



Respiratory Department

Pulmonary Embolism

What is a pulmonary embolism (PE)?

A PE is a blood clot, or multiple blood clots, that become lodged in the blood vessels of the lungs. These blood clots usually come from other veins in your body, most commonly from deep veins in the leg; these are called deep vein thromboses (DVTs). Part of the DVT can break away from the main blood clot, travel to the lungs, and cause a PE. The blood clot will stay in the lungs until it is naturally dissolved by the body. A PE will often cause chest pain and shortness of breath, but may also cause dizziness/light-headedness, a fast heartbeat, coughing up of blood and collapse. It may also cause no symptoms at all and be found incidentally on a scan.

Why did I get a PE?

About 30-50% of PE cases are "unprovoked", where a cause for the formation of the PE cannot be found. The remaining 50-70% of cases are "provoked", where there is a clear cause for the formation of the blood clot. Factors that increase the risk of forming a PE include:

- Recent major surgery
- Decreased mobility, such as a long-haul flight or long car journey, or illness causing you to be bedbound
- Active cancer or cancer treatment
- Pregnancy
- Use of the combined oral contraceptive pill/hormone replacement therapy
- Increasing age
- Obesity
- Inherited (born with) blood clotting disorders such as thrombophilia
- Previous DVT or PE in yourself or first degree relative.

How is PE treated?

You will have been given medication that will thin your blood called an anticoagulant; this may be a pill or an injection depending on your circumstances. This blood-thinner will prevent the blood clot from increasing in size and forming new clots while your body naturally dissolves the offending clot. This process usually takes four to six weeks.

Most patients will have to take the anticoagulant for at least three months after they have had a PE. Some patients may have to take it for life, depending on the cause of the PE and if they have had any previous blood clots (having one PE will give an increased risk of further clots if anticoagulation is stopped). This may be discussed with you at a follow-up appointment. It is important to continue this medication and not miss any doses until you are advised it is safe to stop.

What are the risks of anticoagulant medication?

Anticoagulants cause changes in your blood that slow down the blood clotting process, therefore, the main side effect of anti-coagulants is causing you to bleed more easily. Any bleeding you may have will be slower to stop. This will not affect most people in everyday life and most people will have no bleeding problems. If you fall, anticoagulants will increase the risk of bruising or internal bleeding, so do try to take particular care where you are likely to fall, such as climbing ladders.

Women can develop heavier menstrual periods when taking anticoagulants. If this is interfering with your quality of life, or causing you concern, you should contact your GP for advice.

If you need to start new medication while on anticoagulants, you should ask your doctor/general practitioner (GP) or pharmacist if it is safe to take with the anticoagulant.

If you need painkillers, paracetamol is safe to take while on blood thinners. Aspirin and non-steroidal anti-inflammatory drugs, such as ibuprofen or naproxen, should be avoided unless directed to do so by your doctor.

You will be given an anticoagulation alert card for whichever treatment is used, and you should keep this card with you at all times while taking the medication. It is important to take the medication regularly at the same time each day, without missing any doses. Inform your doctor if you become pregnant or plan on becoming pregnant.

What are the long-term complications of PE?

Most patients have no long-term effects from a PE. A minority of patients continue to experience symptoms for a prolonged period of time, and this may be due to a condition called chronic thromboembolic pulmonary hypertension (CTEPH). In CTEPH, the blood clots in the lung fail to dissolve and cause scar tissue that narrows or clogs the blood vessels of the lungs. This can put strain on the heart as it tries to pump blood through these narrowed vessels, and can ultimately lead to heart failure. The main symptom of CTEPH is shortness of breath, but it may also cause tiredness, dizziness, fainting and swelling of the legs. Whilst there is generally no value in repeating the CT scan in patients with PE, if patients have residual breathlessness three months after a PE, we often undertake a heart scan (echocardiogram) to see if there is evidence of CTEPH.

When to seek urgent medical advice?

You should urgently contact your GP or return to your nearest Emergency Department if you develop any of the following symptoms:

- severe central chest pain or severe breathlessness
- loss of consciousness or dizziness on exertion
- coughing or vomiting of blood
- black sticky stools or fresh blood in your stools
- blood in your urine
- severe headache that does not improve
- severe unexplained bruising
- severe uncontrollable bleeding
- or if you sustain a head injury

Who should I contact if I have concerns?

Your GP will be informed that you have had a PE and the treatment you have been started on. Should you have any concerns, during working hours, contact your GP. If you need advice about new symptoms out of hours, call 111.

In the event of serious new symptoms you should go to the Emergency Department or call an ambulance.

Is it safe to travel?

Air travel should be delayed until at least four weeks after your PE diagnosis. After this period, there is no reason why you should not be able to travel by air again. When flying, it is advised to take regular walking breaks, try to book an aisle seat, avoid alcohol and stay well-hydrated.

Travel by car and train can be undertaken again as usual, but it is recommended that you take a break every two hours for a short walk.

How much activity can I do?

After a PE, strenuous activity should be avoided, but you should try to continue with your normal everyday activities. Be guided by your symptoms and stop for rest if you experience shortness of breath on exertion, chest tightness, or light headedness. Your symptoms should start to settle within four to six weeks as the clot is dissolved naturally by your body, and you can start increasing your levels of activity. While you are on anticoagulants, you should avoid activities that will increase your risk of bleeding and head injury, such as contact sports.

About this leaflet:

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If you have feedback regarding the accuracy of the information contained in this leaflet, or if you would like a list of references used to develop this leaflet, please email pals@dchft.nhs.uk



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