

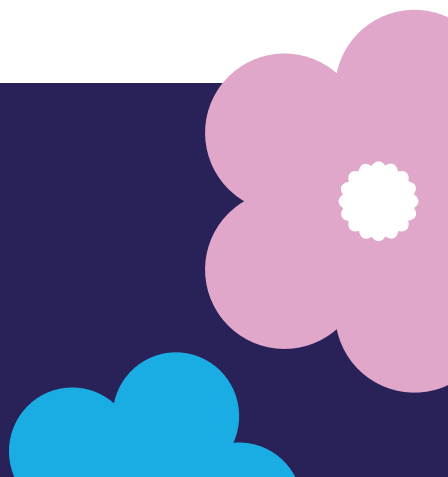
# Asbestos Exposure and Health Risks



**MESOTHELIOMA UK**

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## What is Asbestos?

Asbestos is a natural mineral mined from rock found in many countries including Russia, Canada and South Africa. It is made up of tiny fibres that are highly resistant to heat and chemicals. For this reason it was used in thousands of products and buildings all over the world.

Commercial production of asbestos began in the late 1800s, but it was not until several decades later that the link between asbestos and respiratory disease was established, around 1930 for asbestosis and 1960 for mesothelioma. The importation, supply and use of all asbestos has been banned in the UK since 1999.

However, some countries continue to produce and export it. Use is now mostly confined to countries in the developing world.

There are three main types of asbestos that have been used in the UK:

- **Brown asbestos (amosite)**

is heat and acid resistant.



It can be moulded into pipe insulation and board or used in bulk form for heat insulation. Brown asbestos was banned in the UK in 1985.

- **Blue asbestos (crocidolite)**

is highly resistant to

acid and is used to make



acid resistant cement pipes and electric battery cases. It has been widely used for insulation on trains and ships. Blue asbestos was banned in the UK in 1985.

- **White asbestos (chrysolite)**



now makes up about 99% of global production. It resists heat but not acid, and is used in asbestos cloth due to the long nature of asbestos fibres. Other domestic uses include insulation, lagging, ceiling and floor tiles. White asbestos was banned in 1999.

## How does asbestos damage health?

Asbestos fibres are breathed (inhaled) into the lungs. Because the fibres are so fine and long it is difficult for the body to clear them.

The asbestos fibres can penetrate through lung tissue into the lining of the lungs (the pleura) and into lymph nodes and other parts of the body.

Symptoms caused by asbestos do not develop for many years after exposure. Most people who have worked with asbestos or who have been in direct contact with it don't contract an asbestos disease. It is not known why some people are more susceptible than

## Asbestos Exposure and Health Risks

others although it is likely that genetics play a role.

There are four main diseases caused by exposure to asbestos fibres. These are:

- Asbestosis (a scarring of the lung tissue caused by asbestos)
- Mesothelioma (a cancer of the lining of the lung)
- Asbestos related lung cancer
- Diffuse Pleural Thickening (a non-malignant disease affecting the lung lining)

There needs to have been regular and heavy exposure to asbestos to develop asbestosis or lung cancer but there appears

to be no safe threshold for mesothelioma. Asbestos related diseases usually take a minimum of 10 years to develop, but commonly may take several decades.

Keep in mind that the majority of people exposed to asbestos do not suffer health problems as a result, but do contact your GP for advice if you are concerned.

## Asbestos removal

Generally asbestos is more of a risk if you disturb or damage it and cause fibres to be released into the air. If asbestos containing materials are in good condition and in a position where they are not going to be disturbed or damaged it may be acceptable to leave them where they are and ensure that any risks are properly managed. Professional advice should be sought.

Asbestos was used in many different products and buildings and although legislation came into force banning the import of blue and brown asbestos in the mid 1980s, white asbestos was still being used by the UK construction industry

as late as 1999.

If you are concerned about asbestos in the home and the potential removal of it, you should contact the Local Council in your area or the Asbestos Removal Contractors Association (ARCA) – [www.arca.org.uk](http://www.arca.org.uk) telephone 01283 566467.

## Workers at risk of asbestos exposure

Although the risks of asbestos exposure in relation to lung disease have been known for over 100 years, it was still widely used in many industries until the late 1970s and later to a lesser extent. Unfortunately, despite the known dangers many employers did not provide adequate

# Asbestos Exposure and Health Risks

protection or take measures to prevent exposure.

The following list of occupations is not a complete list and you may have worked in a different occupation and been exposed to asbestos.

