

Vascular Access Surgery

Indications:

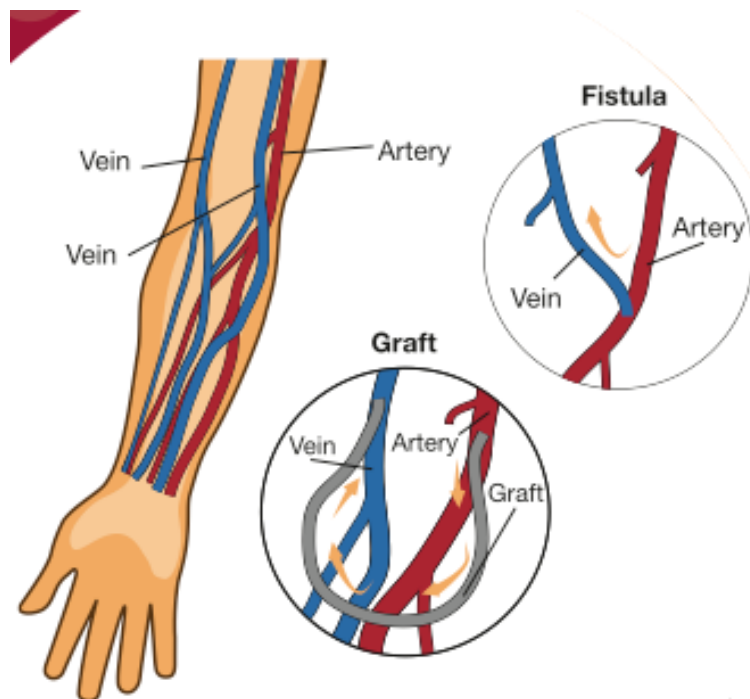
Vascular access is commonly described in the setting of renal failure to undertake haemodialysis. Less common for patients on parenteral nutrition or requiring lifelong venous access.

The haemodialysis machine requires high blood flow in excess of 250 ml/min. That can be achieved by insertion in a large central vein or by peripheral access where a vein in the arm is connected to the artery also called arteriovenous fistula (AVF).

Another method of renal placement is by peritoneal dialysis, which your nephrologist will mention to you if indicated.

Native Arteriovenous fistula:

Can be created at the wrist, the elbow, the arm or the thigh. This requires a healthy vein and artery to achieve the best results.



Prosthetic graft:

If the veins are not suitable, a synthetic graft is inserted to join the artery to a larger vein in the elbow, arm or thigh.

Prior to the surgery:

- Complete history and examination will be performed to assess the best site for fistula creation
- An ultrasound scan will also be performed to confirm the size and suitability of the vessels
- When the site is confirmed, do not let anyone insert a needle or a cannula in that arm to avoid damage to the vessel.
- Also it is best to avoid blood pressure measurements on the same side
- Please take your regular medications unless asked otherwise
- Please let your doctor know if you have any allergies including antibiotics, heparin or anaesthetic medications

The surgery:

- Usually you will be admitted same day
- Avoid eating or drinking anything at least 6 hours prior
- You can take your regular medications unless asked otherwise.
- If you are on Aspirin, please continue to take it.
- If you are not on Aspirin, please make sure you receive a prescription for Aspirin 300 mg to be taken the night before.
- The operation can be performed under local analgesia, arm block or general anaesthesia
- The surgery site will be prepared with antiseptics and sterile drapes
- Following analgesia, an incision will be made where the vein and artery will be exposed.
- You will be given heparin to thin your blood.
- An anastomosis (join) will be created between the artery and the vein.
- The skin will be closed with dissolvable material under the skin
- Dressings will be applied

Following the surgery:

- The fistula will be monitored regularly to make sure it is running well
- The arm will be wrapped in warm covers and elevated to minimize swelling
- Your hands and fingers will be regularly assessed
- Most patients are able to be discharged the same day
- You can eat and drink when allowed to do so by your treating doctor

Following discharge:

- Remove dressings 4 days after discharge
- Avoid heavy lifting or trauma to the operation site
- Avoid any tight clothes or bracelets at the operated arm
- No blood pressure or blood samples from the operated arm or forearm
- Avoid smoking
- Check the fistula for a thrill like cat purring every day and notify your doctor if you could not feel it
- A review with ultrasound scan will be organized in about 6 weeks
- The fistula usually takes about 6 weeks before it is ready for use

Risks and complications

General:

- Chest infection
- Heart attack
- Wound infection
- Bruising and or bleeding

Specific risks:

- Thrombosis of the fistula requiring further surgery
- Bleeding
- Narrowing of the vein requiring surgery or balloon plasty
- Numbness at the site of surgery
- Lack of blood supply to a major nerve requiring ligation of the fistula
- Steal syndrome that reduces the blood supply to the hand. That could range from minimal symptoms of cool hand to severe ones like losing a finger
- Heart failure if the fistula is creating a large workload on the heart
- Wound infection
- Arterial or venous infection
- Failure of the fistula to mature
- Graft infection if prosthetic material used

If you develop any of those symptoms, please call the above number, Call the duty manager of the hospital where you had the procedure, present to the emergency department or see your GP.