Fistula thrombectomy in interventional radiology (IR)

This leaflet provides information about a fistula thrombectomy. It also explains the benefits, risks and any alternatives to 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 a fistula thrombectomy?

A fistula thrombectomy is an invasive procedure which involves clearing a thrombus (blood clot) from inside an artery or a vein. A fistula is a connection between an artery and a vein, created to make the vein usable for dialysis. The thrombus is removed from the fistula using a special device to break it up and draw it out. Sometimes a clot-busting medicine called alteplase (also known as TPA) is used to facilitate this. When most of the clot has been cleared, any stenoses (narrowings) that may have caused the clotting, are treated by inflating a balloon inside the fistula to stretch them open. This process is called fistuloplasty. Sometimes the IR doctor may insert a stent (tiny metal tube) to keep the narrowing open. A fistula thrombectomy can be performed on vein fistulas and grafts.

The procedure will be carried out in an IR operating theatre by an interventional radiologist. As part of this procedure, the IR doctor will use ultrasound and x-rays with contrast dye. This helps to locate the blood vessels and the position of the thrombus.

Why have I been referred to have fistula thrombectomy?

A fistula thrombectomy is recommended when the fistula vein is blocked with thrombus. To allow effective dialysis, blood needs to flow through your fistula easily.

Stenoses in the fistula often occur due to several factors such as regular needling. These stenoses can reduce blood flow and cause blood clots within the fistula. You can often tell if your fistula has thrombosed because it feels hard and does not pulse or “buzz” any more. Your doctor has referred you to IR to try to get your fistula working again.

What is the role of interventional radiologists?

Interventional radiologists are specialist doctors who perform minimally invasive operations using imaging guidance (x-ray and ultrasound). Most IR procedures are performed through very small incisions in the skin that are often less than 1cm in length.

Are there any alternatives?

The doctors looking after your dialysis may choose to abandon the blocked fistula – this may be most appropriate if, for example, the fistula has blocked off several times in the recent past and is unlikely to stay open for long. This will mean that you will need either a new dialysis line inserting and/or an operation to form a new fistula. Open surgery is rarely used to remove a blood clot and salvage the fistula.
What are the risks?
Fistula thrombectomies are performed regularly, and serious risks and complications are uncommon, but you need to be aware of them. The IR doctor will explain these to you clearly during the consent process. Please feel free to ask any questions that you have. The risks vary for each patient, but the following general risks are recognised with this procedure:

- **Significant bleeding.** The clot-busting medicine used to clear the blood clot slightly increases your chances of unwanted bleeding elsewhere in the body. This is most significant in the brain. The IR doctor will assess your individual risk of bleeding. Bleeding may also occur if the fistula is accidentally damaged during the thrombectomy or fistuloplasty. If this happens, then the IR doctor will usually treat it immediately. Sometimes the problem with your fistula is due to narrowing of a vein within the chest. This narrowing would also be treated by stretching it with a balloon, and if injury occurs during this procedure, bleeding can be very serious. The IR doctor will usually be able to treat this immediately, but occasionally emergency surgery is required.

- **Bruising.** You will get a small bruise around the skin incision over the fistula. This is normal and will usually disappear within a few weeks. There is a small chance that the bruise may become large and uncomfortable, but this does not happen very often. If you develop a very large bruise, you might be required to stay in hospital overnight for observation. Usually the bruising settles with manual pressure only.

- **Infection.** There is a small risk of infection developing. This would need treatment with antibiotics or surgery, however, this is a very rare complication.

- **Allergic reaction.** Some patients may have an allergic reaction to the dye used to obtain the x-ray pictures. This reaction is usually minor, for example a skin rash, and normally clears up on its own. Rarely, it can be more serious and needs to be treated with steroids.

- **Treatment failure.** There is a small risk of failure of treatment in which case the doctor will discuss further management options with you.

How can I prepare for the procedure?
Unless you are already staying in hospital as an inpatient, you will need to come to the Renal Day Unit (Patience Ward) at Guy’s Hospital. You will have the procedure and usually go home on the same day after a period of observation.

- You will need to arrange for an adult to take you home by car or taxi and to stay with you overnight.

- The procedure is often carried out under a general anesthetic (you will be asleep), because you need to be able to lie still during the procedure. You cannot eat or drink **anything** (except water) for six hours before the procedure. You can take your normal medicines (with sips of water if needed), unless you have been advised otherwise by the doctor. You may drink water (non-fizzy) until two hours before the procedure. If we give you an anaesthetic or a sedative, fasting reduces the risk of your stomach contents entering the lungs during and/or after the procedure.

