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## Mesothelioma

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### Summary

- Mesothelioma is a rare type of cancer that can develop decades after exposure to asbestos.
  - Mesothelioma usually targets the outer membrane of the lungs (pleura), but can also occur in the membrane lining of the abdominal cavity (peritoneum). Uncommonly, the heart or reproductive organs may be affected.
  - Unless surgical removal is an option, there is no cure – treatment aims to prolong life and keep the person as comfortable as possible.
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Mesothelioma is a rare type of cancer. Malignant (cancerous) cells develop in the mesothelium, the protective sac that covers most of the body's internal organs. Mesothelioma generally starts in the outer membrane of the lungs (pleura), but can also occur in the lining of the abdominal cavity (peritoneum). Uncommonly, the heart or reproductive organs may be affected. Treatment depends on where the cancer is found and whether it has spread.

Currently, there is no cure for mesothelioma unless it is found early and can be removed through surgery. Unfortunately, symptoms of mesothelioma do not usually show up until it is in its late stages. This means mesothelioma is most often diagnosed when it has already advanced beyond the option of surgical removal. If this is the case, treatment will aim to prolong life and keep the person as comfortable as possible.

Mesothelioma is almost always caused by exposure to asbestos and can develop decades after the exposure.

### Asbestos and mesothelioma

Asbestos is the name of a group of minerals that was once widely used for its fire-resistant and insulating properties. Due to health risks, it is no longer mined, milled or manufactured in Australia. All uses of asbestos in new products are now banned in Australia and no asbestos products may be imported. Strict precautions also govern the removal and disposal of asbestos and asbestos-containing materials.

### Mesothelioma is common in Australia

Australia has one of the highest rates of mesothelioma in the world. This is due to the high rate of asbestos use and mining over many years. In 2007 there were nearly 600 people diagnosed with mesothelioma in Australia. Of these new cases, 81 per cent were men.

In Victoria, in 2011, there were nearly 131 cases diagnosed. Experts believe the number of people diagnosed with asbestos-related diseases will not peak until 2020. Since 1980, there have been about 13,000 new cases of mesothelioma in Australia.

### How mesothelioma spreads

Malignant cells develop in the mesothelium. This protective sac has different names, depending on its location in the body. Those most commonly affected by mesothelioma are:

- visceral pleura – the membrane that surrounds the lungs
  - parietal pleura – the membrane that lines the chest wall
  - peritoneum – the membrane that forms the lining of the abdominal and pelvic cavities.
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Mesothelioma most often starts in the pleura. Normally, the two pleura touch and slide across each other while we breathe and this is lubricated by a slick of fluid. In cases of pleural mesothelioma, the pleura make more fluid than necessary, which presses on the lung (pleural effusion). Mesothelioma usually develops in only one lung. The tumour tends to grow across the lung until the entire organ is encased.

It is not clear how asbestos fibres get into the peritoneal cavity. It is unlikely they come through the wall of the gut. However, they may come through the diaphragm.

Sometimes cancer cells travel to lymph nodes and other areas of the body (such as the unaffected lung) via the lymphatic system. The heart or reproductive organs may be affected, but this is very rare. .

## **Symptoms of mesothelioma**

In its early stages, mesothelioma (pleural and peritoneal) may not cause many symptoms. It is only later, when the cancer moves into the underlying tissues or causes fluid to leak into the cavity in the chest or abdomen that symptoms appear.

### **Symptoms of pleural mesothelioma**

- shortness of breath
- a persistent dry cough
- pain, which is often described as a heaviness or dull aching in the shoulder, arm, chest wall and upper abdomen. Some people describe it as like having pulled a muscle. Others describe it as a sharp, stabbing or even 'burning' pain

Pleural mesothelioma in the late stages may also cause:

- swallowing problems
- hoarseness
- spitting up sputum (mucus) or blood.

### **Symptoms of peritoneal mesothelioma**

Symptoms of peritoneal mesothelioma include:

- painful abdomen
- swollen abdomen
- high temperature
- nausea, vomiting and poor appetite
- bowel and urinary problems.

### **Symptoms of mesothelioma in the advanced stages**

Symptoms in the later stages of the disease for both types include all those symptoms listed above, as well as:

- sudden and unexplained weight loss
- fatigue (both types)
- confusion due to chemical imbalances in the body or spread of the cancer to the brain.

All symptoms discussed in this section can be caused by other, less serious diseases. However, if you or someone close to you has any of them (especially if you know you have been exposed to asbestos), you should see your doctor.

## **High-risk groups**

The primary risk factor for mesothelioma is asbestos exposure. The disease is rarely seen in young people. Since mesothelioma can take as long as 40 years to develop, the incidence tends to rise following middle age. High-risk groups include anyone who has worked with asbestos – in jobs such as asbestos mining, milling and manufacture or in the construction, power and shipbuilding industries. Others at risk are their close family or household members, for example, those who washed their work clothes.

Smoking greatly increases the risk of lung cancer in a person who has been exposed to asbestos. Most asbestos-related lung cancers are caused by the combined effects of asbestos and tobacco smoke.

## Diagnosis of mesothelioma

It is important to see a doctor about any symptoms. Only a doctor can make a diagnosis.

