

PATIENT INFORMATION

Pulmonary Embolism

This leaflet provides information about Pulmonary Embolism (PE), including investigation and treatment, and may be used to support discussion during your clinical consultation.

What is a PE?

It is estimated that PE occurs in approximately 3-4 people per 10,000 in the UK each year.

A PE is a serious, potentially life-threatening condition. It is due to a blockage in a blood vessel in the lungs.

A PE is usually the result of an underlying blood clot in the leg or arm known as a Deep Vein Thrombosis (DVT). The clot breaks away and travels through the body, via the heart to reach the lungs.

When the clot reaches the lungs, it travels through the vessels of the lung until it reaches smaller vessels where it becomes wedged. The clot may then prevent any further blood from travelling to that section of the lung.

A small PE may not cause any symptoms.

A medium sized PE can cause breathing problems and chest pain.

A large PE can cause collapse and sudden death. It is estimated approximately 1 in 10 people develop a PE large enough to cause symptoms or death.

Why does blood clot?

Blood clots occur as a vital protection system in our body. When we injure or cut ourselves, a clot is formed outside of our veins to protect us from loss of blood. This is a natural process known as the clotting cascade.

However, there are times when the clotting cascade goes wrong and blood clots form inside our veins, causing a DVT or PE. A PE often occurs when part of a blood clot from one of the deep veins in your leg or arm travels into your lungs.

What is a Venous ThromboEmbolism (VTE)?

VTE is the process by which blood clots occur and travel through the veins. VTE is the collective term for DVT and PE.

What are the causes and symptoms of a PE?

Nearly all cases of PE are caused by a DVT, but PE can occur without evidence of a DVT. It is estimated that about 1 in 2,000 people have a DVT each year in the UK. If untreated, about 1 in 10 people will develop a PE.

Risk factors for developing a DVT and PE include:

- **Immobility** which causes blood flow in the veins to be slow. Slow flowing blood is more likely to clot than normal flowing blood.
- **A surgical operation that lasts more than 30 minutes** is still the most common cause of a DVT. The legs

become still when you are under anaesthetic. Blood flow in leg veins can become very slow.

- **Any illness or injury that causes immobility** increases risk of dvt.
- **Long journeys**
- **Conditions that cause the blood to clot more easily than normal** (thrombophilia) can increase the risk of DVT.
- **Some medical conditions can cause the blood to clot more easily than usual.** For example, Nephrotic syndrome - kidney disorder. Antiphospholipid syndrome-immune disorder. Some rare inherited conditions can also cause the blood to clot more easily than normal, for example Factor V Leiden.
- **The contraceptive pill and hormone replacement therapy (HRT)** can contain oestrogen which can cause the blood to clot more easily.
- **Other conditions which may increase risks of clots are:**
 - People with cancer, heart failure, elderly people who are not as mobile, pregnancy and obesity.

How is a PE diagnosed?

Tests to diagnose a PE can include:

D-dimer test:

Is a blood test which detects fragments of the breakdown products of a blood clot.

The higher the level, the more likely that you have a blood clot.

Computed Tomography Pulmonary Angiography (CTPA):

During a CTPA, dye is injected to visualise the blood vessels of your lungs and a CT scan is taken.

A CT scan is an x-ray that creates a very detailed image of the inside of your body.

If there is a PE in your lungs, it will show up as a gap in your blood supply.

You will also have an ECG and Chest X-Ray.

How is a PE treated?

Anticoagulation:

Anticoagulation is often called “thinning the blood”.

However, it does not actually thin the blood. It alters certain chemicals in the blood to stop clots forming so easily. This prevents the PE getting larger and prevents any new clots from forming.

A DOAC (direct oral anticoagulant agent) is the usual anticoagulant to be offered. However, in some cases, it may be necessary to use Warfarin or Low Molecular Weight Heparin.

In some cases, such as pregnancy or cancer patients on chemotherapy, daily heparin injections will be used.

The dose of heparin injections will be monitored by a special blood test periodically and doses may change according to the result of the blood test.

The length of time you will be advised to take anticoagulation for depends on various factors and will be decided by the doctor or practitioner.

Whichever treatment is appropriate for you, education and counselling will be given from VTE clinic staff and by manufacturers' information books.

Traces of animal products may be present in forms of anticoagulation, please see Vegan Society website for further information.

Travel will not be advised for the first 4 weeks from diagnosis of blood clot as it is considered to be the acute phase and may cause further problems.

