



Leeds Children's
Hospital

**Yorkshire Regional Centre for
Paediatric & Adolescent Oncology
and Haematology**

Having a central line

Information for patients & parents

Introduction

Your doctor has advised you that your child needs to have a central line put in. We recognise that you may be feeling anxious and we are here to support you and answer any questions you may have.

This leaflet has been written to support the information that has been given to you and to help you understand a little more about why your child needs a central line. In this leaflet we will try to answer some of the more frequently asked questions about central lines.

Why does my child need to have a central line?

Central lines are usually inserted when a child needs long term access to a vein during their treatment. This might be for:

- Medication
- Special intravenous feeding
- Fluids
- Blood and blood product transfusions
- Blood tests.

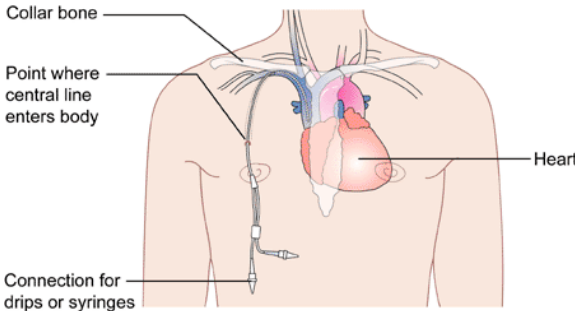
Having a central line may mean your child will not need as many needles over the course of their treatment. However not all blood tests can be taken from a central line, so it is important not to promise your child that they will never have another needle. Sometimes finger pricks or taking blood from a vein in the hand or arm is still necessary.

What is a central line?

A central line is long thin flexible rubber tube which is inserted into your child's chest. The end of the central line sits in the large blood vessel near to the heart or in part of the heart. Depending on which central line your child has depends on what the other end of the line looks like. There are two main types of central line which look very different:

1. An external line

The other end of the tube comes out of the skin, and this is the part you can see. We call this the "exit site". The central line is helped to stay in place under the skin by a cuff that you cannot see, which holds it in position until scar tissue has formed around it.



External central lines can divide after the exit site into one, two or three parts which are called "lumens". The lumens may look slightly different with different colours at the end, but they all work in the same way.

Each lumen has a clamp on it, which is on the thicker section of the central line. This must always be clamped when your child's line is not in use.

You may hear this type of central line being called a Broviac™ line or a Hickman line™. They are both the same thing but just different names for them.

2. An internal line

An internal line is called a Portacath™ or Port. It is different to an external central line, as no part of it can be seen outside the skin. When the Portacath™ is not in use, it can just look like a bump under the skin.

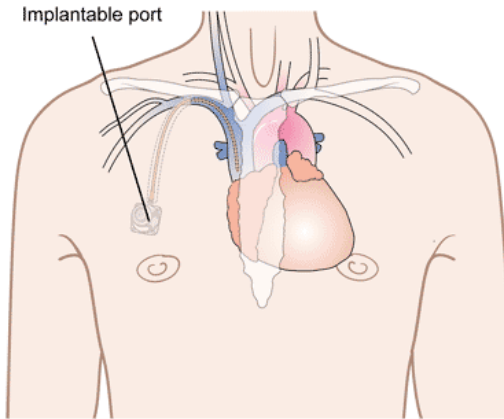


Diagram showing an implantable port
© CancerHelp UK

A Portacath™ consists of a small chamber filled with a rubbery membrane that closes over its self. It is placed under the skin on the chest wall. When the line needs to be used a specially-made needle, called a Gripper needle, is inserted through your child's skin into the port so that treatment can be

given through it. These needles can stay in for up to 7 days.

Internally the port is attached to a rubbery tube that sits in one of the large veins leading to the heart.

How long will the central line stay in for?

The central line can stay in place throughout your child's treatment as long as there are no problems with the line. This may be months or years depending on the care your child needs.

Which type of central line will my child have?

Your child's doctor and nurse will discuss with you about which line will be best. If either line is suitable, you and your child can help to decide which one to have.

Are there any big differences to think about when deciding which type of central line to have?

With an external central line, your child:

- Should avoid swimming, unless the line is totally covered with a waterproof dressing.
- Should take care when playing contact sports or rough and tumbles, to minimise the risk of the line being accidentally pulled.
- Will have to take special care in the bath or shower.
- Will have to have the line cleaned and redressed after a bath/shower or if the dressing gets dirty or dislodged. It will need changing at least once a week.
- The line will need to be flushed once a week.

With an internal central line, as there is no part of the line on the outside of the body, your child:

- Will need to have a Gripper needle put into the port so that the central line can be used. Local anaesthetic cream can be applied to the skin above the Port before the needle is put in, so your child should not feel it being accessed too much.
- Can go swimming and play sports.
- Does not need a dressing on when the needle isn't in place.
- Will need to have the Portacath™ flushed once a month.