- Tell your doctor or nurse if you have **diabetes** as you may need to alter the dose of your diabetes medicines, as you will need to fast before the procedure. Further information on stopping any medicines will be given to you when you come for your pre-assessment. If you are taking any medicines containing metformin, you must stop taking them on the day of the procedure and for two days after. If you are taking any medicines that thin your blood, such as antiplatelet medicines (for example, aspirin or clopidogrel) or
anticoagulant medicines (for example, warfarin or rivaroxaban), please tell your doctor or
the nurse as these may need to be stopped temporarily before the procedure. The doctor
referring you should give you specific instructions about this. If they have not, please
contact us for advice when you receive your appointment letter.

- Please let us know if you are taking any regular medicines (including anything you buy
yourself over the counter or any herbal or homeopathic medicines) and if you have any
allergies to any medicines. Please bring an up to date list of all your medications with you
including the names and dosages of any tablets/capsules, inhalers, sprays, liquids or
patches that you take.

You will have a chance to ask the interventional radiologist any questions that you have, before
you sign a consent form. If you have any other medical problems, please tell the doctors.

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.

What happens during the procedure?
You will be brought to the IR Department where the doctor and nurse will re-check all the pre-
procedure preparations. You will be asked to lie on your back. A cannula (a thin tube) will need
to be inserted into a vein in your arm to enable the doctor to give you any medications during
the procedure. You will then be taken into the IR operating theatre and either be anaesthetised
or given a sedative (medicine to make you drowsy).

The arm with your fistula will be supported on an arm board. The interventional radiologist may
numb the skin with a local anaesthetic injection, before or at the end of the procedure, around
the skin where the sheath (small tube) was inserted into the fistula.

Using special imaging equipment for guidance, the thrombus is first cleared and then any
stenoses in the fistula are treated by inflating a balloon within them.

At the end of the procedure, a single stitch will be placed at the puncture site and a sterile
dressing applied.

The procedure usually takes two to three hours. The team looking after you will ensure that you
are as comfortable as possible during the procedure. If you are uncomfortable, the doctor or
anaesthetist may give you a strong painkiller and/or sedative during the procedure if necessary.

What happens after the procedure?
After the procedure you will be taken to the IR recovery area. Your ward nurse will take you
back to the Renal Day Unit where you will be observed closely by the doctor and nurse looking
after you. Here, you will also be able to see your family/friends.

Your pulse rate, blood pressure and oxygen saturations will be checked at regular intervals.
Your nurse will let you know when you can eat and drink again.
You will usually need to stay in hospital for four hours after the procedure, to make sure there is no bleeding. One of the dialysis nurses will remove your stitch on the ward. Some patients can then go home.

If you had your thrombectomy as a day patient, the nurse will tell you when you can get up and move around, and when you can go home. You will need a responsible adult to take you home by car or taxi. We recommend that you do not use public transport.

**When can I use my fistula?**
Your fistula should be ready for use immediately after the procedure. The IR doctor will let you know about this.

**If I am a day patient, what do I need to do after I go home?**
- You should rest for the remainder of the day and possibly for the next day, depending on your recovery. You can then resume your normal activities.
- You can eat and drink as normal.
- Take your usual pain relief, as prescribed or instructed on the packet, if you have any pain. Usually the procedure is not uncomfortable afterwards.
- Continue with your normal medicines as prescribed. **If you usually take metformin, this should not be restarted until two days after the procedure.**
- You can have a shower or bath the next day.

**Is there anything I need to look out for at home?**
If you experience any of the symptoms listed below, please contact the IR Department or if it is out of office hours, go to your local Emergency Department (A&E).
- Significant bleeding at the puncture site
- Increased bruising and swelling around the fistula
- Significant pain at the puncture site that is not improved with simple painkillers
- Pins and needles or weakness of your fistula arm
- Fever/chills, pus or other discharge at the puncture site. These could be signs of developing infection.
- Inability to feel the bruit (thrill or buzz) in your fistula arm.

**Contact us**
If you have any questions or concerns about the procedure, or if you need advice, please contact the IR Department at Guy’s Hospital on **t: 020 7188 5576**, Monday to Friday, 9am to 5pm.

You can also contact your renal nurse specialist or doctor for advice. If you are worried about anything outside of normal opening hours, please contact your own GP, or go to your nearest Emergency Department.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit **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.

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.

t: 020 7188 8801 (PALS)  e: pals@gstt.nhs.uk

t: 020 7188 3514 (complaints)  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.

t: 020 7188 8815  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.

t: 111

NHS website
Online information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing.

w: www.nhs.uk

Get involved and have your say: become a member of the Trust
Members of Guy’s and St Thomas’ NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, please get in touch.

t: 0800 731 0319  e: members@gstt.nhs.uk  w: www.guysandstthomas.nhs.uk/membership

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,