

Pulmonary Embolism (PE)



Normally blood moves freely throughout the body without any problems. However, if a blood clot forms in a vein it can block the vein and stop the blood from flowing properly. Sometimes a clot can form in a vein and travel in the blood to other parts of the body, such as the lungs. This type of clot is known as a pulmonary embolism (PE). This can cause shortness of breath and pleuritic chest pain (pain which is sharp in nature and felt when breathing deeply). If the pulmonary embolism is large it can be a serious problem requiring urgent medical attention.

What causes a blood clot to occur?

The reasons why blood clots form in the veins are not fully understood. Evidence suggests that restricted movement can be a major contributing factor. Therefore patients who are ill in hospital or undergoing surgery, which means they can be confined to bedrest, are particularly at risk of developing clots. Patients who are known to have a deep vein thrombosis, which is a clot in the deep veins of the legs, are particularly at risk of PE.

Other contributing factors can include:

- increasing age
- being overweight
- pregnancy
- thrombophilia (an acquired or inherited tendency to clot) or a family history of clots.

How do I know I have got a pulmonary embolus?

There are many symptoms that indicate that a PE may be present, these include:

- sharp chest pain which starts suddenly
- breathing fast
- fast pulse rate
- shortness of breath, even at rest
- coughing up blood.

If you have these symptoms it does not mean that you definitely have a PE, as they can be due to other problems such as infection. The only way to find out whether you have a PE is by carrying out special tests.

What do these test involve?

There are several tests that can be used in order to confirm a diagnosis of PE. The two main tests are:

Perfusion scan - A radioactive substance is injected into a vein and a special camera measures the radioactivity in the lung. The picture that is generated can show where blood flow in the lungs is poor. This may indicate a blockage in the vessels supplying blood to that part of the lung.

CT scan pulmonary angiography - A special dye that shows up on X-ray is injected into a vein whilst the patient is lying within the CT scanner. A series of images are rapidly taken and stored on a computer. Doctors looking at these images can see if there is a clot within the large vessels of the lung. The whole examination takes about half an hour.

It is important that you tell the staff performing these tests if you are breastfeeding or think you may be pregnant.

If I have a clot how will it be treated?

The standard treatment for a PE is medication designed to prevent the body from developing any more clots. This medication is often referred to as a "blood thinner". The technical term for this is anticoagulant.

How do anticoagulants work?

Anticoagulants work by interfering with the body's own clotting mechanism. However, they do not dissolve clots. Your body has an in-built system that will do this naturally over the next few weeks.

What medication am I likely to receive?

The main anticoagulants used are:

Heparin - This is generally given by injection under the skin usually once a day, but can sometimes be given into a vein. Treatment may continue for up to 7 days. Your doctor will determine how much of this drug you need and the dose is then unlikely to change.

Non-Vitamin K Oral Anticoagulants (NOAC's)

These are blood thinning tablets which are given either once or twice daily. Unlike traditional Vitamin K antagonist blood thinners such as Warfarin there is no need for routine blood testing to monitor the blood thinning effect of the NOAC's. These anticoagulants have a much shorter duration of action than Warfarin. Heparin injections are not usually required when these blood thinners are introduced. It is important to note that currently there is no agreed antidote for some of the NOAC's so it is important that you do not take more than the prescribed dose.

Your nurse will explain to you the benefits of each treatment and you will be allowed to discuss fully which treatment option may suit you best.

Will I have any problems with my treatment?

If you take your medication as recommended by your GP or hospital team you should not experience any problems. However, if you become unwell, for example with diarrhoea, sickness, dizziness or a fever your medication may need to be reviewed. It is important that you should contact your GP or hospital team if you become unwell, or if you:

- suffer a sudden increase in chest pain or shortness of breath
- injure yourself, especially if the injury is to your head or eye
- bleed excessively after a cut, or have nosebleeds or bleeding gums
- have an abnormally heavy period
- develop bruises or black or brown spots on the skin without injuring yourself
- vomit up blood or material that looks like "coffee grounds"
- pass red coloured urine, or produce black faeces (stools).

What do I do if I cut myself?

Apply a clean cloth or dressing to the area and press the wound for at least 5 minutes. If the bleeding continues contact your GP or the anticoagulation team.

What else can I do to help?

To help to recover from a PE it is important that you look after yourself! It is **important** that you:

- avoid strenuous activity or over exertion
- advise whoever is supervising your anticoagulation if you intend to start any other medication. This includes anything bought over the counter at the chemist
- advise any other doctor, dentist or pharmacist that you are taking anticoagulant medication before you receive treatment from them
- avoid contact sports or activities that may cause you bruising
- limit your alcohol intake to 1-2 drinks a day, and do not binge
- do not radically change your diet
- try to take your medication at the same time every day

What if I forget to take my medication?

If you forget to take your tablets, or think you may have taken too many tablets, inform whoever is monitoring your treatment as soon as you can. **DO NOT** take any extra tablets to make up for those you have missed.

Should I see my GP?

When you leave hospital your GP will be informed that you have started anticoagulation therapy, and will also be given details of who will be monitoring your treatment. The doctor should not need to contact you and you should not need to see him unless you experience any of the problems mentioned in this leaflet.

Further information

Further information about blood clots and treatment is available from Thrombosis UK, PO Box 58, Llanwda, SA19 0AD or online at www.thrombosisuk.org

If you have any queries or worries about your treatment please contact the Thrombosis Nursing Team at Royal Cornwall Hospital:

Monday to Friday 9am to 5pm

Tel: 01872 253597

Outside of the above hours please contact

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