

OCCUPATIONAL DISEASES

What is an Asbestos Screening?

An asbestos screening is a medical evaluation and educational session for a group of workers who have been exposed to asbestos.

Is an Asbestos Screening the same as a complete physical?

No. During a screening each individual gets a brief physical examination. In the case of asbestos, the exam focuses only on the heart and lungs. A screening does not take the place of regular examinations with your private physician.

What else is included in an Asbestos Screening?

Each screening involves a brief physical exam including a review of the individual's medical history and work history concerning exposure to asbestos. Also included are chest x-rays and spirometry tests, which measure lung capacity and function. The last part of the screening is an educational session about the potential health effects of asbestos and how to avoid future exposure to it. It is also an opportunity to ask questions about any other work hazards.

Are the test results confidential?

Yes. Each participant gets a personal letter with his or her individual results. This letter is not sent to anyone else without the individual's written permission.

How long does it take to get the results back?

Individual results will be sent out about four to six weeks after the screening.

What if the screening tests show a problem?

If there is evidence from the screening results of possible asbestos-related disease, we will ask you to schedule an appointment with us, or your own doctor, for more testing.

ASBESTOS-RELATED DISEASES

There are several medical diseases that occur as a result of asbestos exposure. Those of greatest concern and importance are pleural plaques, asbestosis, lung cancer, colon cancer, and mesothelioma.

A. Pleural Plaques

A majority of persons with heavy exposure to asbestos develop pleural plaques. The pleura is a thin lining that surrounds the lung. Asbestos fibers that are breathed in travel to the outside of the lung and cause a scar to form in this lining. When they reach a certain size they are visible on chest x-rays as a plaque. Most of these plaques alone do not cause significant disability, but they do tell us that significant exposure has occurred, and that other asbestos-related diseases may be present. Some types of plaques can cause loss of lung function as well. Estimates vary, but based on studies in New York and Boston, about half of all sheet metal workers with thirty years exposure will have pleural plaques.

B. Parenchymal Asbestosis

Parenchymal asbestosis is a scar formation in the substance of the lung itself. These scars can interfere with lung function, for they block the transport of oxygen from the air in the lungs into the blood vessels that travel through the lungs. Oxygen can only cross the membranes of the lung if they are thin; asbestosis causes them to thicken. The degree of scar formation determines the amount of shortness-of-breath that results. Some people can have mild scarring and have little loss of exercise capacity; others, with more extensive disease get out of breath with mild exertion. As a general rule the greater the exposure the more the disease, but some people seem to form scars more or less readily and so we see a variety of disease from the same exposure.

These scars are visible on x-ray in most cases. In early disease the scars can be so small they cannot be seen. There is a system of grading the degree of disease on the x-ray, called the ILO classification. Physicians who have received special training in this system are called "A" or "B" readers. Each x-ray is scored on the type of scar formation and the density of the scars.

The scars are also detected on pulmonary function testing. Asbestosis makes the lung stiffer and smaller, so the volume of air in the lungs is decreased. Oxygen transport as measured by the "diffusion capacity" is also decreased.

Again the changes can be subtle, and someone with experience in asbestos-related diseases should interpret test results.

Once this scar formation takes place it is irreversible. If exposure to asbestos ceases the scarring does not usually progress, although in a small percent it gets worse. Because of the damage to the lungs a person with asbestosis is at increased risk of lung infections and so should get regular medical care and influenza vaccines.

C. **Lung Cancer and Respiratory Cancers**

Lung cancer is a serious problem in asbestos workers. As a general estimate, insulators (a heavy exposure category) who have worked in the trade for twenty years and have never smoked have risk that is five times that of a non-asbestos worker. However, an insulator who smokes has a fifty to ninety- fold increase in risk; cigarettes and asbestos act together to cause cancer. Evidence shows that if this insulator quits smoking his risk of cancer falls over several years back to the range of the nonsmoker. Since the effect of asbestos is irreversible one of the most important interventions any worker exposed to asbestos can make is to quit smoking.

The risk of cancer of the larynx is also increased by asbestos exposure.

D. **Colon Cancer and Gastrointestinal Cancer**

There is also a higher incidence of cancers of the gastrointestinal tract among asbestos workers. In people exposed to asbestos for more than twenty years, the rate of colon cancer is increased by a factor of two. It is important for all workers exposed to asbestos to have regular check-ups with their doctors to look for early signs of colon cancer.

E. **Mesothelioma**

Mesothelioma is a rare cancer of the pleura, the lining of the lung, and the peritoneum, the lining of the abdomen, that occurs in persons exposed to asbestos. It is almost impossible to treat and is usually fatal. Although asbestos workers get mesothelioma at a rate far greater than non-exposed persons, it is still a much more rare cancer than the lung cancer discussed above. Pleural plaques are not cancer, nor do they turn into mesothelioma. They both occur in the lining of the lung, but they are separate diseases.

F. **What is your risk?**

All these diseases occur more frequently in heavily exposed populations; much of the information comes from studies of insulators. We can then try to estimate the risk of disease in other groups by estimating the relative degree of exposure.

There is no safe level for exposure to a carcinogen. Risk of disease will only lessen, not disappear as exposure lessens. Although asbestos is used less now than years ago, it is present in buildings constructed through the early 1970s and still used for brake and clutch linings among other uses. Those of you who work in buildings with asbestos insulation in place (on duct work, pipes, structural steel, or in roofing materials) must be aware of the special precaution needed for the handling of asbestos.