos>)

NIOSH Homepage

NIOSH A-Z

Workplace Safety & Health Topics

Publications and Products

Programs

Contact NIOSH

Page last reviewed: April 11, 2017

Page last updated: July 13, 2012

Content source: National Institute for Occupational Safety and Health (NIOSH) (/niosh) Division of Surveillance, Hazard Evaluations, and Field Studies.