Certain sporting activities will need to be limited to prevent further progression of blood clot.

Travel and sporting limitations will be discussed in more detail with VTE Practitioner or Doctor.

Can a PE be prevented?

A PE can be prevented. However, not all DVT and PE can be prevented as some can occur 'unprovoked', by no means or known risk factors.

A PE is usually the result of an underlying DVT. Preventing a DVT, therefore, is an important consideration if you are immobile for a long period of time. In hospital, you may be given a heparin injection to try to prevent DVT and /or asked to wear compression hosiery. Sometimes an inflatable sleeve connected to a pump to compress the legs during a long operation may also be used.

If you are undertaking a long journey, it is important to keep hydrated and to take breaks to stretch your legs and feet to help your circulation.

During your consultation you will undergo certain tests which may find no evidence of pulmonary embolism (PE). Alternatively you may be treated for PE whilst awaiting a scan as an outpatient.

If at any time you experience breathlessness, chest pain or cough up blood, this may indicate that there is a blood clot in your lung which may be life-threatening and you must attend hospital immediately.

If there is anything you do not understand or are unsure about, please ask the doctor at your appointment or contact the people below.

**Lynn Hooton
VTE and Anticoagulation Nurse Specialist
Tel: 01704 704388 or Ascom 3803**

**Ambulatory Care Unit
Tel: 01704 704807 (up to 8pm)**

**Out of Hours – Accident and Emergency Dept
01704 704128**

Further information can be found at;

www.prodigy.nhs.uk

Anticoagulation Europe 02082896875

www.anticoagulationeurope.org

British heart foundation 08450 708070

www.bhf.org.uk

Lifeblood: the thrombosis charity 01406381017

www.throbosis-charity.org_uk

NHS Choices

Vegan Society www.vegansociety.com

During your contact with us, it is important that you are happy with your care and treatment. Please speak to a member of staff and/or the ward/department Sister/Charge Nurse if you have questions or concerns.

MATRON

A Matron is also available during the hours of 9am to 5pm Monday to Friday. During these periods, ward/department staff can contact Matron to arrange to meet with you. Out of hours, a Senior Nurse can be contacted via the ward/department to deal with any concerns you may have.

INFECTION CONTROL REQUEST

Preventing infections is a crucial part of our patients' care. To ensure that our standards remain high our staff have regular infection prevention and control training and their practice is monitored in the workplace. We ask patients and visitors to assist us in preventing infections by cleaning their hands at regular intervals and informing staff of areas within the hospital that appear soiled.

As a patient there may be times that you are unsure whether a staff member has cleaned their hands; if in doubt please ask the staff member and they will be only too happy to put your mind at ease by cleaning their hands so that you can see them.

SPECIAL INSTRUCTIONS

ANY CONDITION SPECIFIC DANGER SIGNALS TO LOOK OUT FOR:

If at any time you experience breathlessness, chest pain or cough up blood, this may indicate that there is a blood clot in your lung which may be life-threatening and you must attend hospital immediately.

CONTACT INFORMATION IF YOU ARE WORRIED ABOUT YOUR CONDITION

- Your own GP
- Lynn Hooton
VTE and Anticoagulation Nurse Specialist
Tel: 01704 704388

OTHER USEFUL TELEPHONE NUMBERS/CONTACTS:

www.prodigy.nhs.uk

Anticoagulation europe 02082896875

www.anticoagulationeurope.org

British heart foundation 08450 708070

www.bhf.org.uk

Lifeblood: the thrombosis charity 01406381017

www.throbosis-charity.org uk

NHS 111

NHS Choices

Stop Smoking Helpline (Sefton) 0300 100 1000

Stop Smoking Helpline (West Lancashire) 0800 328 6297

**Please call 01704 704714 if you need
this leaflet in an alternative format**

Southport and Ormskirk Hospital NHS Trust

Ormskirk & District General Hospital
Wigan Road, Ormskirk, L39 2AZ
Tel: (01695) 577111

Southport & Formby District General Hospital
Town Lane, Kew, Southport, PR8 6PN
Tel: (01704) 547471

FOR APPOINTMENTS

Telephone (01695) 656680
Email soh-tr.appointments@nhs.net

We would welcome your feedback about your experience
at Southport and Ormskirk Hospital NHS Trust.
Please access the Friends and Family Test at the following
link:

[https://www.southportandormskirk.nhs.uk/patients-and-
visitors/fft/](https://www.southportandormskirk.nhs.uk/patients-and-visitors/fft/)

Thank you

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