

Mesothelioma

Mesothelioma is an uncommon type of cancer that occurs in the tissues covering your lungs or less commonly your tummy (abdomen). Past exposure to asbestos is the main risk factor for mesothelioma. The first symptoms are variable but can include shortness of breath, chest pain or abdominal swelling. It is not usually possible to cure mesothelioma but there are different treatments to help with symptoms.

What are the symptoms of mesothelioma?

The symptoms depend on the site of the mesothelioma. It often takes many years after being exposed to asbestos for mesothelioma to occur.

In the early stages, there may be no symptoms at all. Both types of mesothelioma can cause general (nonspecific) symptoms such as:

- **Increasing tiredness**
- **Weight loss**
- **Increased sweating**
- **Having less appetite**

When mesothelioma develops in the lining of the lung (the pleura), it causes it to become thickened. The lining of the lung may then press inwards on the lung itself.

Symptoms may then include:

- **Shortness of breath.** This may be due to the pleura becoming thickened and pressing in towards your lung. In addition, an increase in the amount of fluid may also collect between the two layers of the pleura ([a pleural effusion](#)).

- **Chest pain.** This can be quite severe and can be due to the mesothelioma pressing on the nerves and even the bones near your lung.
- **Cough.**
- **Hoarse voice.**

Tummy (abdominal) swelling may occur if you have mesothelioma in the lining of your tummy (your peritoneum). The lining becomes thickened and fluid can collect in the abdomen. This fluid collection is called ascites.

If the cancer spreads to other parts of the body then various other symptoms can develop.

How is mesothelioma diagnosed?

It can often be difficult to diagnose mesothelioma, as the initial symptoms can be quite vague. Mesothelioma often starts as a lot of tiny lumps (nodules) in the pleura, which may not show up on scans or X-rays until they are quite large.

The most common initial investigation for a pleural mesothelioma is a chest X-ray. A CT scan is also usually needed. In some situations other scans are also needed, such as an MRI scan or a PET-CT scan.

As for all suspected cancers, the diagnosis is usually confirmed by obtaining a small sample (a biopsy). The biopsy is then examined under the microscope to look for the abnormal cells of cancer. A complex process called immunohistochemistry (or immunostaining) is used to look for cancer cells. One or more of the following procedures may be done to obtain a sample for testing:

- **Fine-needle biopsy.** This is the best way of getting the sample for diagnosis. In this procedure, a doctor inserts a thin needle through the chest or abdominal wall to obtain a small sample of tissue. X-ray pictures of the suspected tumour help to guide the doctor to insert the needle into a suspected tumour. The skin is numbed with local anaesthetic to make the test as painless as possible.

- Pleural tap. If you have an accumulation of fluid between the pleura, some fluid can be drained with a fine needle (similar to the above). The fluid is examined for cancer cells.
- Ascitic tap. If you have an accumulation of fluid between the peritoneum, some fluid can be drained with a fine needle.

Assessing the extent and spread

If you are confirmed as having mesothelioma, further tests may be done to assess if it has spread. This assessment is called 'staging' of the cancer. The aim of staging is to find out:

- How much the cancer has grown into the lung.
- Whether the cancer has spread to local lymph nodes or to other areas of the lungs.
- Whether the cancer has spread to other areas of the body (metastasised).

By finding out the stage of the cancer it helps doctors to advise on the best treatment options. It also gives a reasonable indication of outlook (prognosis). There are four broad stages of mesothelioma. [See the separate leaflet called Stages of Cancer for more details.](#)

What are the treatment options?

The treatment for mesothelioma depends on whether or not it has spread. Unfortunately, when mesothelioma is diagnosed, it has usually already spread beyond the point where it could be removed.

Chemotherapy

[Chemotherapy](#) is a treatment of cancer by using anti-cancer medicines which kill cancer cells, or stop them from multiplying. Chemotherapy is sometimes given and can slow the growth of mesothelioma and also improve symptoms you may have. The chemotherapy medicines usually used for mesothelioma are called cisplatin and pemetrexed. In some places, bevacizumab is added. Others sometimes used are carboplatin and raltitrexed.

Surgery

An operation is not usually helpful. Rarely it may be an option if your mesothelioma is only in one area of your pleura. This operation may involve removing part, or all, of your pleura and part of your lung that is close to it. This type of operation is called a pleurectomy. There are various types of pleurectomy. Alternatively, some people may have surgery to remove as much of the tumour as possible in order to improve their symptoms. This is called palliative or debulking surgery - it is not expected to cure the cancer.

