

# ASBESTOS AND THE DISEASES IT CAUSES



**MESOTHELIOMA UK**

**Supporting People With This Asbestos Cancer**

## 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.

It was widely used in UK industry and around 50% of men and 25% of women born in the 1940s will have worked in a medium or high risk job for asbestos exposure.

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

- Brown asbestos (amosite). This is heat and acid resistant. It can be moulded into pipe insulation and board or used in bulk form for heat insulation. 

- Blue asbestos (crocidolite). This is highly resistant to acid and is used to make acid resistant cement pipe and in electric battery cases. It has been widely used for insulation on trains and ships. 

- 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. 

Commercial production of asbestos began in 1885 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.

There was a UK voluntary ban on blue asbestos in 1969 which massively reduced UK exposure, however white and brown asbestos were not included in the voluntary ban until 1986. Legislative changes did not come until even later despite the established link between asbestos and ill health. Employers failed to inform the work force of the risks of working with asbestos and successive governments failed to act to protect workers.

### How does asbestos damage health?

Asbestos fibres are breathed (inhaled) into the lungs. The fibres are so fine they can penetrate deep into the smallest airways and air sacs of the lungs and cannot be breathed or coughed out. Because the fibres are long it is difficult for the body's defence mechanism to clear them.

These processes lead to the development of asbestos related diseases.

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, all of which can cause illness. 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 others although it is likely that genetics play a role.

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.

### 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 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 it is this exposure itself that can lead to asbestos related illnesses.

### **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 try really hard to 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.

## Mesothelioma - Asbestos and the Diseases it Causes

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Many studies have shown that the combination of smoking and asbestos exposure is particularly hazardous. Smokers who are also exposed to 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 malignant cancer usually of the pleura (lining the lung) 85-90%. Sometimes it can be found in the peritoneum ( lining the abdomen) 10-15% and occasionally in the pericardium (lining the heart )1-2% and testicular 0.1%. It is considered that virtually all cases are caused by exposure to asbestos fibres. The average age of presentation is 70 to 75years old and predominantly in men.

The UK has the highest incidence in the world of Mesothelioma with approximately 2,700

cases currently being diagnosed each year. This figure is set to rise over the next 5 years. 20 tradesmen die every week from Mesothelioma and carpenters born in the 1940's have a 1 in 17 chance of being diagnosed.

Persons diagnosed with mesothelioma experience many symptoms including progressive breathlessness, chest pain, weight loss and extreme fatigue. Although the prognosis of mesothelioma is currently very poor, a variety of therapies are emerging that may be able to increase the number of long term survivors, improve overall survival and have a significant impact on the symptoms of the disease.

### Benefits

#### **Diffuse Pleural Thickening, Asbestosis and Lung Cancer -**

If you have been exposed to asbestos whilst employed at

work and have been diagnosed with diffuse pleural thickening, asbestosis or lung cancer (regardless of whether or not you smoked cigarettes) you may be able to claim Industrial Injuries Disablement Benefit from the Department of Works and Pension (DWP). For diffuse pleural thickening to be eligible there should be specific changes on a chest x-ray which your consultant will discuss with you.

**Mesothelioma** - If you have a confirmed mesothelioma diagnosis and you were exposed to asbestos at work, you will be entitled to Industrial Injuries Disablement Benefit and you may also be able to claim other benefits.

### Compensation

You may also be able to claim compensation from your employer through the courts if you were negligently exposed to

asbestos during your work. For compensation claims you should seek advice from a specialist solicitor. If your employer is no longer trading and details cannot be found to trace them or their insurers and you have been awarded Industrial Injuries Disablement Benefit you can claim a lump sum payment from the Pneumoconiosis and Workers Compensation 1979 Act from the DWP. The amount of lump sum payment corresponds to the percentage of Industrial Injuries Disablement Benefit awarded (for Mesothelioma this is 100%).

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For more information about benefits or compensation please contact Mesothelioma UK or an Asbestos Support Group.

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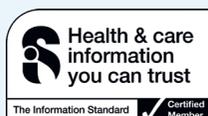
**Email: [info@mesothelioma.uk.com](mailto:info@mesothelioma.uk.com) • Freephone: 0800 169 2409**

**Website: [www.mesothelioma.uk.com](http://www.mesothelioma.uk.com)**

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