

## Renal Services

### Having a dialysis line (vascular catheter) inserted

#### What is a dialysis line or vascular catheter?

A 'dialysis line' (haemodialysis vascular catheter) is a flexible plastic tube inserted into a vein (blood vessel) in your neck or sometimes your groin. It is used to access your blood supply to enable haemodialysis.

A dialysis line is inserted when your kidneys are not working properly and are not removing waste products from your body. The dialysis line takes blood from your blood stream to a haemodialysis machine. A dialyser (artificial kidney) filters out the waste products in a process known as haemodialysis. The blood is then returned to your body through the dialysis line after the waste products have been removed.

A dialysis line may be for short term use known as a temporary line or longer term use, known as a permanent line.

Most temporary dialysis lines are inserted while you are on the ward.

If a temporary line has been inserted in your neck it can stay in place for up to 14 days. If a temporary line is inserted in your groin it can stay in place up to 5 days.

After this the dialysis line will either need to be removed if no longer needed for dialysis or changed to a permanent line, if you still need haemodialysis.

Permanent lines are usually inserted in the x ray department. They can stay in place for as long as you need it or until you have another form of 'access' to your blood stream, such as an arteriovenous fistula or arteriovenous graft.



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If you are having a planned dialysis line insertion you will be given a bottle of octenasin wash (which is used as a shower gel) and a tube of nasal cream (Mupirocin) and a leaflet on how to use these, you should use these for five days.

If you need an urgent line insertion you will receive the octenasin wash and Mupirocin nasal cream for 5 days after your dialysis line insertion.

For both temporary and permanent dialysis line insertion you will also need an Octenasin wash/shower on the day of the procedure.

### **Giving your consent (permission)**

The staff caring for you will need to ask your permission to perform a particular treatment or investigation. You will be asked to sign a consent form that says you have agreed to the treatment and that you understand the benefits and risks of the procedure. If there is anything you do not understand please ask the staff caring for you. Remember, it is your decision. You can change your mind at anytime, even if you have signed the consent form.

### **How is a dialysis line inserted?**

Your dialysis line will be inserted by a doctor who is experienced in this procedure, and they will use an ultrasound machine to find the best vein before starting the procedure. This may be on the ward or in radiology department.

Most are inserted using local anaesthetic (while you are awake). The skin around the insertion site is 'frozen' so that you will feel less pain.

Sometimes there is discomfort along the vein or a 'fluttering' sensation of the heart during the procedure. We will talk to you about the risks of having an anaesthetic.

### **How will the dialysis line be inserted?**

Prior to the procedure you will have an antibiotic given through your vein to reduce your risk of infection.

The doctor will use the ultrasound machine to find an appropriate vein before starting the procedure.

After cleaning the skin and injecting the local anaesthetic at the site where the vascular catheter will be inserted, a needle is passed into the vein, and then a guide wire is passed down the vein.

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The dialysis line is threaded over the top of this guide wire. It is held in place with stitches) A dressing will be placed over the insertion site. It is important to keep the dressing in place to reduce the risk of infection.

A chest X ray is carried out to check that the dialysis line is in the correct position. If a dialysis line is inserted in your groin an X ray is not needed.

After the procedure you will be monitored by nursing staff regularly for several hours.

### Will I feel any pain?

Most patients feel little pain, due to the effects of the local anaesthetic. If you do feel any pain, tell the doctor inserting your line and they can give you some more local anaesthetic.

### What are the risks of having a dialysis line inserted?

#### Common risks and complications

- **Pain or bruising at the insertion site:** This usually settles after 24 hours with painkillers, such as paracetamol.
- **Bleeding from the exit site:** This is more common if you have been on blood thinning medication such as aspirin, clopidogrel or warfarin.
- **Kinks in the vascular catheter:** A portion of the catheter can get 'kinked' and may need to be repositioned.
- **The vascular catheter can be accidentally removed if pulled**

#### Less common risks and complications:

- **Not able to access to the vein:** This may need a second attempt in a different location.
- **Damage to nearby areas:** This includes the vein itself, as well as the muscle, nerves and artery. The artery often lies next to the vein and it is possible to accidentally puncture it. This is usually controlled by applying pressure over the puncture site, but may result in some bruising in the neck. If there is a lot of bleeding, we may have to stop the procedure. Very rarely an operation may be needed to control the bleeding.