It is even less likely for you to have an operation if you have peritoneal mesothelioma, as it is a big operation with a small chance of success. When an operation is done, it is called a peritonectomy. A debulking operation is sometimes used to remove as much of the tumour as possible to help with symptoms.

Radiotherapy

Radiotherapy is a treatment which uses high-energy beams of radiation which are focused on cancerous tissue. This kills cancer cells, or stops cancer cells from multiplying.

Radiotherapy may be used to improve symptoms such as pain or shortness of breath.

Other treatments

If you have recurrent effusions, where the fluid keeps building up between the linings of your lungs, then it is possible to have a procedure to reduce the risk of this happening in the future. This is called a pleurodesis. During a pleurodesis, a chest drain to drain the fluid is placed into the space between the linings of your lungs. A sterile form of talc powder is put into this space, which prevents the fluid from forming again. A local anaesthetic is used to numb the skin so it is painless.

You should have a full discussion with a specialist who knows your case. He or she will be able to give the pros and cons, likely success rate, possible side-effects and other details about the various possible treatment options for mesothelioma.

Note: in some cases, treatment aims to cure the cancer. Doctors tend to use the word 'remission' rather than the word 'cured'. Remission means there is no evidence of cancer following treatment. If you are 'in remission', you may be cured. However, in some cases a cancer returns months or years later. This is why doctors are sometimes reluctant to use the word cured.

Financial help

Compensation may be possible if your mesothelioma is due to asbestos exposure. This can be done either through benefits paid by the government or, if you believe your mesothelioma is due to asbestos exposure within a work environment, by suing the employer in question for the period (or periods) during which you were exposed to asbestos. This is called a civil compensation claim. Specialist solicitors deal with asbestos-related claims and the cases are fast-tracked.

What is the outlook (prognosis)?

In general, the outlook is usually poor. Sadly, for most people, mesothelioma is a fatal disease. The outlook is best in those who are diagnosed at an early stage when the mesothelioma is still small. An operation may then give a good chance of cure. However, for most people, mesothelioma is diagnosed when it is at a later stage which means that a cure is less likely. For most people with mesothelioma, the expected lifespan after diagnosis is usually not more than 1-2 years. However, treatment can often slow down the progression of the mesothelioma.

Outlook depends on your specific situation. The specialist who knows your case can give more accurate information about your particular outlook and how well your type and stage of mesothelioma is likely to respond to treatment. There are no UK figures for survival rates by stage of the cancer for mesothelioma. Some general figures are:

- For all stages almost 50 out of 100 people survive their mesothelioma for one year or more after diagnosis.
- For all stages around 5 in 100 men, and 10 out of 100 women survive their mesothelioma for five years or more after diagnosis
- Almost 35 out of 100 men survive their cancer for one year or more after diagnosis if the mesothelioma has not spread.

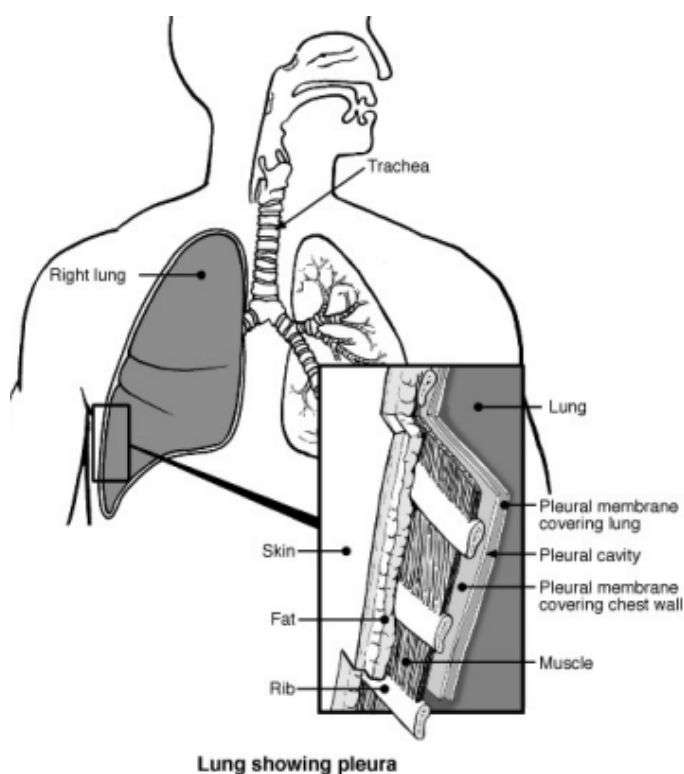
- Almost 5 in 100 men survive their cancer for five years or more after diagnosis if the mesothelioma has not spread.
- Around 2,500 people die from mesothelioma each year in the UK.
- Survival rates are better for women than for men, and are better in the younger age group (those aged less than 50).