If your child is very frightened of needles, a Portacath™ may not be the best central line for them.

What needs to happen before the line is put in?

Before the line is inserted you will need to start decolonisation for MRSA.

What is MRSA

MRSA stands for Meticillin Resistant Staphylococcus Aureus and is a bacterium from the staphylococcus aureus family. This is a germ that has gained some resistance to some antibiotics that are commonly used to treat infections. This means that in some cases it has become more difficult to treat as not all antibiotics that are commonly used to treat infection work properly against them. MRSA like many germs can live harmlessly on the skin or in the nose. We all carry lots of bacteria and usually it doesn't cause a problem. But when a person comes into hospital carrying MRSA and has a procedure that involves breaking the skin then the MRSA can get into the body and cause an infection.

Using the MRSA decolonisation means the chances of you getting an MRSA infection are much smaller. However the most effective way to prevent infections is by frequent hand washing; please take every opportunity during your hospital stay to wash your hands properly particularly after using the toilet and before eating.

MRSA Decolonisation.

Your child will start decolonisation up to 5 days before the line is put in. The decolonisation involves washing the skin and hair with special antiseptic soap and applying cream to both nostrils. As your child is going to have a planned operation the decolonisation needs to be started five days before the line is put in and completed fully. If there is not enough time to allow this, start the decolonisation as soon as possible and complete for a full five days. If your child's line insertion is delayed for more than 14 days they will need to start the MRSA decolonisation programme again.

Your child will be prescribed a 5 day course of an antiseptic skin wash and antibiotic cream that can be used to tackle the MRSA germ

These products are:

- A body wash/shampoo which contains 4% Chlorhexidine, this is an antiseptic. It is gentle on the skin and can be used by people with sensitive skin.
- An ointment which contains 2% mupirocin, which is an antibiotic. This is for putting inside the nose (both sides)
- Alternative products may be provided if a specific clinical need is identified (e.g. allergy)

Instructions on how to use MRSA decolonisation can be found in Appendix 3.

How is the line put in?

Putting in the central line is a small operation done under a general anaesthetic, in the operating theatre. Your child will not be able to eat or drink for several hours before the line is

put in. You will be informed of this by letter or by the nursing team. In theatre, the anaesthetist will give your child an anaesthetic to make them sleep. The line is put in by making a small cut in the neck and threading the line through a large vein.

What are the risks of central line insertion?

Your child's surgeon will discuss any risks of the operation with you when you are discussing central lines and when you are asked to sign the consent form for the operation.

What will happen if my child does not have a central line put in?

Your child needs to have a central line put in because it is expected that they need to have blood tests, medications, fluids or special intravenous feeding through a vein for quite a long time. If a central line is not put in, then your child will need another type of line in, like a cannula for treatment. These do not last for very long and will mean more needles for your child. A central line should make treatment easier and more comfortable for your child.

How can my child be prepared for the line?

As well as your doctor and nurse talking to you both about having a central line, the play specialist or nurse may show you a special doll, which has a central line in it. This will help you and your child to understand what the line will look like a bit more.

How does the surgeon know the central line is in the right place?

Your child will have an X-ray of the central line before he/she comes back to the ward to check the end of the line is in the right place.

What will the central line look like when my child gets back from theatre?

When your child gets back from theatre, they will have paper stitches on their neck where the central line has been put in. You may notice some blood underneath the dressing at the exit site of the external central line, but don't worry as this is expected.

There will be a stitch attaching the line to the skin. The stitch is in place until scar tissue forms to hold the line in. It usually takes over eight weeks for the scar tissue to form enough. The stitch usually comes away by itself and does not need removing unless it causes any problems to your child.

The central line can be used straight away, so your child may have an infusion or drip attached to the line already. If your child has had a Portacath™, then the Gripper needle may be covered with a dressing.

Your child may not like looking at the central line at first, but they will soon get used to it, and all of the health care team will be supporting you and your child.

Can my child go home with a central line?

Yes. You will be taught how to look after your child's line at home by the staff in the department or at home by the children's community nurses.

There are some "must do's" in caring for lines.

You must:

- Wash your hands before you touch the line
- Keep the skin around the line clean
- Look for signs of infection
- Have the line flushed
- Keep the clamp closed whenever the line isn't being used
- Keep the line looped and secured out of harm's way.

Most of the care of a central line is about reducing the complications that can happen. These include:

- Infection
- Blocked line
- Bungs accidentally becoming unscrewed
- Accidental removal of external lines
- Accidental damage of external lines

These complications are briefly explained now. You will be told in more detail about complications when you are trained to care for your child's central line.

How can the risk of infection be reduced?

