Pleurisy

Each of our lungs is wrapped in a thin membrane called the visceral pleura. Our chest wall is similarly lined (parietal pleura). These two membranes touch and slide across each other while we breathe, lubricated by a slick of fluid. Pleurisy is inflammation of these membranes, commonly caused by an infection of our upper respiratory tract.

The activity of viruses or bacteria irritates the pleura in much the same way as it irritates the inside of the nose. The inflammation makes the pleura rub and grate against each other, rather than gliding smoothly. This causes pain, which is made worse by deep breathing and coughing. Sometimes, the inflammation can cause a build-up of fluid between the two membranes. This is known as pleural effusion.

Treatment options for pleurisy include addressing the underlying cause, and medications (such as antibiotics, painkillers and anti-inflammatory medications).

Symptoms of pleurisy

The symptoms of pleurisy include:

- Prior infection of the upper respiratory tract
- Pain in the chest
- Pain in the muscles of the chest
- Persistent cough
- Fever
- General malaise
- Pain is exacerbated by deep breathing or coughing.

Causes of pleurisy

Causes of pleurisy include:

- Viral infection
- Bacterial infection
- Pneumonia
- Tuberculosis
- Rheumatoid conditions, such as lupus erythematosus
- Pulmonary embolus (blood clot).

Pleural effusion and pleurisy

In a person with pleurisy, inflammation can trigger a build-up of fluid between the two membranes (pleural effusion). This can be caused by an overproduction of fluid by one membrane, or by the failure of the other membrane to drain the fluid properly.

This pleural effusion may ease the symptoms of pleurisy, since the fluid stops the membranes from grating against each other. However, the compression of the lungs will cause breathing difficulties, such as shortness of breath or rapid breathing. The lack of oxygen may turn areas such as the mouth and fingertips blue (cyanosis).

Apart from pleurisy, other causes of pleural effusion include cancer, protein deficiencies and some types of heart disease.
Diagnosis of pleurisy

Diagnosing pleurisy involves a number of tests, including:

- Physical examination – using a stethoscope, the doctor can hear the pleura scraping against each other. Other breath-sound abnormalities that suggest pleurisy include rattling or crackling
- Blood tests – to determine whether the cause is viral or bacterial
- Chest x-rays and other imaging – including CT scans or ultrasound scans
- Thoracentesis – doctors remove and examine a small sample of pleural fluid
- Bronchoscopy – doctors insert a thin tube with a camera down the person's windpipe to examine their airways.

Treatment for pleurisy

Treatment for pleurisy may include:

- Treating the underlying cause – for example, treatment for tuberculosis
- Medications such as antibiotics and anti-inflammatory medications
- Pain-killing medication
- Draining off the excess fluid – in the case of pleural effusion
- Medications to stop the fluid from building up again.

Prevention of pleurisy

Bacterial pleurisy is often a side effect of pneumonia, a type of lung infection. The infection from the airways spreads to include the pleura. There is a vaccine against one of the most common types of pneumonia. It is recommended that certain people be immunised, including older people, people with chronic illnesses (such as diabetes) and people with reduced immunity.

Apart from vaccination, treating any infection of the upper respiratory tract promptly can also reduce the risk of developing pleurisy.

Where to get help

- Your doctor
- NURSE-ON-CALL Tel. 1300 60 60 24 – for expert health information and advice (24 hours, 7 days)
- Lung Foundation Australia Tel 1800 654 301

Things to remember

- The pleura are the thin membranes that line the chest wall and envelop the lungs.
- Pleurisy is inflammation of the pleura, which causes the membranes to rub and grate against each other.
- Common causes of pleurisy include bacterial and viral infections, such as pneumonia.

This page has been produced in consultation with, and approved by:

Lung Foundation Australia