

BLOOD CLOTS – REDUCING YOUR RISK

National Safety & Quality Health Service Standards 2nd Edition

Every Person. Every Time.



If you are in hospital, particularly for a major operation or a serious illness, your risk of developing a blood clot in your arms, legs or lungs is higher than usual.

There are ways to reduce this risk and prevent blood clots. This fact sheet explains why you are more likely to develop a clot, why this matters, and what can be done to reduce your risk.

Why are blood clots a problem?

A blood clot that forms in a vein, deep in the muscles of the arms or legs is known as a deep vein thrombosis (DVT). These blood clots can partially or completely block the flow of blood through your veins.

DVT are most commonly found in the calf veins, but can also occur in the veins of the thighs and arms.

Venous Thromboembolism (VTE) describes the whole process by which clots form and travel through the blood stream. The term ‘venous’ refers to the system of veins within the body. This is different from arterial thrombosis which occurs in an artery and can cause stroke or heart attack.

When a blood clot forms in a leg or arm vein, it usually remains adhered to the vein wall. Sometimes, however, one of two things may happen:

1. Part of the clot may break off and travel to the lungs. Here it may block an artery and reduce the ability for oxygen to enter into your blood stream. This dangerous condition is known as a **pulmonary embolus** (PE).
2. Less seriously, if the clot in the leg is not treated, it may lead to long-term symptoms such as pain or discomfort, swelling, rashes or, in severe cases, a skin ulcer. This is called **post-thrombotic syndrome**.

Why is the risk of blood clots higher in hospital?

There are two main reasons.

1. Immobility increases your risk of blood clots

Normally blood flows quickly through veins without clotting. In the arms and legs, muscle movements help to move the blood through your body by

squeezing the veins. If you are in bed for an extended period of time and not walking, blood flow can become sluggish and allow a clot to form. This is why leg and foot exercises to promote circulation are recommended for people taking long air flights.

2. The body protects itself from bleeding

When you have surgery or an injury, the body stimulates the blood to clot more easily, to prevent blood loss. However, this also increases the risk of unwanted clotting, that is, a DVT or PE.

Who is most at risk?

The risk is highest in people who have:

- had major abdominal, chest or leg surgery
- had major surgery or treatment for cancer
- suffered severe physical injury
- a serious acute illness that limits their mobility eg. heart attack, heart failure, stroke, spinal cord injury, cancer, severe infection or chronic obstructive pulmonary disease (COPD)

Are there other risk factors?

Blood clots are more likely to occur in people:

- who have had a previous blood clot
- with cancer
- who are over 40 years – the risk increases with age
- who are overweight
- who have prolonged periods of immobility, for example, due to bed rest, a plaster cast, or long distance travel
- who are pregnant or have recently given birth - pregnancy also stimulates clotting to prevent blood loss
- who are taking HRT or “the pill”
- with a blood clotting disorder called thrombophilia

If you have several of these risk factors you are considered to be high risk and should discuss this with your nurse and / or doctor.

How are blood clots prevented?

There are three approaches to preventing blood clots.

- Use of medications that interfere with the clotting process - these are known as anticoagulants
- Use of mechanical devices that keep the blood moving through the body by squeezing the deep leg veins
- Stay mobile and active

Anticoagulant medications and mechanical devices may be used together or independently.

Anticoagulants

Anticoagulants work by reducing the blood's ability to clot. This may also increase the risk of bleeding. Some anticoagulants are adjusted to ensure the balance between clotting and bleeding is maintained.

Some people have medical conditions which may increase their tendency to bleed. In this case anticoagulant therapy may not be appropriate.

Anticoagulants can be given as an injection just under the skin or may be taken in tablet form. Your doctor will decide which is most appropriate for you.

You may be prescribed anticoagulants for a few days or in some cases up to a few weeks. Your doctor will advise you about the length of treatment you require as it is dependent on the surgery or procedure you have undergone, or your particular medical condition.

Mechanical devices

There are two types of mechanical devices which may be used.

- **Graduated compression stockings (GCS)** are elasticised stockings which can be full or calf length. It is important to have stockings that are professionally fitted to your size. Sizing can be done by a health professional. Graduated compression stockings should be worn until you are fully mobile, or as directed by your treating doctor / surgeon.
- **Intermittent pneumatic compression stockings (IPC)** Both GCS and IPC stockings can cause rashes or irritate the skin so they should be removed at least once a day so your skin can be checked. When in use, it is important that the stockings remain wrinkle free.

Stay Mobile and Active

Nurses and / or physiotherapists will encourage you to:

- perform deep breathing exercises
- perform leg movement exercises

- get out of bed (when appropriate)

Attending to these exercises and activities will promote circulation and will reduce the risk of blood clots forming in your lungs and legs.

When you go home from hospital

If you have been using anti-coagulants or a mechanical device in hospital, you may be asked to continue using these at home. It is important that you follow your medical team's instructions to reduce your risk of developing a blood clot.

If you have any of the following symptoms in hospital or after discharge, call your doctor or go to the nearest emergency department immediately.

- Redness, pain or swelling in your leg
- Feeling faint, difficulty breathing
- Coughing up blood
- Pain in your chest or lungs
- Any unexpected bleeding

For more information please see www.safetyandquality.gov.au/nsqhs-standards

References

Blood Clots: Reducing your risk. (2010) NHMRC Clinical Practice Guideline for the Prevention of Venous Thromboembolism in People Admitted to Australian Hospitals.



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