It is very important that before anyone touches the line, they wash their hands. You will be shown how to wash your hands properly in hospital.

- The exit site of an external central line will need to be kept clean and dry and a new dressing put over it.
- Make sure that there is always a bung on the end of the line.
- Make sure the end of the central line does not dangle down by the nappy or groin area.
- You will be taught how to carry out this care for your child's line.

Whether your child has an internal line or an external line you need to watch out for any signs of infection. This can be pain, redness, swelling, or tracking (a red line along the skin) or any unusual discharge on the skin around the central line exit site. If your child's line is infected your child may have a high temperature and feel unwell. Your child may feel shivery and unwell when the line is flushed. If any of these happen, contact the Hospital immediately for advice.

How can the risk of the line getting blocked be reduced?

Central lines have to be flushed to help stop them from getting blocked. External central lines need to be flushed once a week and Portacaths™ have to be flushed once a month through the special needle when not in use.

You may want to learn how to flush the line yourself.

You must not flush your child's line until you have been taught by the nursing team and you feel happy to do so.

What if the line does become blocked?

If the line becomes blocked your child will need to come into hospital to have their line assessed. Your child may need a special medicine through the line to try and unblock it.

What if the bung at the end of the line accidentally becomes unscrewed?

If the bung on the end of the line becomes unscrewed it needs replacing with a new one. If the clamp on the line is open at the same time blood may flow out of the line.

- Nip the tube between your finger and thumb to stop any blood flow.
- Close the clamp on the line or attach the spare clamp in the emergency care pack.
- Put on gloves
- Clean the end of the tube with an Sani-Cloth CHG 2%
- Put on a new bung.

Please tell us if you have needed to replace the bung. It is likely that your child's line will also need to be flushed

How can the risk of the external line coming out by accident be reduced?

It is very important that the line is not tugged or pulled as the line could accidentally come out. There are different ways of looking after the line to try and prevent this:

- The exit point of the line should be secured with a dressing.
- A special dressing can fix the line to the chest. We call this a “skinfix”.
- Clothes can be a good way of helping to keep the line in one place. Why not try and sew a little pocket into your child’s vest or top to keep it in?

If the line is pulled out by accident, don’t panic. Apply pressure to your child’s neck on the side the line is placed and cover the line exit site with some sterile gauze. You will be given a central line home care pack containing some sterile gauze.

Sometimes the line is not pulled out completely, but the cuff can be seen on the outside of the skin which may mean the line has slipped from the correct position. If either of these happen, you will need to contact the hospital and possibly bring your child in to be assessed.

How can the risk of the external line becoming damaged be reduced?

Central lines can become damaged over time due to general wear and tear.

- There are different ways of looking after the line to try and prevent this:

- Always clamp the line on the thick part of the lumen near the end of the line where it says “clamp here”.
- Never use scissors or sharp objects near the line.
- Discourage your child from playing with the line or chewing it!
- If the line does crack or break, don't panic.
- If the line is damaged, move the clamp up higher than usual so that it is in between the exit site and the break, then clamp the line.
- If a piece of the line breaks off blood may flow out of the line. Pinch the line above the break, remove the clamp from the broken section, and place it onto the remaining part of the line, then clamp the line.
- If it is not possible to reposition the clamp use the spare clamp from the emergency line care pack.
- If the clamp itself is damaged, make sure the end of the line has a cap or bung on the end of it.

For all of these complications, you will then need to bring your child into hospital for the line to be assessed and repaired if possible.

Will my child be able to have a bath or shower?

If your child has a Portacath™ in, then there is no problem once the site has healed. If the port is in use then care needs to be taken to keep the dressing dry when bathing or showering.

If your child has an external line in, it is very important that the central line site does not get wet during the first few weeks after it has been put in. This is to allow healing around the line site which anchors the line and also to prevent infection. Care also needs to be taken to keep the dressing dry when bathing or showering.

Baths

Your child should sit in a shallow, waist-deep bath. Do not allow your child to submerge or soak in the bath as the water does not remain clean for long and this could be an infection risk. Keep the central line out of the water. After the bath if the dressing has become wet the exit site will need cleaning and the dressing replacing.

Showers

Once the exit site has healed it would be OK for your child to have a shower. Do not use soap or shower gel directly around the exit site or line dressing, fresh running water from the shower will be adequate. After the shower the line exit site will need cleaning and the dressing replacing.

Can my child still play sport?

If your child has a Portacath™ in, then there is no problem.

If your child has an external line in, vigorous contact sports like rugby will need extra care to avoid your child's central line getting pulled out accidentally.

