Use of Haemodialysis
Tunelled Catheter
Welcome to North Bristol NHS Trust
Use of Tunnelled Dialysis Catheter

Introduction

This leaflet explains the procedures used to insert and remove a tunnelled dialysis catheter. It is intended to provide you with the information needed before you agree to have the procedure performed. It is not intended to replace informed discussion between you and your doctor or the renal access specialist nurse, but can act as a starting point for such a discussion. Please ask all the questions you need to ensure that you fully understand what is involved before you sign the consent form.

What is a tunnelled dialysis catheter and why do I need it?

For a dialysis machine to work, there needs to be a way of taking blood from you to pump it into the kidney machine. A tunnelled catheter (also called a line) is one way of doing this and it can be used rapidly. The catheter is put into a vein in your neck and the tip is fed into the big vein in your chest that takes blood to your heart. The catheter passes under the skin between your neck and chest wall so that it comes out of the skin just below the collarbone. Tunnelled catheters are used when it is likely that a catheter will be needed for several weeks. Tunnelled catheters are more comfortable and less likely to become infected than the temporary catheters that are available.
Insertion

Who will insert the catheter and where will it be done?

A kidney specialist (Consultant) or a trainee kidney specialist (Specialist Registrar) or a specially trained nurse will do the procedure. The operator performing the procedure may be different to the one who recommended the procedure to you but they will be happy to answer your questions. It will be done in a Minor Operations room in the Renal Unit at Southmead Hospital. It is done under local anaesthetic so you will remain awake. You can eat and drink before and after the dialysis line is put into the vein.

Will I need any blood tests?

Blood tests will be carried out to ensure that your blood will clot properly after the procedure.

How long will it take?

It is not possible to predict exactly how simple or complicated the procedure will be for each individual patient. This is influenced by how easy it is to identify the vein and pass the guide wire down into it. Usually the whole procedure will take 40-60 minutes.

What will actually happen during insertion of the tunnelled dialysis catheter?

You will lie on a trolley or on a hospital bed as flat as you comfortably can. To keep everything sterile, the operator inserting the catheter will wear a cap, mask, sterile surgeon’s gown and gloves. Your skin will be cleaned with an antiseptic liquid and then covered by a large sterile drape. The operator will use an ultrasound machine to find the position of the veins in the side of your neck. Local anaesthetic will be put onto the skin and, when the skin is numb, the vein will be located with
a needle and a fine wire used to mark the position of the vein. The operator will now use anaesthetic to numb the skin below your collarbone. The dialysis catheter will be pushed under the skin and up to the marked position of the vein in your neck. The catheter is then passed into the vein using a guiding tube placed in the position marked by the guide wire. A few stitches are required in the neck where the catheter enters the vein and also where the catheter comes out of the skin on the front of your chest. The stitches at the insertion site will be taken out 7-10 days later; the stitches that hold the dialysis catheter in place at the exit site will be removed 3-4 weeks after the procedure.

**Will it hurt?**

When the local anaesthetic is injected, it will sting to begin with, but this soon wears off and the area will feel numb. You will feel pressure as the catheter is pushed under the skin and when it is pushed into the vein. When the local anaesthetic has worn off, the shoulder and side of the neck may feel rather tender and bruised.

**What will happen afterwards?**

When the procedure is over, a chest X-ray is taken to ensure that the catheter is in the correct position and that there have been no complications. You may be able to go home straight after the X-ray if you come in as an outpatient. Sometimes, there is some oozing of blood and you will need to stay until the bleeding has stopped. Occasionally, this means that you need to stay in hospital overnight.

It is important to keep a dressing over where the catheter comes out of the skin (the catheter ‘exit site’). This area should be kept clean and dry. The dressing will be changed at least twice a week during your dialysis treatment. **You should try to avoid getting this area wet when washing.**
If you develop severe pain or bleeding around the dialysis line, you should contact us straight away for advice. If the bleeding persists you need to press over the area with a clean hand towel or handkerchief and seek help straight away.

Are there any risks or complications?

Having a tunnelled dialysis catheter inserted is considered a safe procedure, but, as with any medical treatment, complications can occur.

The most common complication is bleeding from the catheter exit site. This can be stopped by applying pressure to the area and is not dangerous. Sometimes it can take an hour or even longer to stop bleeding.

Occasionally, an artery in the side of your neck may be injured whilst the catheter is being inserted. Usually the injury is minor and any bleeding can be stopped by pressing on the side of the neck. There may be some swelling and bruising that means that the operator will have to stop the procedure and plan to try again once the bruising has settled.

It is important that you tell your doctor or nurse if you have a problem with easy bleeding or bruising or if you are taking tablets that can affect bleeding such as aspirin, warfarin, dipyridamole or clopidogrel.
Very serious complications are **rare** but you should be aware that they could happen:

- The vein into which the catheter is being inserted can be damaged or torn. This could result in internal bleeding in the chest. If this occurs, additional treatment would be needed: this could require insertion of a tube into the chest (a ‘chest drain’) to remove the blood, or even an operation.

