

Patient information from BMJ

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Pleural effusion

A pleural effusion is when too much fluid collects in the space between one of your lungs and your chest wall. It usually happens as a complication of another condition. The best treatment depends on what has caused the pleural effusion.

What is a pleural effusion?

The space between either one of your lungs and your chest wall is called the pleural space. There is always a small amount of fluid in this space. This fluid acts as lubrication so that your lungs can move easily against your chest wall when you move about.

If fluid collects in the pleural space faster than your body can remove it, this is called a pleural effusion. It is usually caused by another condition. Small effusions may not cause you much trouble.

But larger effusions can cause shortness of breath and pain. Large build-ups of fluid may need to be drained.

Some of the many conditions that can cause a pleural effusion include:

- heart failure
- a lung infection such as pneumonia or tuberculosis
- rheumatoid arthritis
- cirrhosis of the liver
- kidney failure
- systemic lupus erythematosus (SLE)
- some cancers.

These conditions can cause a pleural effusion in a number of ways. Two of the most common are:

- when fluid leaks from blood vessels into the pleural space, as can happen with heart failure

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- when a condition such as cancer or an infection causes swelling in the lungs, which leads to a build-up of fluid in the pleural space.

What are the symptoms?

The main symptom of a large pleural effusion is **shortness of breath**. You may also feel **some pain in your chest** and have a **cough**. But many people with a pleural effusion don't feel any pain.

Your doctor can get a good idea of whether you have a pleural effusion with just a simple examination. For example, he or she will listen to your breathing. If your breathing is not as loud in some parts of your lungs as it should be, this suggests that you might have a pleural effusion.

Your doctor will also gently tap your back with his or her fingers. If this makes a very dull sound over part of your lung it's another sign that you might have a pleural effusion.

To help understand what has caused the pleural effusion your doctor will ask you what other medical conditions you have now or have had in the past, and what medications you are taking or have taken in the past. A pleural effusion can sometimes be caused by certain medicines.

You will also need to have some tests, including a chest x-ray and possibly a scan. Blood tests can also help to show if you have an infection that could be causing a pleural effusion.

What treatments are available?

The treatment you are offered will depend on what has caused the build-up of fluid. Treating the condition that has caused the pleural effusion can often get rid of the effusion itself.

For example:

- if heart failure is the cause, then medicines called **diuretics** can help. These drugs help the body to get rid of excess fluid
- if an infection such as pneumonia has caused the pleural effusion then **antibiotics** will usually cure the infection.

If the build-up of fluid is small, treating the cause can often get rid of the effusion itself.

But no matter what the cause is, if you have a large build-up of fluid that is causing you breathing problems your doctor might give you **oxygen** to help you breathe before any other treatments.

Large build-ups of fluid may also need to be drained. If you have this type of fluid **drainage** you will be given a local anaesthetic to numb the area and reduce pain. A needle is then inserted so that the fluid can drain out through a tube.

Some people need to have this procedure more than once. And some people need to have a permanent chest drain fitted to drain fluid that keeps building up. For example, this is sometimes needed for people having long-term cancer treatment.

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A treatment called **pleurodesis** is sometimes used to reduce the chance of pleural effusions happening again. It involves injecting a drug into the pleural space that causes the lung and chest wall to stick to each other, almost as if they had been glued together.

If your doctor thinks this treatment might help you, he or she should discuss it in detail with you, including:

- how likely it is to work
- the possible benefits
- any possible risks, and
- the likelihood of having another pleural effusion if you choose not to have the procedure.

Your doctor can advise you, but the final choice about whether to have the procedure is yours.

What to expect in the future

Some health problems make pleural effusions more likely to return. These include heart failure, cirrhosis, and cancer. But most people who have a pleural effusion don't have another one.

If you have had a pleural effusion drained, or if you have had pleurodesis, your doctor will advise you to avoid certain activities for a while, including air travel.

This is because changes in environmental pressure can cause problems with your lungs after chest treatments. These problems can happen either with:

- reduced air pressure at high altitude, or
- increased water pressure caused by underwater diving.

If you start to have symptoms again after your treatment, see your doctor straight away.

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