

HEALTH MANAGEMENT INSIGHTS

Asbestos

Asbestos and lung disease

Around 5000 workers each year die from lung disease caused by asbestos - more than the number of people killed on the road. The reduction of lung disease from work exposures is one of the 3 occupational health priorities set by Health and Safety Executive for the UK (1).

What is asbestos?

Asbestos is a generic term for naturally occurring fibrous silicate materials that are extracted through mining processes.

The forms of asbestos most associated with health risk are:

- Serpentine such as chrysotile ("white asbestos" which appears as snake-like fibres under a microscope)
- and Amphibole – such as amosite ("brown asbestos") or crocidolite ("blue asbestos"), which are formed of sharp prism shaped crystals.

In the United Kingdom, the more hazardous blue and brown asbestos materials were banned outright in 1985, and then the import, sale and second hand reuse of white asbestos was outlawed in 1999.

How workers get exposed

In the past asbestos was used extensively in construction and although it is now banned, much remains in the fabric of old buildings and industrial plants.

Asbestos is not a hazard unless disturbed or damaged, and only becomes a danger to health if fibres are released into the air and inhaled.

Examples of the main uses of asbestos in the past include with:

- > Fire protection or thermal insulation
- > Building materials (such as cement and plasterboard which is acid and fire resistant) - asbestos can be found in any building built before the year 2000.
- > Brake and clutch linings.

Commonly exposure happens with:

- > Damage to (or drilling into) sprayed asbestos coatings that have been applied to fire.
- > Removal of lagging around pipes and boilers.
- > Demolition work on an asbestos containing building which has materials such as insulating boards for fire protection, thermal insulation, and asbestos cement products.

Asbestos Diseases

The following are the diseases caused by asbestos:

Mesothelioma

- > There is no effective treatment and the median survival is **1-2 years** from diagnosis.
- > Tragically people often present to their doctors when the disease has already become advanced.
- > Onset occurs long after exposure - anything from **15-60 years**, with a mean delay of **40 years**.
- > There is no exposure threshold below which risk of the cancer is zero - breathing in a few fibres from a family member's clothes is sufficient.

- > Deaths due to mesothelioma have risen in the UK from about **150 per year** in the late 1960's to **2500 deaths per year** in 2017, due to widespread asbestos use four decades ago.



Mesothelioma is a **highly malignant** cancer that may account for about **1%** of all deaths in the UK





Asbestos related lung cancer

- > Cigarette smoking further increases the risk and the two risk factors are thought to multiply together
- > The risk is less with those who stop smoking - so smokers known to have risk of asbestos exposure should always be encouraged to cease.
- > Services to help people stop smoking are widely accessible - such as the NHS stop smoking services



Asbestos also causes a variety of other cancers, and about **5-7%** of lung cancers can be attributed to asbestos exposure

Asbestosis

This is scarring of the lungs, or “fibrosis” which - a similar condition to that seen in coal miners.

- > The symptoms are increasing shortness of breath and the amount of air that can be inhaled gradually reduces.
- > It normally occurs with the heaviest exposures, and it is generally agreed that for asbestosis to develop a person has to have worked with asbestos for a considerable time.
- > When evident, workers with early asbestosis should be removed from exposure, but even then in **40% of cases**, progression of the disease continues.

Pleural thickening

- > The pleura is a large, thin sheet of tissue that wraps around the outside of the lungs and lines the chest cavity.
- > Asbestos causes patches of thickening on the pleura which shows up on chest X-rays, often by chance, and about **20-30 years** after asbestos exposure.
- > The thickening is usually harmless, but it does indicate that the person may later develop more serious disease (mesothelioma or other lung cancer), and does cause those found with it concern of later serious illness.

Asbestos and the law

- > The Control of Asbestos Regulations 2012 determine the health and safety measures required to reduce risk of exposure.
- > Many businesses that have non-domestic premises could have older (pre-2000) buildings containing asbestos.
- > Asbestos is safe if undisturbed, but maintenance or building work may create asbestos dust - sometimes unexpectedly - and the exposure of those close by must then be assessed and controlled.
- > Known risks, such as asbestos removal, may require the appointment of a Licensed Contractor, who will work under strict legal control, including with health surveillance of their workers.
- > Controls include ensuring there is a limit of **0.1** asbestos fibres per cubic centimetre of air, and the contractor will use monitoring equipment to produce evidence that the asbestos levels remain well below this limit.
- > Some work with asbestos, if it is sporadic and low intensity, can be considered non-licensed work - a list of examples are available on the Health and Safety Executive web site.
- > It is essential that any workers liable to encounter or disturb asbestos, such as maintenance workers, have appropriate training, so they understand the risks, and the procedures required for reducing exposure and safe removal.

Health Management and Asbestos

Health risk assessment and health surveillance of workers are two of the cornerstones of Health Management's occupational health services.

Our clinicians see workers during:

- > Assessment of health on recruitment
- > Assessing workers referred with new health problems, such as time off sick with respiratory illness or problems with their fitness.
- > Routine health surveillance of those known to be at risk of asbestos exposure in their jobs, such as firefighters and construction workers.

Asbestos disease can be detected and halted early by monitoring of lung health over time, such as with spirometry; or further investigated by X-rays or scans if a worker has symptoms such as cough or shortness of breath.

Some workers with known asbestos exposure risk are formally designated as Licensed asbestos workers and they must have regular medical examinations by an HSE Appointed Doctor under the Control of Asbestos Regulations - a process that is integrated with Health Management's other health surveillance services.

Further sources of information

- [Health and Safety Executive; Health Priority Plans](#)
- [Health and Safety Executive; Asbestos](#)
- [British Lung Foundation; Asbestos related conditions](#)
- [NHS stop smoking services](#)
- [Health Management Ltd: Wellbeing](#)
- [Health Management Ltd: Risk management for your employees' health](#)