Diagnosis of mesothelioma may include:

- medical history, including history of asbestos exposure
- physical examination
- blood tests
- chest x-rays
- computed tomography (CT) scans
- drainage and laboratory analysis of the pleural fluid
- tissue sample (biopsy) to help differentiate mesothelioma from another condition known as benign asbestos-related pleural disease.

Test results can take a few days to come back. It is very natural to feel anxious waiting to get your results. It can help to talk to a close friend or relative about how you are feeling. You can also contact the Cancer Council Helpline on 13 11 20 and speak with a cancer nurse.

## Treatment of mesothelioma

Treatment depends on the type of mesothelioma, the stage (extent) of disease and the person's preference.

Options may include:

- pleurectomy – surgery to remove the affected tissue. The affected lung may also be removed in whole (pneumonectomy) or in part (lobectomy). Usually, only small tumours are treated with surgery. A person's life span may be prolonged for a few months or years
- phototherapy – a procedure sometimes used during pleurectomy. Stray cancer cells within the chest are highlighted with a special dye and killed by laser
- thoracentesis – a procedure that removes fluid from the pleural cavity through a needle inserted between the ribs
- pleurodesis – a special powder is inserted between the pleural layers to cause inflammation and stop production of excess fluid. This is performed using a slender instrument (endoscope) inserted into the chest
- paracentesis – a procedure in which a thin needle or tube is put into the abdomen to remove fluid from the peritoneal cavity (the space within the abdomen that contains the intestines, the stomach and the liver)
- peritoneal surgery – surgery to remove tumours in the abdominal cavity. Bowel symptoms can often improve following this procedure
- chemotherapy – the use of cancer-killing drugs that can shrink the cancer and ease symptoms. Chemotherapy is often recommended if the cancer has returned following other treatment, or if other treatments are inappropriate
- radiotherapy – x-ray treatment to kill cancer cells. Only small areas can be treated or else the healthy cells of the lungs, heart and liver may be damaged. Radiotherapy is often used to ease pain and breathlessness
- complementary and alternative therapies – when used alongside your conventional cancer treatment, some of these therapies can make you feel better and improve quality of life. Others may not be so helpful and in

some cases may be harmful. The Cancer Council Victoria booklet called *Understanding complementary therapies* can be a useful resource.

All treatments can cause side effects. Many of these are only temporary, but some may be permanent. Your medical team will discuss these with you before you begin treatment.

## Research into mesothelioma

Research into mesothelioma is ongoing. The [CancerHelp UK website](#) has information about research into mesothelioma

Clinical trials can test the effectiveness of promising new treatments or new ways of combining cancer treatments. Always discuss treatment options with your doctor.

### Mesothelioma and your sexuality

Having mesothelioma and its treatment can affect the way you feel about your body, who you are, your relationships, the way you express yourself sexually and your sexual feelings (your 'sexuality'). These changes can be very upsetting.

Your medical team should discuss these issues with you before and during your treatment. If you feel you would like to discuss things further, ask your doctor for a referral to a counsellor or speak to a cancer nurse on the Cancer Council Helpline (13 11 20). It also helps to be as open as possible with your partner about how you are feeling. The Cancer Council Victoria booklet called *Sexuality, intimacy and cancer* may also be helpful to read.

## Caring for someone with cancer

Caring for someone with cancer can be a difficult and emotional time. If you or someone you know is caring for someone with mesothelioma, they may find it helpful to download and read the *Mesothelioma* booklet available from Cancer Council Victoria. Their booklet called *Caring for someone with cancer* may also be helpful to read.

## When a cure isn't possible

If mesothelioma has been diagnosed in its later stages, the cancer may have spread to the point where a cure is no longer possible. Treatment then focuses on improving quality of life by relieving the symptoms (this is called 'palliative' treatment). Treatment options at this point may include medications to relieve pain, nausea and vomiting. The Cancer Council Victoria booklet called *Living with advanced cancer* may be helpful to read.

## Where to get help

- Your doctor
- Asbestos Diseases Foundation of Australia Tel. (02) 9637 8759
- Asbestos Diseases Society of Australia Tel. 1800 646 690
- Cancer Council Helpline Tel. 13 11 20
- Multilingual Cancer Information Line, Victoria Tel. 13 14 50
- Peter MacCallum Cancer Centre Tel. (03) 9656 1111
- WorkSafe Victoria Tel. (03) 9641 1444 or 1800 136 089 (toll free) – for general enquiries
- WorkSafe Victoria Emergency Response Line Tel. 13 23 60 – to report serious workplace emergencies (24/7)
- Environment Protection Authority Victoria Tel. (03) 9695 2722
- Department of Health, Environmental Health Unit Tel. 1300 761 874
- Asbestos Victims Association South Australia Tel. (08) 8212 6008 or 1800 665 395 (SA country only)
- Asbestos Diseases Society of Victoria – Information, Support and Counselling Service Tel. (03) 9329 9584 or

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**[betterhealth.vic.gov.au](http://betterhealth.vic.gov.au)**

### Things to remember

- Mesothelioma is a rare type of cancer that can develop decades after exposure to asbestos.
- Mesothelioma usually targets the outer membrane of the lungs (pleura), but can also occur in the membrane lining of the abdominal cavity (peritoneum). Uncommonly, the heart or reproductive organs may be affected.
- Unless surgical removal is an option, there is no cure – treatment aims to prolong life and keep the person as comfortable as possible.

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Cancer Council Victoria

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