The treatment of cancer is a developing area of medicine. New treatments continue to be developed and the information on outlook above is very general. The specialist who knows your case can give more accurate information about your particular outlook and how well your type and stage of mesothelioma is likely to respond to treatment.

More information about mesothelioma

Mesothelioma is a type of cancer that occurs in the tissues which cover your lungs or tummy (abdomen). The lining around the lungs is the pleura and in the abdomen it is called the peritoneum.

About 2,700 people in the UK are diagnosed with mesothelioma each year. Men are five times more likely than women to develop a mesothelioma. It most commonly occurs in people aged over 75 years. Specifically, the highest rates are seen in those aged 80 to 84.



Mesothelioma most commonly occurs in your pleura – the linings of your lungs. There are two layers of pleura – one lining your lungs and the other lining your chest wall. These two layers have some fluid in between them so they can slide over each other easily when you breathe in and out.

In a similar way, the lining of your abdomen also has two layers – one lining your bowel and abdominal organs and the other lining your abdominal wall. A mesothelioma occurring in your peritoneum is far less common than a mesothelioma occurring in the pleura.

Very rarely, mesothelioma can occur around your heart or your testicles (testes). This leaflet will not discuss these rare types of mesothelioma.

What causes mesothelioma?

A cancerous tumour starts from one abnormal cell. It is thought that something damages or alters certain genes in the cell. This makes the cell abnormal and multiply 'out of control'. Certain risk factors increase the chance of certain cancers forming. [See the separate leaflet called Causes of Cancer for more details.](#)

Who is at risk of mesothelioma?

The most important risk factor for developing mesothelioma is being exposed to asbestos in the past. Over 9 out of 10 people with a mesothelioma have been exposed to asbestos in the past. A mesothelioma may even occur up to 50 years after you have been exposed to asbestos.

Men are more at risk than women, due to more men than women having been involved in the highest risk jobs in the past.

Certain past jobs increase the risk, due to a higher risk of asbestos exposure. For example:

- People involved in producing asbestos sheets.
- People involved in production of brake and clutch linings.
- Construction and demolition work.
- Dock and shipyard work.
- Electricians.

- Plumbers.
- Carpenters.
- Painters.

Now that asbestos is not used any more, and those exposed to it most in the past are the older generation, it is expected that rates of mesothelioma will start to drop from 2017/2018 onwards.

What is asbestos?

Asbestos is a material that was used in buildings in the past. It is an insulating material that is both heat-resistant and fire-resistant. There are different types of asbestos: white, brown and blue. Although they are all harmful, blue and brown asbestos are the most strongly linked with mesotheliomas and they have not been imported into the UK since 1985. However, they are still present in some buildings and equipment produced before the ban. White asbestos has been banned in the UK since 1999.

Asbestos materials which are left undisturbed are probably safe. It is asbestos dust or fibres which cause the harm when they are breathed in (inhaled) or swallowed (ingested).

Note: the majority of people who have been exposed to asbestos in the past are **not** likely to develop mesothelioma. However, it is not possible to identify which people exposed to asbestos are likely to develop mesothelioma in the future. As a general rule, the greater and more prolonged the exposure, the greater the risk.

Further reading

- [Mesothelioma statistics](#); Cancer Research UK
- [Malignant pleural mesothelioma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up](#); European Society for Medical Oncology (2015)
- [Christoph DC, Eberhardt WE](#); Systemic treatment of malignant pleural mesothelioma: new agents in clinical trials raise hope of relevant improvements. *Curr Opin Oncol.* 2014 Mar;26(2):171-81. doi: 10.1097/CCO.0000000000000053.

- [Opitz I](#); Management of malignant pleural mesothelioma–The European experience. J Thorac Dis. 2014 May;6 Suppl 2:S238–52. doi: 10.3978/j.issn.2072-1439.2014.05.03.
- [Guideline for the Investigation and Management of Malignant Pleural Mesothelioma](#); British Thoracic Society (2018)
- [Mesothelioma – Financial Support](#); British Lung Foundation

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