



University Hospitals Birmingham
NHS Foundation Trust



Free flaps and pedicled flaps in lower limb reconstruction

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Why do I need a flap?

Your surgical team has recommended you need a flap to manage your lower limb injury. You may have a wound that is exposing bone or metal work. The flap will be used to cover this and seal the wound.

What is a flap?

A flap is the movement of your own tissue, along with its blood supply, from one part of your body to another.

A flap can involve skin, tissue, fat, muscle, nerve, bone and cartilage (or any combination of these). The most common ones are skin, tissue and fat (fasciocutaneous) and muscle flaps.

There are different types of flaps and your Plastic Surgeon will advise on the most appropriate one for you.

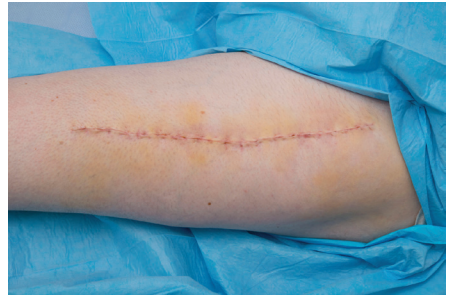
What is a free flap?

A free flap is the movement of tissue from one site on the body to another. The tissue, along with its blood supply, is detached from the original location and transferred to another location (the injured site in order to reconstruct the injury). The Plastic Surgeon re-establishes circulation in the tissue during surgery.

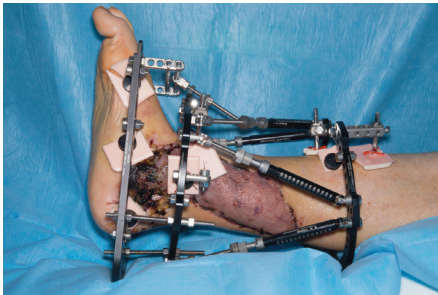
There are various areas on the body where the tissue can be moved from (thigh, calf and back are the most common), but this will be discussed with you further by the Plastic Surgeon and the Specialist Nurse.



ALT free flap



ALT free flap donor scar



Gracilis free flap and Split Skin Graft



Donor site of Split Skin Graft

What is a pedicled flap?

A pedicled flap is when the tissue is left partly attached to the donor site (pedicle) and then moved to the new location, thereby keeping the tissue with a blood supply.



Pedicled flap and Split Skin Graft

What happens before surgery?

We may need to perform a scan on your lower limb to ensure that you have a healthy blood supply to and from the limb and to help plan surgery.

What happens after surgery?

Your flap will be monitored closely by the ward nurses who will monitor the blood flow in and out of the flap, using a non-invasive machine, called a Doppler.

It is important that you are kept warm for up to 48 hours post-surgery to ensure that the blood flow in and out of the flap is maintained. You will also have a urinary catheter in place following surgery so that the surgical team can monitor your urine output.

You will have your temperature, blood pressure and pulse checked regularly and you will be given fluids through an intravenous drip (into your vein). You may have a wound dressing around the flap, with a clear window to allow the nurses to monitor the flap. After approximately five to seven days the wound dressing will be removed and the flap left exposed. Following flap surgery, you will have a donor site, where the flap has been taken from and this will have a dressing in place. This will be removed at the time of your first flap inspection.

For the first few days, you will need to remain on bed rest and keep your lower limb elevated on pillows to reduce the swelling and keep a healthy blood flow to your limb. On day 3 providing your plastic surgeons are happy you will be allowed to lateral transfer from the bed to a chair/commode keeping your leg elevated. If there are no concerns about your flap then you should be able to start to mobilise with the support of physiotherapy from day 4.

Additional information

Depending on the Plastic Surgeon's final decision regarding your surgery, you may also require a skin graft. A skin graft involves taking the top layer of your skin (epidermis) and part of the next layer of skin (dermis), without its blood supply, and moving it from one area of the body (donor site) to another. Once moved to the affected area, the skin graft picks up ('takes') its blood supply from the healthy wound bed underneath.

The skin graft will be covered with an appropriate wound dressing (chosen by your Plastic Surgeon in surgery) and will remain in place for up to seven days. Please note the wound dressing may be removed sooner if there is a clinical reason for this. Following a skin graft you will have a second wound, the donor site. This wound dressing is usually very bulky and will stay in place for up to 14 days.

Problems you may experience

Failure of the flap – Flap failure can occur if the blood supply becomes compromised. This will be detected by the team monitoring your flap. You may require further surgery called a 'salvage' to re-establish blood flow.

Despite your surgeons best efforts there may be a total loss of blood supply. If this occurs then the flap will not be viable and you will require further surgery.

Bleeding – Bleeding can be common following surgery, this will be monitored closely by your medical team. You may also develop a collection of blood (haematoma) under the wound.

Infection – There is always a risk of infection when you have a wound. If an infection develops then you will be treated with antibiotics.

Scars from healing – scars develop when the wound has healed. Once all of the area is healed, massaging with a moisturiser will help to soften the scar.

Numbness and loss of feeling – due to damage to the nerves during the surgery. It may gradually fade over time, but may last up to 18 months after the surgery or be permanent.

Flap appearance – following surgery the flap appearance could be 'bulky'. This usually takes 6–12 months to reduce in size. However, if after this time you feel the appearance is still 'bulky', your surgeon may be able to offer a further surgical option to improve the appearance of your flap.

Burns and Plastics Outreach Team: **0121 371 5462**

Email: **burnsplasticsoutreach@uhb.nhs.uk**

Further information and a video illustrating what is involved in the surgery can be found on the Trust website

www.uhb.nhs.uk

- Choose QEHB
- Click on Services
- Choose L from the A–Z section

Patient information and videos can be found under Limb Reconstruction Plastic Surgery.

Or this YouTube link:

www.youtube.com/watch?v=DyCNjfRh4U

Please use the space below to write down any questions you may have and bring this with you to your next appointment.

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How did we do? 😊 😐 😞

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