

Long Lines and Central Lines

This leaflet offers information about long lines and central lines. If you have any questions, please speak to the staff member caring for your baby.

In some preterm babies and babies who require surgery, feeding milk into the stomach cannot be started for some days or weeks. This is either because they are extremely preterm, unwell or their bowel is not yet working. During this time the nutrition your baby requires is given as an intravenous (IV) fluid through a vein. This fluid is called parenteral nutrition (PN). IV fluids can sometimes be given through a standard drip (a 2 to 3cm plastic tube inserted into a vein usually in the baby's arm or leg). These drips do not last long because:

- The IV fluid is an irritant to small veins and the veins are usually damaged within one or two days and therefore the drip needs to be replaced.
- The skin can be damaged by the irritant PN fluid.
- Re-siting drips can be distressing for the baby.
- Small veins get used up.

For these reasons, a line which can be used for a longer period is placed in a large vein. These are called long lines or central lines and are the best way to give nutrients to babies who we know are going to take some time to start milk feeds. This also allows a more concentrated / high caloric solution to be used.

What is a long line?

A long line is a fine plastic tube of 20 to 50 cm in length that is threaded into one of your baby's veins in the arm, leg or scalp to reach a point where the vein becomes much larger, usually just outside the heart.

PN and drugs can be given more easily through this line and because it flows into a larger vein the risk of damage to the vein is much reduced. A long line can stay in place for several weeks, which reduces the number of times your baby needs to have a drip inserted.

The terms 'long line', 'percutaneous line', 'PICC line' and 'central line' are often used interchangeably.

How is a long line inserted?

Percutaneous lines are inserted under sterile conditions in the neonatal unit. The technique is very similar to inserting a standard drip but can be technically difficult and may take up to an hour to do. It is not usually a painful procedure but we do give a small amount of 20% glucose into the baby's mouth as this has been shown to be a very effective form of pain relief in babies. Sometimes, it can take several attempts before a line can be sited.

On occasion, when we have not been able to get IV access using a percutaneous line, we may need to ask the paediatric surgeons to insert a central line through a small operation. This line is called a surgically inserted central line, often referred to by the trade name "Broviac® line". These lines are inserted under a general anaesthetic.

A small cut about 1cm long is made in the baby's neck and one of the large veins located.

A tiny hole is made in the vein and the line is inserted under X-ray guidance to sit just inside the baby's heart. This line is 'cuffed' to help hold the line in place, reducing the risk of it being pulled out accidentally. Because the line becomes attached to the baby's tissues just under the skin it will also need to be removed surgically.

To avoid a very rare complication of line inserted too far into the heart and fluid leaking around the heart, all lines are checked by X-ray after insertion prior to the use of PN.

Line care following insertion

To reduce the risk of infection, the lines must be accessed in a sterile manner when changing IV fluids and giving medications. The line should also be carefully handled during nappy changes and other cares to avoid contaminating the outside of the line with a dirty nappy or hand. If this happens, please inform the nurse looking after your baby who can advise you if anything extra needs to be done.

The dressings will often start to peel off around the edges. If the dressing has peeled off to the extent that the line is at risk of being exposed or the area under the dressing looks moist or dirty, the dressings will need to be changed. Long line dressings are not routinely changed, however Broviac® dressings are changed every seven days.

What are the possible complications of long and central lines?

Most babies do not have any complications but sometimes problems can occur, including:

- **Misplacement:** As the line is very thin and soft, the long lines can sometimes follow unusual routes. This cannot be detected except through X-rays and sometimes ultrasound. If the X-ray shows that the line is not placed in an optimal position, it may

have to be removed or used with restrictions. The medical and nursing team will advise you of this.

- **Infection:** Suspected when the baby becomes unwell, has a temperature and may be quieter than usual. If infection is suspected, blood tests are done, and antibiotic treatment started. If the baby does not improve it may be necessary to remove the line.
- **Accidental removal:** This is more likely to happen to percutaneous lines, which are only held in place by dressings and adhesive tapes. In surgical lines, once the cuff has become stuck in place (at ten days) accidental removal is uncommon.
- **Blockage:** Lines may become blocked with a blood clot. Sometimes the line can be unblocked but often it will need to be removed and a new line inserted.
- **Vein damage / extravasation:** Damage to veins can occur from PN and fluid can leak out of the vein under the skin
- **Fluid leaking into the heart.** This is a very rare complication. The line may damage the wall of the heart and PN fluid may leak around the heart. This can prevent the heart from working normally. To avoid this complication all lines are checked by X-ray after insertion prior to the use of PN.
- **Dislodged line.** A piece of the line can break off and get lodged in one of the vessels further downstream. This can require a further procedure to retrieve the broken off line. This is exceptionally rare.

Useful sources of information

BLISS

Bliss is a support group which can offer support and advice to families with babies with a range of conditions.

Bliss
1st Floor North
10-18 Union Street
London
SE1 1SZ



Tel. 020 7378 1122
Email: hello@bliss.org.uk
Website: www.bliss.org.uk

Use your smartphone to scan the QR code (you may need to download a QR code scanning app)

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit www.stgeorges.nhs.uk

Additional services

Patient Advice and Liaison Service (PALS)

PALS can offer you on-the-spot advice and information when you have comments or concerns about our services or the care you have received. You can visit the PALS office between 9.30am and 4.30pm, Monday to Friday in the main corridor between Grosvenor and Lanesborough wings (near the lift foyer).

Tel: 020 8725 2453 **Email:** pals@stgeorges.nhs.uk

NHS Choices

NHS Choices provides online information and guidance on all aspects of health and healthcare, to help you make decisions about your health.

Web: www.nhs.uk

NHS 111

You can call 111 when you need medical help fast but it's not a 999 emergency. NHS 111 is available 24 hours a day, 365 days a year. Calls are free from landlines and mobile phones.

Tel: 111

AccessAble

You can download accessibility guides for all our services by searching 'St George's Hospital' on the AccessAble website (www.accessable.co.uk). The guides are designed to ensure everyone – including those with accessibility needs – can access our hospital and community sites with confidence.



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