Asbestos

Exposure to asbestos can cause a range of serious diseases, including mesothelioma and lung cancer. These diseases continue to occur in people who worked with asbestos in the past. The evidence now shows that the incidence of these diseases is increasing, and that people exposed to asbestos while doing renovations to their home are becoming a bigger proportion of new cases diagnosed. It is important to know what asbestos is, the risk associated with asbestos exposure, and how to identify and handle asbestos safely.

What is asbestos?

Asbestos is a naturally occurring mineral fibre that was widely used in Australia up until the late 1980s. Asbestos is resistant to fire, moisture, chemicals and heat, which made it a popular building and insulation material. Asbestos was also used in the production of a variety of products, including fencing, roofing and pipe cladding, as an additive to paints and sealants, and in gaskets, brake linings and clutches. Many asbestos-containing materials still exist in buildings, homes and cars in Australia today.

Two main types of asbestos were mined and used in production in Australia;

- **Serpentine**: Also known as chrysotile, or “white asbestos”. The serpentine fibre has a curved appearance. This was the commonly used type of asbestos in Australia, and remains the most widespread.
- **Amphibole**: Includes amosite (or “brown” asbestos) and crocidolite (or “blue” asbestos). The amphibole fibres are straight and long.

The use of brown and blue asbestos has been banned in Australia since the mid-1980's. The use of white asbestos has been banned since the 31st December 2003.

In Australia, asbestos containing materials (ACMs) are divided into two types – friable and bonded.

Friable

Friable ACMs are in powder form, or can be crumbled, pulverized or reduced to powder by hand pressure when dry. Friable ACMs include sprayed asbestos insulation, pipe and boiler insulation and non-bonded asbestos fabric. All friable asbestos poses a hazard as the fibres are loose and can be easily released into the air.

Today, glass fibres have replaced asbestos in insulation products.

Bonded

Bonded, or non-friable ACMs are more difficult to damage by hand than friable ACMs. Bonded ACMs may be found in homes built up until the mid-1980s, and include asbestos-cement sheets, asbestos fencing, roof tiles, vinyl floor tiles and electrical switchboards. Although bonded asbestos is relatively safe if it is undamaged, it can release fibres when it is weathered or damaged.

Today, asbestos has been replaced by cellulose fibres in fibre-cement products.

Asbestos in the home

Although the use of asbestos has now been banned in Australia, asbestos still remains in structures built before the ban. If a structure was built between 1920 and 1990, it should be assumed that asbestos is present in some form.

Recent Australian research has indicated that the number of cases of mesothelioma caused by exposure to asbestos during home renovations has increased in men from around 3% in the 1990s to over 8% during 2005-2008, and from 5% to 35% in women.

Sawing, sanding, grinding and drilling ACMs can release asbestos fibres into the air. Therefore renovation, modification or demolition of homes with ACMs have the potential to release considerable amounts of asbestos fibre unless stringent precautions are taken. It is possible to handle and remove ACMs safely.

Risks associated with asbestos exposure

The fibres that make up asbestos are very thin, and can be invisible to the unaided eye. If asbestos materials or products are disturbed, these fibres can be released into the air and remain there for extended periods of time, where they can be inhaled to the lungs.

Evidence suggests that there is no safe level of exposure to asbestos fibres, However, asbestos fibres are widespread in the general environment and the incidence of asbestos-related disease is extremely low, meaning not everyone exposed to asbestos will develop a respiratory disease as a result.

Research into asbestos exposure has made it clear that there is a link between asbestos exposure and a range of respiratory diseases, some of which can be fatal. They include asbestosis, lung cancer and mesothelioma.

Asbestosis

Asbestosis is inflammation of lung tissues caused by inhaled asbestos fibres. The inflammation leads to scarring (fibrosis) and stiffening of the lung tissues, which makes breathing difficult

Asbestosis can take 10 – 20 years to appear after exposure to asbestos fibres. Currently there are no treatments that cure asbestosis. Asbestosis tends to worsen over time.

Lung cancer

Lung cancers are malignant tumours found in the lungs. The types of lung cancer that result from asbestos exposure are the same as those caused by smoking. Exposure to asbestos increases the risk of developing lung cancer, especially in people who have smoked cigarettes.

Lung cancer caused by exposure to asbestos exposure can take 20 years or more from the time of exposure before the first clinical signs appear. Treatment options are surgery in suitable cases, radiotherapy or chemotherapy.

Mesothelioma
Pleural mesothelioma is a cancer of the cells covering the surface of the lung and lining the chest wall. Peritoneal mesothelioma is a similar cancer of the surface covering of the bowel or the lining of the abdominal cavity

Mesothelioma is a rare form of cancer, and is thought to be caused by the body's reaction to the needle-like fibres of asbestos piercing the lining of the lung or abdomen. Mesothelioma can take up to 40 years to appear after exposure to asbestos. Mesothelioma is always fatal. Treatment options that may a patient's extend life may include chemotherapy and radiotherapy. New treatment options are being researched.

Recognising asbestos products

Asbestos may be present in a number of products used in the Australian building industry before the 1990s, including:

- Roofing, shingles and siding
- Exterior wall cladding
- Fencing
- Thermal boards around fireplaces
- Backing material on floor tiles and vinyl flooring
- Gaskets in wood stoves
- Textured paints
- Water or flue pipes
- Insulation used on hot water pipes, domestic heaters and stoves

Generally, a person cannot determine whether a material contains asbestos simply by looking at it. Careful visual examination and the use of a microscope is the only way to verify the presence of asbestos. If in doubt, treat suspect material as though it is asbestos.

Removing asbestos

If a building was built between 1920 and 1990, it should be assumed that asbestos is present in some form. DIY renovators working with or removing ACMs themselves will need to take important precautions for their own safety and for others in the vicinity. The principal aim is to prevent the release of any asbestos fibres into the atmosphere.

In Australia, homeowners can legally remove asbestos from their property, however national and state and territory laws and regulations apply.

Alternatively, renovators can contact a licensed asbestos removal contractor to inspect and remove ACMs. To contact a licensed asbestos removal contractor, refer to the local telephone directory or the Yellow Pages.

More information

For more information on asbestos,

- Contact your local state or territory health and safety authority
- Contact your local state or territory health department
- Visit The Australian Asbestos Network