



CITY HEALTH INFORMATION

# ASBESTOS

## Common Questions

The presence of asbestos in New York City schools has raised many questions about the health risks associated with exposure. Last fall, Health Department physicians visited schools around the city to answer questions from parents, teachers, and administrators. We continue to receive calls, including many from physicians, about what exposure to asbestos means. This issue is for physicians whose patients may have been occupationally exposed, and for those whose patients (including parents of schoolchildren) are concerned about the dangers of asbestos in schools and other buildings. For more information, please see the back page.

### What Is It and How Was It Used?

Asbestos is a term for several different mineral silicates that exist in fibrous form. It was used extensively between 1940 and the 1970's in more than 3,000 products, including thermal, acoustic, and electric insulation; in fire-proofing materials; in floor, tile, roof, and cement products, and in friction materials, such as automobile brakes. By the late 1970's, federal regulations had prohibited most asbestos use. About 20% of the nation's buildings, and more than two-thirds of the buildings in New York City, contain some asbestos. Asbestos-containing materials that are intact and undamaged are not considered hazardous. To pose a threat, the fibers have to become airborne and, therefore, respirable.

### Which Diseases Are Associated With Exposure?

The latency period for asbestos-associated pulmonary diseases is usually 20 to 30 years or longer.

► **ASBESTOSIS** is a scarring disease of the lung that causes shortness of breath. The disease is associated with high exposure and can progress in the absence of continued exposure.

► **CANCERS OF THE LUNG** are the most frequent associated with asbestos. Cigarette smoking greatly increases the risk of lung cancer in persons exposed to asbestos. For example, studies of asbestos insulation workers have shown the risk of lung cancer for those who smoked to be 80 to 90 times higher than for the general population. (See References 7 and 10.)

► **PLEURAL SCARRING** of the lining of the lung or chest wall is generally associated with extensive exposures, but can also occur at levels lower than those required to produce asbestosis. It is associated with impairment of lung function, especially when extensive.

► **MALIGNANT MESOTHELIOMA**, both pleural and peritoneal, has occurred most often among persons with prolonged, high-dose exposure. It has also been diagnosed following brief high-dose, or prolonged low-dose exposure. Some cases have been reported among persons who lived near asbestos factories, and among household contacts of asbestos workers. Many experts believe that nearly all adult cases are associated with asbestos. Mesothelioma risk does not appear to be affected by cigarette smoking.

### Who Should Be Examined for Asbestos-Related Diseases?

A lifetime occupational history should be obtained to assess your patient's risk of disease. (See Reference 18.) **Physical examinations, laboratory assessments, and ongoing medical surveillance are indicated for persons occupationally exposed to asbestos.** The Occupational Safety and Health Administration (OSHA) specifies the legal obligations of employers for medical surveillance of workers exposed to asbestos (29 CFR 1910.1001).

The chance that low-level, intermittent exposures will result in clinically detectable markers for asbestos disease is extremely small. Therefore, **medical examinations and surveillance are not useful for evaluating the risk of asbestos disease for schoolchildren, teachers, office workers, and other occupants of buildings that contain asbestos.** Neither are medical examinations warranted for persons exposed in a single accidental environmental release of asbestos.

Because any exposure to asbestos may increase lifetime risk of disease (by adding to the cumulative dose) all exposure events should nevertheless be documented in the permanent medical record to guide future care.

**For medical consultation and referral, please see page 2.**

### What is the Risk of Disease From Asbestos in Buildings?

Because exposures and risks are low, and latency periods long, there have been no *direct* measurements of disease risk for persons exposed to the extremely low levels of airborne asbestos normally found in buildings. Instead this risk has been estimated statistically, based on studies of disease among persons occupationally exposed to much higher doses. The lifetime risk of death from exposure to asbestos in buildings among non-occupationally exposed occupants (including schoolchildren and teachers) has been estimated to be comparable to the lifetime risk of dying from a lightning strike (1-3 per 100,000 persons). (See Reference 20.)

Public health efforts focus on prevention measures to minimize or remove long-term risks:

► Regular monitoring is needed to assure the prompt identification and proper repair or removal of damaged asbestos-containing materials.

► Given the high risk of lung cancer among smokers exposed to asbestos, **physicians should continue providing the strongest possible anti-smoking messages to all patients.** It is imperative that patients with asbestos-related disease, as well as asymptomatic patients known or suspected to have been occupationally exposed to asbestos, be advised not to smoke. Physicians can help patients concerned about the dangers of non-occupational exposure by putting the risk in perspective, and by providing information on smoking prevention and cessation.

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**Asbestos-Related Resources****INFORMATION, CONSULTATION  
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**The Mount Sinai Medical  
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The Irving J. Selikoff Occupational  
Health Clinical Center, 70 East 90th  
Street, New York, N.Y. 10128

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