Patient Information

Royal Devon University Healthcare
NHS Foundation Trust

Central Venous Line Placement
(including Hickman lines and portacaths)

Introduction

This leaflet tells you about the procedure known as central venous line placement it explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

Whether you are having the central venous line placement as a planned or an emergency procedure, you should have a sufficient explanation before you sign the consent form.

What is a central line?

A central line is a way of giving intravenous treatment or chemotherapy through a long, flexible, plastic line. These are called central lines because they end up in a central blood vessel in your chest, close to your heart. Central lines usually go into your body in the centre of your chest. There are two main types of central line: Hickman central line and portacath.

Hickman line: is positioned under your skin, and inserted into a large vein by your collarbone. The only bit you can see is the length of line that hangs out of the small entry hole in your chest.

The central line can stay in your vein for many months so you won't need to have needles into your hand or arm each time you have your treatment.

Portacath: is a small chamber or reservoir that sits under your skin at the end of your central line. You can feel it, but unless you are very thin you cannot usually see it. When you need treatment, your nurse puts a needle into the chamber and gives you injections or attaches a drip. This stays in place for as long as you need treatment. Then your nurse will remove it until your next treatment.

The main advantage of a Portacath is that you can't see it on the outside of your body. You don't have to have a tube coming out of your chest as you do with a Hickman central line. But some people prefer a Hickman line because they don't like having a needle put in each time they need treatment. If you prefer, you can have the area over the portacath numbed with a local anaesthetic cream before the needle is put in.

Why do I need a central line?

Your medical condition will require you to have repeated courses of treatment. A central line is needed because of some of these treatments damage smaller veins. These are semi-permanent lines that mean you do not need to have a new needle for each treatment. It can help preserve the veins in your arms. Occasionally central lines are needed when there are no veins accessible in your arms.

Your doctor and nurse can also take blood from the line for tests. They can also use the line to give you fluids or other treatment such as antibiotics if these are needed.

What are the options or alternatives?

Apart from using veins in your arms or hands there are few practical alternatives solutions. Some treatment is toxic to smaller veins and therefore use of small, peripheral veins is not possible.

Who has made the decision?

The doctors in charge of your case, and the Radiologist doing the line insertion will have discussed the situation, and feel that this is the best treatment option. However, you will also have the opportunity for your opinion to be considered, and if, after discussion with your doctors, you do not want the procedure carried out, you can decide against it.

Who will be performing the central line insertion?

A specially trained doctor called a Radiologist. Radiologists have special expertise in using x-ray and scanning equipment, and also in interpreting the images produced. They need to look at these images while carrying out the procedure. Consequently, Radiologists are the best trained people to insert needles and fine tubes into the body, through the skin, and place them correctly.

Radiographers and Radiology Nurses will be present in the room to assist during the procedure, they will introduce themselves at the start of the procedure.

Occasionally student radiographers or medical students will be present to observe the procedure.

Where will the procedure take place?

Generally in the Medical Imaging Department, in a special 'screening' room, which is adapted for specialised procedures. It may be done in an operating theatre, using mobile x-ray equipment or a portable ultrasound scanner.

How do I prepare for central line insertion?

- You will have had some blood tests performed before the procedure to check that you do not have an increased risk of bleeding.
- You are asked not to eat for 4 hours prior to the procedure. You may drink a little water.
- You will need someone to drive you home and to look after you for 24 hours.
- You should be prepared to stay overnight if necessary.
- If you have any allergies or you have previously reacted to intravenous contrast medium, you must let the doctor know. Intravenous contrast medium is the injection we give you during some scans.
- If you are diabetic, please contact the Medical Imaging Department on **01392 402336 selecting option 2, in-patient enquiries, option 6 Interventional Radiology**.
- If you normally take any medication to thin your blood (anticoagulation or antiplatelet drugs) such as: **warfarin** / **clopidogrel** / **aspirin** / **non-steroidal anti-inflammatory drugs (NSAIDS** / brufen / ibrufen / nurofen) / **dabigatran** (Pradaxa) / **rivaroxiban** (Xarelto) / **Apixaban** (Eliquis) / **phendione** / **acenocoumarol – then these may need to be stopped or altered. Please contact the Medical Imaging Department on 01392 402336 selecting option 2, in-patient enquiries and then option 6 for Interventional Radiology .**
- Other medication should be taken as normal.

What actually happens during a central line insertion?