- It is possible to damage the lung on the side that the catheter is being inserted. If the lung is damaged, it may collapse making you breathless and cough. You may need another procedure (possibly insertion of a chest drain, as above) to allow it to expand again.

The chance of experiencing one of these serious complications is small (less than 1 in every 100 catheters inserted). Everything is done to minimise the risk. Death as a result of a complication is **extremely rare**.

Once the catheter is successfully in place, the main complications are blockage of the catheter by blood clot or infection. A blocked catheter may need to be removed and replaced. An infected catheter must be removed as quickly as possible. If the catheter is not removed, the blood may carry infection to other parts of the body such as the heart valves or bones. Signs of infection are fever, flu-like symptoms and shivering. You should report these symptoms immediately to a doctor or nurse in the Renal Unit.

To reduce the risk of infection, personal hygiene and proper care of your line is essential. Your dialysis nurses will discuss this with you more in detail.
Removal

Who will remove the catheter and where will it be done?

A kidney specialist (Consultant) or a trainee kidney specialist (Specialist Registrar) or a specially trained nurse will do the procedure. The operator performing the procedure may be different to the one who recommended the procedure to you, but they will be happy to answer your questions.

It will be done in a Minor Operations room in the Renal Unit at Southmead.

It is done under local anaesthetic, so you will remain awake. You can eat and drink before and after the procedure.

Why am I having my tunnelled dialysis catheter removed?

There are many reasons why a tunnelled dialysis catheter may need to be removed, such as:

- Infection
- Thrombosis (blood clot)
- Line blockage
- It is no longer required

If you are unsure about the reasons for the removal of your line, please ask your nurse or doctor.

Will I need a blood test?

Blood tests will be taken to ensure that your blood will clot properly after the procedure.
How is the tunnelled dialysis catheter removed?

Your dialysis nurses, the renal access specialist nurses or your renal doctor will arrange a date and time for removal. Because the cuff in the tunnel ‘holds onto’ to the lower layer of the skin, the line is not easily pulled out and will need to be gently released.

The area of skin around the cuff will be cleaned and then made numb with a very small injection of local anaesthetic. This injection stings slightly as it goes in, but goes numb very quickly. When it is completely numb, the operator will make a small cut in your skin. This will allow the cuff to be loosened. You may feel a bit of pressure, but it will not hurt. Once the cuff is freed, the line will come out easily.

The operator will take the line out when you are breathing out, holding your breath or performing a breathing technique, which will be fully explained to you: you will be told exactly what to do and when. Once the line is out, the operator will gently press at the site where the line went into the vein (under your neck) for about 5 minutes. You will have 2-3 stitches in your skin to close the wound. The operator will then ask you to remain resting on the bed for a while.

You will have a dressing covering the wound and stitches. This should remain in place for 48 hours (2 days), after which time it can be removed and replaced with a new dressing. The dressings must be kept clean and dry. If you are unsure how to change the dressing, please discuss this with a nurse.

How long it will take?

It is not possible to predict exactly how simple or complicated the procedure will be for each individual patient. This is influenced by how easy it is to identify the vein and pass the guide wire down into it. Usually the whole procedure will take 20-30 minutes.
When and who will remove the stitches?

The stitches should be removed after 7-10 days. A qualified nurse, such as a practice nurse (at the GP surgery), a community nurse or nurses at the dialysis unit, can remove them. Make sure you arrange in advance for this to be done at a date and time convenient to you or during your dialysis days. Once the stitches are removed, no dressing is required.

What should I look out for?

**Bleeding** – A little spot of blood on the dressing is to be expected. If the dressing gets filled with blood, please contact your nurse/doctor. Apply gentle pressure for 5 minutes while you contact us for advice.

**Redness/soreness** – When the local anaesthetic wears off, the area may feel and look a bit bruised. Please discuss which painkillers may be best for managing this with your nurse/doctor.

**Swelling/discharge** – A small amount of puffiness after line removal is to be expected. If there is any increased swelling or discharge, please contact your GP, doctor or dialysis nurse for further advice.

What should I NOT do?

There is an increased risk of infection when you have a new wound, so if you wash in a bath, keep it shallow to avoid the ‘dirty’ water touching the area. Showering is fine. If the dressing becomes wet, it should be replaced with a clean, dry one. Once the stitches are removed, you may go back to your normal bathing routine.
Finally…

We hope that you have found this information leaflet helpful. Please feel free to ask the operator inserting or removing the catheter as many questions as you need to. **You should feel satisfied that you have received enough information about the procedure before you sign a consent form.**

**To contact us**

If you have any queries or concerns about the procedure, or have not understood anything you have been told, please do not hesitate to ring us.
References


NHS Constitution. Information on your rights and responsibilities. Available at www.nhs.uk/aboutnhs/constitution
If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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