#### Rare risks and complications:

- **Pneumothorax:** This happens when the upper part of the lining of the chest cavity (pleura) is accidentally punctured, allowing air into the space between the chest wall and the lungs. The pressure on the

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lung can cause the lung to collapse and you may notice pain when you take a deep breath or have difficulty breathing. This happens very rarely and a lot of the time it gets better on its own. Sometimes another procedure may be needed to allow air to escape and the lungs to re-inflate.

- **Haemothorax:** This happens when a structure (such as a large blood vessel) within the chest cavity is accidentally damaged and blood leaks into the space between the chest wall and the lungs. As with a pneumothorax, there can be pressure on the lung, which makes it difficult to breathe. A chest drain is needed to allow the blood to escape and if there is a lot of blood lost we may recommend that you have a blood transfusion.
- A fast or irregular heart beat: This usually resolves on its own.
- An air bubble entering the bloodstream: If an air bubble travels to the heart or brain it can cause symptoms like that of a heart attack or stroke.

If any of the rare complications occur, it is likely that you will need to stay in hospital for a few days for careful monitoring.

Although deaths have occurred as a result of complications following this procedure, this is extremely rare.

## Risks that may occur when dialysis line being used for haemodialysis

- **Infection:** Infections can affect either the area where the dialysis line exits from the skin (known as an exit site infection) or the blood stream (known as bacteraemia). Antibiotics are used to treat infections. The dialysis line may also need to be removed.
- **Blockage of the dialysis line or the vein that the line is in:** if a blood clot is blocking the dialysis line, we may give you some medication down the dialysis line to unblock it. If a blood clot is blocking the vein (deep vein thrombosis), you would need to take blood thinning medication for 3 – 6 months.
- **Narrowing of the vein that the dialysis line is in:** If this happens in one of the veins in the neck and chest, there may be a problem with the blood flowing through the dialysis line and you may notice your face is puffy and swollen. Tell your doctor if you notice this. It can happen within a few days of the dialysis line insertion, or many months later.

### Medications

Please tell your doctor before your procedure about all of the medication you are taking. . **You may need to stop taking some medication before having this procedure.**

We sometime give people a sedative to relax them. The doctors will discuss this with you before you come into hospital. If you are being sedated, you cannot eat or drink anything (except water) for 6 hours before the procedure. You can drink water up to 2 hours before the procedure. You will also need to arrange for someone to take you home.

**If you are not being sedated** you can eat and drink before the procedure, but you should not eat a large meal for 6 hours before the procedure.

If you are a diabetic patient, there is no need to change your insulin dose.

### How do I take care of the dialysis line?

- Keep the dressing clean and dry.
- The renal nurses will change the dressing every 7 days and check the exit site each dialysis.
- Keep an emergency dressing at home, in case you need to change the dressing in between dialysis treatments. The renal nurses will teach you how to do this.
- Never open the ends of your vascular catheter to avoid getting the vascular catheter or dressing wet
- If the area around the vascular catheter feels sore or looks red, tell the dialysis unit as soon as possible.
- Your vascular catheter is only used for your haemodialysis treatment. **Do not** allow any other staff other than renal doctors and renal nurses to open or use your vascular catheter.
- If you no longer need dialysis, your vascular catheter must be removed.

**If you feel unwell with fever, chills, oozing from around the insertion site, any swelling or redness at the site, you should contact the Dialysis Unit immediately.**

**You may have an infection and need antibiotics and the vascular catheter may have to be removed.**

## Patient Information

**For further information, or if you have any concerns, please contact the Dialysis Unit on 024 7696 7777 or Ward 50 on 024 7696 8259**

### **General Advice and Consent**

Most of your questions may have been answered by this leaflet but remember that this is only the starting point for discussion with your healthcare team.

Before any doctor, nurse or therapist examines or treats you, they must seek your consent or permission. In order to make a decision you need to have the information from health professionals about the treatment or investigation which is being offered to you. You should always ask them more questions if you do not understand or if you want more information. The information you receive should be about your condition, the alternatives available to you, and whether it carries risks as well as benefits.

If you need any further information or clarification, please contact the dialysis unit on 0247696 7777 or ward 50 on 0247696 8259.

The Trust has access to interpreting and translation services. If you need this information in another language or format please contact 024 7696 8262 and we will do our best to meet your needs.

The Trust operates a smoke free policy

#### **Document History**

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