You will lie on the x-ray table, generally on your back. You need to have a needle put into a vein in your arm, so that the Radiologist can give you a sedative or pain relief, although this is rarely required. Once in place, this needle does not cause any pain. You will also have a monitoring device attached to your chest and finger, and may receive oxygen through small tubes in your nose.

The Radiologist will keep everything sterile, and will wear a theatre gown and operating gloves. Your skin will be cleaned with antiseptic, and then the rest of your body covered with a theatre towel.

The Radiologist will decide where is the best place to access the vein in your neck usually this is above the inner end of the collar bone. You will have a local anaesthetic and then using an ultrasound machine a needle will be positioned into the vein. A wire is placed into the vein and then over this the central line can be placed. The other end is then positioned under the skin to anchor it. The position of the line with checked using an x-ray machine.

Will it hurt?

When the local anaesthetic is injected, it will sting to start with, but this soon wears off, and the skin and deeper tissues should then feel numb. Later, you may be aware of the needle and then the catheter passing into the body. There will be a member of staff looking after you throughout the procedure. If the procedure does become painful for you, then they will be able to arrange for you to have more pain relief through the needle in your arm.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. It may be over in 20 minutes, or very occasionally it may take longer than 90 minutes. As a guide, expect to be in the Medical Imaging Department for about an hour altogether.

What happens afterwards?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure. You will generally stay in bed for a few hours, until you have recovered. The Hickman line and portacath are available for use immediately should you require treatment straight away.

Be prepared to stay overnight and bring an overnight bag. You will need someone to drive you home and to look after you overnight.

What will happen to the results?

A report of the procedure will be recorded in your electronic patient record immediately and also sent to your specialist.

Are there any complications?

Perhaps the biggest problem is not being able to get into a suitable vein or position the catheter into the correct place, although this is unusual. In this case further investigations to look at the veins maybe needed.

You may get some bruising and soreness at the site of insertion. Occasionally bleeding may occur from the vein. This will usually stop on its own but very rarely a blood transfusion or another procedure maybe needed.

Occasionally a central line may become infected or blocked. The presence of the central line within the vein can occasionally cause clot to form which may result in arm redness, pain and swelling. This usually requires the central line to be removed and you may need to start anti-coagulation medicines.

Rare but serious complications do occur. These include pneumothorax, air embolism and venous rupture with associated severe or life threatening haemorrhage. Very rarely these complications have resulted in death.

The line is flushed regularly with 'Heparin' or salt water (saline) to prevent clotting. The nurses on the ward can teach you how to do this. Your district nurse can help you at home at first.

If you notice any: redness, swelling or soreness where your line goes into your body, ring the hospital and speak to your specialist nurse or doctor. These could be signs of infection. You will need to have treatment with antibiotics straight away if you do develop an infection. Otherwise, the line/portacath may have to be removed and a new one put in.

If you are not having treatment regularly you or a nurse need to clean and flush the line/portacath regularly to keep it clear and stop you developing any problems.

Your everyday life:

You can go home with a central line in place. It is OK to have a bath or shower too. There are very few restrictions to your everyday life. You may go swimming, although you must check with your doctor first if you are having chemotherapy because there may be an infection risk from using a public pool. You shouldn't go under water with it (in the bath or when swimming) unless you have a waterproof cover. A portacath (once the wound has healed-usually within 2 weeks) is a better option for patients who wish to swim, play tennis or golf.

Before you go home make sure you are confident about looking after your line. Ask the staff on the ward if you are not sure about anything. They can arrange for district nurses to visit you at home to help with the line until you feel confident about looking after it.

If you have problems at home contact the medical staff on the ward or chemotherapy unit for advice.

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Make sure you are satisfied that you have received enough information about the procedure, before you sign the consent form.

Finally...

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. Do satisfy yourself that you have received enough information about the procedure before you sign the consent form.

Contact us

If you found reading your leaflet difficult, you do not understand what it means for you, or if you have any queries or concerns you can contact us on: **01392 402336**, option 2 option 6 and we can talk it through or alternatively you can email us **rduh.radiologyappointments@nhs.net**

How to get to the Royal Devon & Exeter Hospital at Wonford

Please refer to the enclosed "Welcome to the Medical Imaging Department" leaflet or use the Trusts website for the latest information: **www.royaldevon.nhs.uk/our-sites**

For more information on the Medical Imaging Department, please visit our website: **www.royaldevon.nhs.uk/services/radiology-x-ray-and-medical-imaging**

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