

Information for Parents

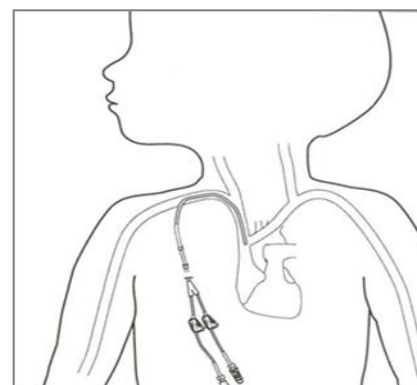
Central Lines

This leaflet has been produced in order to help you to understand why your baby requires a 'central line'.

1. A 'longline' is a thin catheter inserted into one of the large veins in your baby's arm or leg.
2. A Broviac (or surgical) line is inserted by a surgeon under a general anaesthetic into a large vein in your baby's neck, and secured with a cuff onto the chest wall (see pictures below).



Broviac line



Why does my baby need a central line?

There may be several reasons why your baby requires a central line:

Small, premature babies have an immature digestive system, and it can take days before they can take all the milk feeds required.

For some babies requiring bowel surgery, feeding is delayed because baby's intestine is not able to tolerate milk.

In both of these settings, we can provide all the nutrition the baby requires by giving fluid called Total Parenteral Nutrition (TPN). TPN is given into a large vein by central line, meaning that your baby continues to receive the calories they need for growth even though they may not be feeding.

If peripheral veins are running low or baby has “difficult access”, a longline or Broviac line may be inserted so that medication and fluids can be delivered reliably.

Fluids can be given via a ‘cannula’ which is the small drip inserted into a vein. However, cannulas do not last very long as they frequently leak into the surrounding tissue and this is why a long line is preferred.

1. How is a longline inserted?

A suitable vein is identified by the doctor who inserts the long line.

The doctor will wear a surgical gown and gloves to ensure that the line remains sterile.

The line is inserted into a vein in your baby’s arm or leg. (On rare occasions, a vein in the scalp is used).

The tip of the line is placed in a suitable position.

Once the line is in place, an X-ray is taken to ensure that it is in the correct position.

It may take more than one attempt to insert the longline, as the veins of premature babies are very small.

Sometimes we are not able to insert the longline. If this happens the surgeons will place a line into one of the larger internal veins.

2. How is a Broviac line inserted?

Your baby will need to go to theatre for a Broviac line to be inserted into a large vein in his/her neck. A tiny hole is made in the neck (to access the vein) to insert this central line. This is tunnelled under the skin to emerge on the baby’s chest wall. Attached to the Broviac line is a Dacron cuff that promotes cell (fibroblast) in-growth tissue just under the skin, to hold the line in place. This prevents skin organisms from creeping up the line from the exit site and reduces the risk of the line being pulled out accidentally.

Post-operative care: As your baby requires a general anaesthetic, he/she will be closely monitored in intensive care afterwards for a short period. The Broviac line position will be X-rayed in theatre to ensure it is in the optimal position for use, and again on arrival in NICU as is routine. The line will be looped on the chest wall and secured by a clear dressing to protect and cover the entry site. This dressing is changed by the nurse weekly or when required.



Will I need to give consent?

Yes. You will be asked to sign a consent form before a longline is inserted by the neonatal doctor.

For insertion of a Broviac line, a member of the surgical team will take consent, and your baby will be seen by anaesthetist to make sure he/she is fit for a general anaesthetic and surgery.

How to reduce the risk of accidental long line or Broviac line removal?

The nurse will show you how to care for and handle your baby to prevent dislodgement of the longline or Broviac line. This is very important, particularly when getting your baby out for holding. The nurse will help you to ensure that the infusion lines are not tugged or pulled, as the line could accidentally come out. The line should be looped (helping to prevent it from being inadvertently pulled out or mis-placed) and should be secured with a clear dressing.

If the Broviac line cuff is visible on the skin surface, this indicates that the line has moved from its correct position. Both longlines and Broviac lines will need X-raying if there is any concern about altered position, and if it is misplaced, the line will be removed.

Are there any complications associated with longlines or Broviac catheters?

Yes, problems can occur and can potentially be serious, although most babies have no problems with their longlines or Broviac lines.

Possible complications will be further discussed with you when your consent is being sought, but these can include:

- **Infection**

Your baby may become unwell with a temperature and/or be quieter than usual. If infection is suspected, blood tests will be done and antibiotic treatment started. If your baby does not improve it may be necessary to remove the line.

- **Accidental removal**

With surgical (Broviac) lines, once the cuff has become stuck in place (10 days following insertion) accidental removal is uncommon.

- **Blockage**

Lines may become blocked with a blood clot. Sometimes the line can be unblocked but on occasion it will need to be removed and a new line inserted.

- **Vein damage**

Damage to veins can occur from TPN. This may result in thrombosis (clotting) within the vein. If large veins become blocked in this way it may become increasingly difficult to find new veins in which to insert long lines.

- **Damage to the heart or lungs**

This is fortunately a very rare complication. The line may damage the wall of the heart and TPN fluid may leak around the heart or into the lungs, preventing them from working normally. To try to avoid this complication all lines are checked by X-ray after insertion and prior to use for TPN.

All lines are monitored very carefully and if signs of any of these complications arise your baby will be reviewed and where appropriate the line will be removed.

How will my baby be monitored while the central line is in place?

The nurse will closely monitor your baby's observations including heart rate, respiratory (breathing) rate, temperature and blood pressure using a monitor. The line is also attached to an infusion pump that measures the pressure within the line, and alarms if the line becomes blocked.

How do you know when to take the central line out?

When your baby no longer requires intravenous fluids or drugs, the doctor/nurse will review your baby's care and remove the line.

Broviac Line

When a Broviac (or surgical central line) is in place, the cuff needs to be freed from the tissues under the skin. This is usually done on NICU by either a surgeon or the surgical nurse specialist. Your consent is required for removal of the Broviac line in case there is a complication and your baby needs to go to back to theatre.

Who do I ask for more information?

Please ask to speak to one of the nurses or doctors if you have any further questions.