- Carpenters and joiners
- Boiler, pipe and heating workers
- Shipbuilding/shipyard workers
- Armed forces personnel
- Dockworkers
- Ladders and sprayers
- Mechanics
- Plumbers and gasfitters
- Roofers

- Construction and demolition workers
- Painters and decorators
- Electricians
- Railway workers and coach construction
- Engineers
- Power station workers
- Laboratory and research
- Asbestos manufacture and sales
- Health workers
- School workers

Exposure is not limited to those who have worked directly with asbestos.

Exposure can be para-occupational; that is asbestos being taken out of the workplace and

perhaps into the home on the work clothes of someone working with asbestos. Exposure can also be environmental, for example living near an asbestos factory or in a building containing asbestos.

## The Diseases Caused by Asbestos

### **Pleural plaques**

Pleural plaques are usually found in people that have been exposed to asbestos. The pleura are two fine membranes which line the chest wall, diaphragm and lungs.

Pleural plaques are where small patches of the pleura become thicker. These patches are usually about the size of a coin and can

become harder and calcified with time. They often only become visible on chest x-rays more than 20 years after exposure to asbestos. The plaques are usually present around both lungs but can occur only on one side.

It is unlikely that the plaques themselves will ever cause symptoms, nor do they lead directly to the development of any other asbestos related changes. They are, however, an indication of exposure to asbestos, and people with these plaques may go on to develop other asbestos related conditions.

### **Diffuse pleural thickening**

In the case of diffuse pleural thickening the patches of thickening are

more widespread and may involve both layers of the pleura. As with pleural plaques one or both lungs may be affected. Whilst pleural plaques seldom cause any symptoms, diffuse pleural thickening can restrict the lungs from expanding normally and cause breathlessness.

Pleural thickening may follow benign (non-cancerous) asbestos effusion (a fluid collection between the lung and chest wall). Not all pleural thickening is caused by exposure to asbestos. Previous infection, TB, or pleurisy related to rheumatoid arthritis can also lead to pleural thickening.

### **Asbestosis**

Asbestosis is a type of fibrosis or scarring of the lungs caused by asbestos fibres which have lodged in the lungs after being inhaled from the air.

Asbestosis is a form of interstitial lung disease or diffuse pulmonary fibrosis.

The lung becomes damaged by the body's inflammatory reaction to asbestos fibres. There is thickening of the walls of the air sacs in the lung making it more difficult for oxygen to get into the blood stream resulting in breathlessness. It may be accompanied by clubbing of the fingernails (the fingernails become thicker and stick out more than normal).



Asbestosis develops in some people who have breathed in asbestos dust in the course of their work. Most people who develop asbestosis have worked with asbestos for at least 5 to 10 years although this can be shorter for very heavy exposure.

Unfortunately, the damage done by asbestosis cannot be reversed and often progresses slowly even without further exposure. People with asbestosis have a significantly increased risk of developing lung cancer and should stop smoking.

## **Lung Cancer**

Lung cancer is the second most common cancer in the UK. It is one of the few cancers where in many cases there is a clear cause. Cigarette smoking causes 90% of all lung cancers; 10% are thought to be due to exposures in the environment and at work.

In the UK approximately 46,000 people are diagnosed with lung cancer each year and it is thought that about 2,000 of these are due to asbestos exposure. Many studies have shown that the combination of smoking and asbestos exposure is particularly hazardous. Smokers who are also exposed to

# Asbestos Exposure and Health Risks

asbestos have a risk of developing lung cancer that is greater than the individual risks from asbestos and smoking added together i.e a multiplicative risk.

## Mesothelioma

Mesothelioma is a cancer that develops in the linings (membranes) that cover some of the body's internal organs. 85-90% of cases occur in the lining of the lung (pleura).

Sometimes it can be found in the peritoneum lining the abdomen and occasionally the pericardium lining the heart, or the tunica vaginalis lining the testicles.

Virtually all cases are caused by exposure to

asbestos fibres. The UK has the highest incidence in the world of Mesothelioma with approximately 2,700 cases currently being diagnosed each year. 20 tradespeople die every week from Mesothelioma and carpenters born in the 1940s have a 1 in 17 chance of being diagnosed.

Whilst the majority of cases occur in men, incidence in women is increasing.

People with mesothelioma experience many symptoms including progressive breathlessness, chest pain, weight loss and extreme fatigue. Although the prognosis of

mesothelioma is currently poor, new therapies are emerging that may increase the number of long term survivors, improve overall survival and have a significant impact on the symptoms of the disease.

### **What should you do if you are worried about a previous exposure?**

- Remember – the majority of people exposed to asbestos do not suffer health problems as a result.
- Be aware of your own well-being and changes in your health.
- Contact your GP for advice if you are concerned.

## Mesothelioma UK

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**Published: November 2021 | Review due: November 2023 | MED-19-01**

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