If you are being admitted into hospital in the near future or you are currently an inpatient, you may be at risk of developing a blood clot. This guide is intended to help you to learn more about blood clots which can form in your body after illness or surgery and the choice of prevention therapies that are available to you.

**Blood clots**

Most blood clots form in the deep veins of the leg. A clot in a deep vein is called a deep vein thrombosis (DVT). DVT can cause inflammation, swelling, and pain in the leg. There is a danger that the clot, or part of it, may break loose and travel to the lungs. This is called pulmonary embolism (PE), and PE can cause serious illness and is a leading cause of preventable death.

Although blood clotting is necessary to stop bleeding after injury, it can be harmful when clots form deep inside the veins. A clot is formed when blood cells stick together to form a solid mass. A blood clot can fully or partially block a vein.

Being a patient in hospital increases the risk of getting a blood clot, particularly after surgery or when unable to move for prolonged periods. A clot can occur during a hospital stay or when you return home.

**Risk factors**

Some people will be at higher risk of a blood clot and the risk factors include:

- A previous DVT or PE
- Immobility
- Excessive weight
- Age 60 and above
- Cancer and chemotherapy treatment
- Smoking
- Surgery
- Hormone Replacement Therapy, or the Contraceptive pill
- Acute medical illness e.g. heart failure, chronic respiratory diseases

Preventive measures are usually necessary when there is an increased risk of developing a blood clot. Prevention can include early walking after surgery, making sure you drink plenty of fluids, a choice of mechanical compression devices or anticoagulants (sometimes called blood-thinning drugs), explained in this leaflet.

**Risk assessment**

If you are going into hospital your risk of developing a blood clot VTE will be assessed. If you are at risk, they will explain what treatments can be given to help prevent you developing a blood clot. They will talk to you about the benefits and risks of each treatment and how long you will need each treatment for. If this does not happen please ask to be risk assessed.

**Compression stockings**

You may be measured and fitted with knee or thigh-length elastic stockings (also called anti-embolism stockings). Fitted to both legs, they apply continuous pressure to gently compress the legs. The compression increases blood flow and prevents the veins in the leg from expanding, stopping blood pooling and forming a clot. They may be used in combination with other mechanical devices or anticoagulants. Stockings should be worn day and night until you are back to your normal level of mobility. It is important that you are shown how to put them on and how to care for them before you go home, as they can sometimes be difficult to fit due to their firmness.

Ask to be shown the ‘inside out’ technique which helps make fitting much easier.

Mechanical devices apply pressure to the legs to help keep the blood circulating. The different types of mechanical devices include elastic compression stockings, sequential compression devices, venous foot pumps and neuromuscular electrostimulation (NMES).

**Compression Devices (SDCs)**

You may be asked to wear calf-length or thigh-length compression sleeves or foot compression boots to increase the blood flow in your legs. An electrical pneumatic pump, at the foot of the bed, fills the sleeves or boot with compressed air to inflate and deflate them at regular intervals.

**Neuromuscular electrostimulation**

Calf muscle Neuromuscular Electrical Stimulation (NMES) is a mechanical method of DVT prevention that increases blood flow in the lower limbs. NMES works by placing a gentle electrical nerve stimulus on the surface of the skin, causing the muscles in the calf and foot to contract. The muscle contraction alternatively stretches and compresses the veins increasing lower limb blood flow. The increase in circulation prevents the blood pooling and clotting.

A NMES device you may be offered is the battery-powered geko™ device, which is fitted below the knee. The disposable geko™ device gently stimulates activating the calf and foot muscle pumps to increase blood flow. Optimum stimulation is achieved when there is a visible movement of the muscles in the lower leg, and a slight upwards and outwards movement of the foot. Worn on both legs the geko™ device should be removed for bathing and then reapplied as soon as possible afterwards, and replaced every 24 hours.
Anticoagulants
Drugs used to prevent blood clots are called anticoagulants. They can be given in two forms, as an injection or as a tablet and are usually prescribed as fixed doses either as a once a day or twice a day treatment.

If you are considered at high risk of developing a blood clot VTE you should be offered anticoagulants to reduce your risk.

Like all medicines, there is a small risk of experiencing side-effects while taking anticoagulants. The main side-effect is a slightly increased risk of bleeding. For most people, however, the benefits of taking anticoagulants outweigh the risk of a bleed. Your healthcare professional should discuss all the options available explaining the benefits and risk attached to any treatment.

In some situations your drug therapy may need to be continued once you are discharged from hospital. You should be told how long to continue taking the anticoagulants for. If you are having injections you, a member of your family or a carer will be shown how to give the injections. You should be told what to do and who to contact if you experience side-effects.

Going home
One you have returned home, if you start to develop swelling or pain in either leg, shortness of breath or chest pain, seek medical attention right away.

Further information on anticoagulant therapy can be found at: www.anticoagulationuk.org

For more details on blood clots, conditions and anticoagulation therapy:
www.anticoagulationuk.org

For information on the National Institute for Health and Care Excellence (NICE):
www.nice.co.uk

For information on the Scottish Medical Consortium (SMC):
www.scottishmedicines.org.uk

The NHS Choices website for the public:
www.nhs.uk

The information provided in this leaflet is for guidance only. If you require advice in relation to a specific health condition, treatment or DVT prevention therapy referred to in this leaflet, please talk to your doctor, nurse or pharmacist.

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