Useful contact numbers

Ward L31	0113 3927431
Ward L32	0113 3927432
Ward L33	0113 3927433
Children's Haematology and Oncology Day Care Unit	0113 3927179
Children's Macmillan Nurse Specialists / TYA Key Workers	0113 3922323

Appendix 1 – Hickman™ Line Dressing

A Hickman™ line needs to have the transparent dressing changed on a weekly basis or if the dressing becomes loose, soiled or wet. When the dressing is being performed examine the exit site for any signs of redness, inflammation or signs of infection.

Equipment required

- A clean flat working area (eg tray or kitchen worktop)
- Kitchen roll / paper towels
- Transparent dressing
- Chloraprep cleaning sponge
- Hibisol handrub with plunger
- Chlorhexidine solution

Procedure

- Wash hands thoroughly and dry with a paper towel
- Clean working area with chlorhexidine solution and paper towel.
- Open up the transparent dressing and place on the cleaned working area.
- Open the Chloraprep sponge and break the seal to release the cleaning solution. Place on its side upon the cleaned working area
- Remove old dressing from Hickman site and dispose.
- Clean hands with hibisol and allow to dry.

- Take the Chloreprep sponge and clean around both sides of the line exit site from top to bottom.
- Allow the line exit site to dry.
- Peel the backing off the transparent dressing and apply over the line exit site
- Dispose of all equipment.
- Wash hands after completion

Appendix 2 – Hickman™ Line Flushing

When not in regular use a Hickman™ line needs to be flushed weekly. Should the line clamps become undone at any time in between flushes then the line should also be flushed again. The equipment and procedure below describes the flushing of a single lumen of a Hickman™ line, for double lumen lines the equipment will need to be doubled in quantity and the second lumen then flushed as detailed below.

Equipment required

- A clean flat working area (eg tray or kitchen worktop)
- Kitchen roll / paper towels
- One pair of disposable gloves
- Chlorhexidine with Alcohol wipes (Sani-cloth CHG 2%)
- Sharps bin
- One 5ml ampoule of sodium chloride 0.9% (stored at room temperature)
- One 10ml syringe
- One green needle
- Hibisol handrub with plunger
- Chlorhexidine solution

Procedure

- Wash hands thoroughly and dry with a paper towel
- Clean working area with chlorhexidine solution and paper towel.
- Open the ampoule of sodium chloride and place at the edge of the working area.

- Open up the syringe, needle and alcohol wipes and place on the cleaned working area.
- Clean hands with hibisol and allow to dry
- Put on a pair of disposable gloves
- Attach the green needle to the 10 ml syringe.
- Using the syringe, draw up 5mls of sodium chloride. Remove the needle and discard it into the burn bin. Take care not to touch the ends of the syringe. Expel any air from the syringe.
- Using a alcohol wipe clean the smartsite bung and allow to dry.
- Take the syringe containing 5ml of sodium chloride and insert it into the smartsite bung. Give the syringe a $\frac{1}{4}$ of a turn clockwise to secure it into the bung.
- Unclamp the Hickman line and slowly inject the syringe contents. Whilst injecting the last 1ml clamp the line then give the syringe $\frac{1}{4}$ of a turn anti-clockwise to remove it and discard.
- Clean the bung with an alcohol wipe and leave to dry
- Ensure that all equipment is disposed of in the sharps bin and wash hands

Appendix 3 - MRSA Decolonisation

How to use your nasal cream

MRSA can be found in the nose. The cream needs to be used 3 times a day for 5 days. Place a small amount (about the size of a match stick head) on your little finger or cotton bud and apply to the inside of the nose on both sides. Press both sides of the nose together, this will help to spread the cream in the nose properly. Once you have completed this it is important to wash your hands thoroughly.

How to use the body wash.

Your child will need to wash using the antiseptic for 5 days. Any open or infected wounds that your child may have will need to be covered with a waterproof dressing or plaster before you start. The body wash should be used undiluted as a liquid soap. Apply it directly to wet skin with your hand or a cloth start with the face and work downwards paying particular attention to the areas around the nose, armpits and groin. You should avoid contact with eyes and ears and do not use the wash inside the body. Rinse it off preferably in the bath or by showering. After a final rinse dry thoroughly with a clean towel and put on clean clothes.



Step 1



Step 2

Hair. (If applicable)

Hair will need to be washed at least twice during the treatment. We suggest this is done on day 1 and day 5. When using the treatment you should always start from the top and work down. So on days 1 and 5 you should wash hair first then move to the face and rest of the body.

Bed linen and clothing

We encourage you to change all sheets, pillowcases and towels at the beginning and end of treatment if you are able to.

Will there be any side effects.

The treatment has few side effects, however if a rash or sore skin develops please stop the treatment and contact the hospital for further advice. Your child may need to be given a more suitable product to use instead. The antiseptic solution is unlikely to cause any problems to patients with eczema but should the skin become sore and the eczema worsen, please contact the hospital. Again you may need to be given a more suitable product to use instead.



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