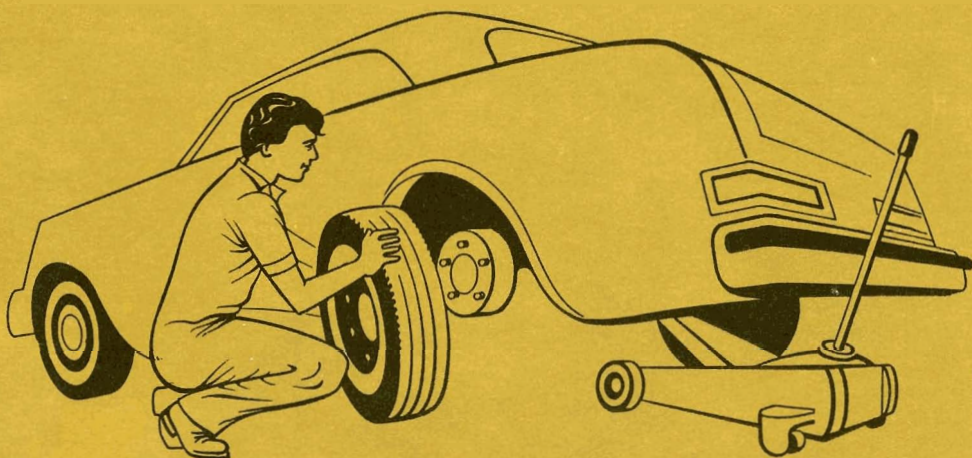




Guidance for Preventing Asbestos Disease Among Auto Mechanics



PREVENTING ASBESTOS DISEASE AMONG AUTO MECHANICS

I. MECHANICS' EXPOSURE TO ASBESTOS

Friction materials, such as brake linings and clutch facings, often contain asbestos. Millions of asbestos fibers can be released during brake and clutch servicing (1-8). Grinding and bevelling friction products can cause even higher exposures (1,8). Like germs, asbestos fibers are small enough to be invisible and they can remain and accumulate in the lungs. When you see a dust cloud during brake work, you are seeing clumps containing thousands of fibers. Most of the smaller fibers will not show up with the methods commonly used for measuring asbestos levels in the air, such as the method used to determine compliance with the OSHA asbestos standard, since most asbestos fibers in brake dust are too small to be measured by these methods (1-3,5-8).

Asbestos released into the air lingers around a garage long after a brake job is done and can be breathed in by everyone inside a garage, including customers. While lowering exposure lowers risk, there is no known level of exposure to asbestos below which health effects do not occur (9-12). The EPA has proposed phasing out the use of asbestos products. In situations where asbestos exposures cannot be eliminated entirely, they should be reduced to the lowest possible level (9,13).

Asbestos can be carried on work clothing, contaminating the family car and home. This can cause asbestos disease among family members. An ordinary house vacuum cleaner cannot collect these asbestos fibers, since its filter is not fine enough to trap them. In fact, an ordinary house vacuum cleaner is likely to stir these fibers up and scatter them into the air.

Asbestos can also get on a mechanic's hands and be swallowed when eating or smoking a cigarette. This is a particularly difficult problem for mechanics, since they often get grease on their hands and asbestos fibers can stick to the grease.

II. HEALTH EFFECTS OF ASBESTOS EXPOSURE

Until the use of asbestos products is phased out, the best way of limiting health damage to workers exposed to asbestos is to

use proper controls. It is not possible to predict whether an individual person exposed to asbestos will later develop asbestos-related disease. But studies of disease patterns among large groups of workers exposed to asbestos make general observations possible. The following can be the consequences of inadequate prevention:

Asbestosis

Asbestos exposure can cause scar tissue to form in the lungs. This is a very gradual process that usually takes many years before its effects are noticed. This scarring is called asbestosis. It causes gradually increasing shortness of breath. A person with this disease must breathe harder and deeper to get his or her breath because the scar tissue makes it harder for oxygen to get into the blood stream. This scarring is caused by repeated exposures to asbestos and is permanent. Nearly one half of mechanics who work for many years without proper control measures can develop this scarring (7,14).

Cancer

1. Mesothelioma

Mesothelioma is a type of fatal cancer of the lining of the chest or abdominal cavity. It can be caused by very low exposures to asbestos. This cancer has occurred among brake mechanics (15-20), their wives (20), and their children (21).

2. Lung Cancer

Lung cancer is currently responsible for the largest number of deaths from exposure to asbestos (22). Even short-term occupational exposures have been shown to increase the risk of lung cancer (22-24). Each added exposure increases the risk of cancer. Like asbestos, smoking can independently cause lung cancer, increasing the risk by about 10 times. When smokers are exposed to asbestos, the risks do more than add together; they actually multiply. For example, asbestos insulators who smoke have a lung cancer risk over fifty times higher than nonsmokers without asbestos exposure. However, stopping smoking greatly reduces this risk, even if a person has smoked for many years. Smokers who have been exposed to asbestos should be especially encouraged to stop smoking. The extent of risk of lung cancer among mechanics is not now known; but, given the known lung cancer risk among other groups exposed to asbestos, caution is necessary.

3. Other Cancers

Other cancers which appear to be caused by asbestos include cancer of the voice box (25,26) and of the stomach and large intestine (27, especially page 315).

Latency Period

It usually takes 15 to 30 years or more for cancer or asbestos lung scarring to show up after exposure. (Scientists call this the latency period.) Until then, the victim often feels fine. This gives a false sense of security. For example, if one touches a hot stove, one gets burned right away. With asbestos, the damage isn't obvious until many years later. This false sense of security can easily lead a worker and/or supervisor to follow work practices which can cause harmful exposures, since they are not aware that disease may develop later.

III. MEDICAL TESTS

Medical tests only discover asbestos-related disease after it has developed. In some cases, where the condition may be curable, especially with asbestos-related cancers of the large intestine and voice box, early detection can be very important.

Asbestosis

Asbestosis, or lung scarring from asbestos, is permanent and cannot be treated. It is diagnosed by chest x-rays, breathing tests (called lung or pulmonary function tests), and/or listening to the lungs, together with a history of exposure to asbestos. Very early asbestosis may be missed by these techniques. Early asbestosis is difficult to see on a chest x-ray and is best evaluated by a doctor who has experience and/or specialized training with asbestosis. (This type of specialist is called a "B reader" of x-rays.)

Lung Cancer

Very often lung cancer from asbestos has already spread by the time it can be seen on a chest x-ray or by tests of the phlegm. This is why more frequent tests for lung cancer do not help the average person who develops this cancer to live longer. Lung cancer is thus a condition needing prevention more than early detection and cure.