Compartment syndrome and fasciotomy

This leaflet aims to answer some of the questions you may have about having a fasciotomy for compartment syndrome. It explains the benefits and risks of the procedure, as well as what you can expect when you come to hospital. If you have any further questions or concerns, please speak to a doctor or nurse caring for you.

What is compartment syndrome?
Compartment syndrome occurs due to increased pressure within a confined space or ‘compartment’ in the calf or thigh. This could be in just one leg or in both legs. If untreated, it can restrict the blood supply to muscles in the affected compartment and can result in necrosis (death) of the muscles. Nerves are also damaged from this pressure. This can result in loss of sensation in the skin and paralysis of the muscles they supply. Rapid diagnosis and treatment to relieve the pressure can lead to complete recovery of the affected muscle.

What causes compartment syndrome?
If the blood supply to your leg or legs has been interrupted, when blood flow is restored the muscles in the leg/legs swell causing compartment syndrome. If you have been admitted to hospital as an emergency with poor blood supply to the leg, this can happen when the blood flow is restored.

An injury such as a fracture usually also causes swelling of the muscle and tissues within the compartment of the limb. This causes the pressure within the compartment to rise. As time progresses, the degree of pressure can increase and blood flow to the muscle can become reduced. This lack of blood flow means that oxygen is not delivered effectively to the muscles. As muscle damage occurs, muscle cells start to produce chemicals which can further increase the swelling and pressure. Nerves within the compartment can also be compressed and damaged. If left untreated, muscle can be permanently damaged and can die.

What are the symptoms of compartment syndrome?
The main symptom of compartment syndrome is pain. Pain usually occurs even at rest but may be worse on movement. Pain is likely to occur after surgery, however in compartment syndrome the pain tends to be severe and out of proportion to the injury. Nerve damage may also make the pain worse, resulting in a burning sensation around the area. Pins and needles can also occur in the limb that is affected and you may have numbness when the skin is touched. An affected limb may also be pale, cold and feel tense and hard. As compartment syndrome progresses, you may experience reduced strength and movement in the affected limb.

How is compartment syndrome treated?
Compartment syndrome should be treated as quickly as possible to reduce the likelihood of permanent nerve and muscle damage. The aim of treatment is to relieve the pressure within the fascial compartment surrounding the muscles. This is done by performing an operation called a fasciotomy.
In a fasciotomy, the skin and fascial compartment are cut open so that the compartment pressure is relieved. Any dead muscle will be removed at the same time. The wound is usually left open to prevent the pressure from building up again. The wound may be closed using stitches some days later. Sometimes skin grafting is used to close the wound or the wound is left to heal by itself.

Sometimes a fasciotomy will be performed to prevent compartment syndrome occurring if you are considered at high risk of developing it.

What are the possible complications of compartment syndrome?
Complications can include:

- permanent nerve damage
- permanent muscle damage and reduced mobility
- permanent scarring due to the fasciotomy procedure on the affected limb
- rarely, loss of the affected limb
- infection
- kidney failure – as muscle dies various chemicals are released that can damage the kidneys
- in rare cases death can occur.

What are the risks associated with having a fasciotomy?
As with any major operation, there is a risk of you having a medical complication. All potential risks will be explained and discussed with you when the consultant asks you to sign the consent form before the operation.

If you are having the operation under general anaesthetic, you may wish to read our leaflet, Having an anaesthetic for more information.

Consent - asking for your consent
We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the treatment and you understand what it involves.

If you would like more information about our consent process, please speak to a member of staff caring for you.

How can I prepare?
When you come to hospital for your pre-admission appointment, we will advise you on how to prepare for your hospital stay and we will review your regular medicines. If you are taking any antiplatelet medicines (such as aspirin or clopidogrel) or any medicines that thin the blood (such as warfarin) you may need to stop them temporarily before the procedure. If you are taking any medicines for diabetes (for example metformin) or using insulin, then these may also need to be stopped temporarily or the dose altered near the time of the procedure. You will be given full information on any changes that you need to make to your medicines at the pre-admission clinic – please ask us if you have any questions.
We will ask you to fast for six hours prior to the surgery. Fasting means that you cannot eat or drink anything (except water). We will give you clear instructions on exactly when to start fasting. It is important to follow these instructions. If there is food or liquid in your stomach during your operation, it could come up to the back of your throat and damage your lungs. Please continue to take your regular medicines with a sip of water before 6am on the morning of the procedure, unless you have been told otherwise.

**What is the prognosis (outlook) for compartment syndrome?**
This depends on how quickly the compartment syndrome is diagnosed and treated, and whether the nerves and/or muscles have been damaged by the lack of blood supply. Complete recovery of nerves and muscles is possible if compartment syndrome is treated quickly and there is no previous nerve or muscle damage. Quick treatment means that blood supply to the muscles can be restored before permanent damage occurs.

**How long will I have open wounds?**
In some cases the wounds are left to heal themselves and you will need them dressed regularly. When you are discharged, we will arrange for a district nurse to do this. Healing time varies but usually takes approximately 4-6 weeks.

Your consultant may decide to help the wound heal by performing a skin graft. Your consultant will explain this to you in more detail. However, a skin graft isn’t suitable for everyone.

**What can I do to help myself?**
- The physiotherapist will give you exercises to do. Please do them as instructed.
- Drink plenty of fluids.
- Eat a healthy, balanced diet to promote wound healing.
- For help with stopping smoking, speak to your nurse or call the Trust stop smoking service on **020 7188 0995**, or call the NHS Smoking Helpline on **0300 123 1044**.
- Ensure your dressings are changed regularly.
- Report any increased pain or fever to your nurse or doctor.

**Appointments at King's**
We have teamed up with King’s College Hospital in a partnership known as King’s Health Partners Academic Health Sciences Centre. We are working together to give our patients the best possible care, so you might find that we invite you for appointments at King’s. To make sure everyone you meet always has the most up-to-date information about your health, we may share information about you between the hospitals.
**Useful sources of information**

**Contact us**
If you have any questions or concerns before or after you have left hospital, please contact the vascular specialist nurses, \textit{t: 07825 503902} (Monday to Friday, 8am-4pm).

You can also contact Luke Ward, \textit{t: 020 7188 3566} or Sarah Swift Ward, \textit{t: 020 7188 8842} (24 hours) and speak to the ward sister or nurse in charge.

The above contacts can put you in touch with a vascular consultant if needed.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit \textbf{w: www.guysandstthomas.nhs.uk/leaflets}

**Pharmacy Medicines Helpline**
If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.
\textit{t: 020 7188 8748}, Monday to Friday, 9am to 5pm

**Your comments and concerns**
For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.
\textit{t: 020 7188 8801 (PALS)} \hspace{0.5cm} \textit{e: pals@gstt.nhs.uk}
\textit{t: 020 7188 3514 (complaints)} \hspace{0.5cm} \textit{e: complaints2@gstt.nhs.uk}

**Language and accessible support services**
If you need an interpreter or information about your care in a different language or format, please get in touch.
\textit{t: 020 7188 8815} \hspace{0.5cm} \textit{e: languagesupport@gstt.nhs.uk}

**NHS 111**
Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.
\textit{t: 111} \hspace{0.5cm} \textbf{w: 111.nhs.uk}

**NHS website**
Online information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing.
\textbf{w: www.nhs.uk}

**Was this leaflet useful?**
We want to make sure the information you receive is helpful to you. If you have any comments about this leaflet, we would be happy to hear from you, fill in our simple online form, \textbf{w: www.guysandstthomas.nhs.uk/leaflets}, or \textit{e: patientinformationteam@gstt.nhs.uk}