



## Great Ormond Street Hospital for Children NHS Trust: Information for Families

# Pain relief after surgery using an epidural

**This information sheet explains about the use of epidural pain relief after an operation. It explains how an epidural works, when it is most suitable and what to expect when your child has epidural pain relief at Great Ormond Street Hospital (GOSH). For more general information about pain relief, please ask for a copy of *Pain relief after surgery* information sheet.**

### What is an epidural?

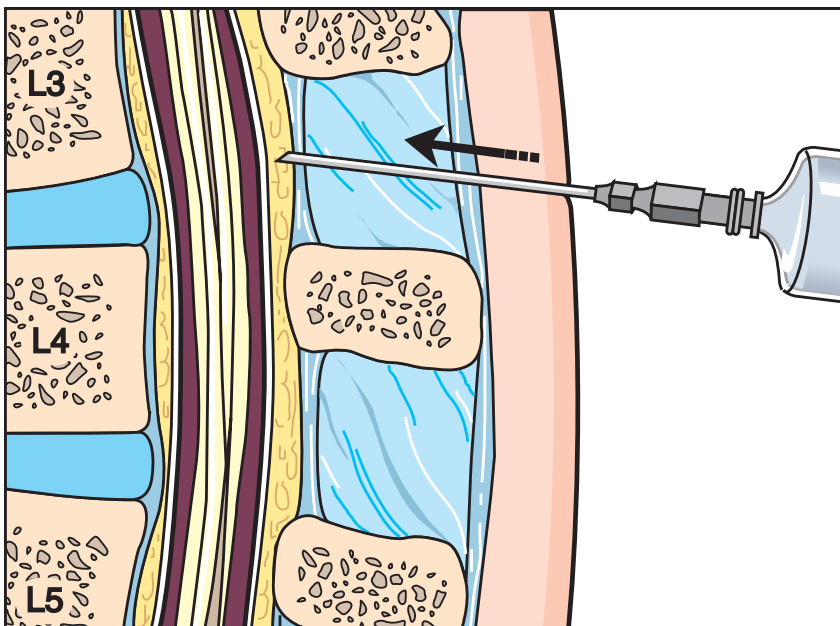
An epidural is an effective method for giving pain relief medicine, which has been used in children for many years. It is a continuous infusion of pain relief medicines given into the epidural space. This is an area close to the child's spinal cord and to the nerves supplying the area of surgery. Medicines are fed into this area using a very small plastic tube called a catheter connected to a programmed syringe pump. An experienced anaesthetist will insert the catheter into the epidural space while your child is under general anaesthetic. The catheter is then held in place with a sticky clear plastic dressing.

### How does the epidural work?

Nerves send messages including pain messages through the spinal cord to your child's brain. The medicine given into the epidural space is a local anaesthetic called levobupivacaine, which temporarily blocks these nerves, stopping pain messages getting through to the brain. The local anaesthetic is mixed with a small amount of morphine, which will also help to relieve pain. The pump is programmed to give the medicines continuously to ensure your child has good pain relief.

### When is an epidural used?

Epidurals are generally used after operations that are expected to be quite painful. They are also used if a child cannot take medicines by mouth for a few days. Epidurals are often used for children who have had abdominal (tummy) surgery. They are also used after some thoracic (chest) operations. If your child is likely to have an epidural, the anaesthetist will discuss this with you and your child before the operation and explain the benefits.





## How long will my child need the epidural?

Most children have an epidural for three to four days. The Pain Control Service will visit your child every morning and, depending on how comfortable he or she has been, will gradually reduce the amount of medicine infused each day. Before the epidural is stopped, the Pain Control Service and ward nurses will make sure that your child is able to have other pain relief medicines to keep him or her comfortable. When your child no longer needs the epidural, the tube will be removed. This is not painful and the nurse will use a wipe or spray to make the sticky dressing easier and more comfortable to remove.

## Can any child have an epidural?

An epidural is not suitable for every child as certain medical conditions may mean that some children are at a higher risk of problems. If your child has any of the following, an epidural may not be suitable:

- Problems with blood clotting
- A spinal problem
- Previous allergic reaction to local anaesthetic medicine
- Taking blood thinning medicines, such as aspirin or warfarin
- Any broken or infected skin on the back
- A dampened down immune system (immunocompromised) either due to medicines or illness

If an epidural is not suitable for your child, the Pain Control Service will use a different method to keep your child comfortable.

## Side effects and problems from an epidural

### Common

While your child has an epidural in place, the ward nurses will monitor him or her closely for any problems or side effects. The Pain Control Service will be informed of any issues that arise.

Epidurals can sometimes make your child feel sick or itchy. This is usually due to the morphine in the medicine mixture. Other medicines can be prescribed to stop these side effects. Some children also find it difficult to pass urine (wee) when they have an epidural. A catheter will be inserted into the bladder to drain off urine while the epidural is being used. This will stay in place until the epidural catheter is removed.

While the epidural is delivering medicine to the epidural space, your child's legs may feel heavy and possibly difficult to move, although most children can still move around in bed. Some children say that their legs feel numb or like cotton wool but this is the normal pain relieving effect of the local anaesthetic. If possible, the Pain Control Service will reduce the amount of medicine to the minimum to reduce this feeling, while still ensuring that your child is comfortable.

The medicine may leak a little from the catheter in the epidural space. This is not usually a problem as long as your child is still receiving enough pain medicine to be comfortable. If the sticky dressing holding the catheter in place becomes too wet, it may need to be changed.

Occasionally, the epidural may not give enough pain relief to keep your child comfortable. If this happens, the Pain Control Service will discuss another form of pain relief for your child.



### Uncommon

Infection may occur on the skin at the site of the catheter insertion. This may appear as redness or oozing or your child developing a high temperature. This infection is very unlikely to spread further from the skin, but if it develops, the epidural catheter will be removed and a course of antibiotics may be started.

Sometimes the morphine in the pain relief mixture can cause your child to become sleepy and it can also slow the rate of their breathing. The nurses on the ward will monitor your child closely for these signs and all children having epidural morphine are prescribed another medicine that can reverse this effect very quickly.

### Rare

A rare but potentially serious complication of an epidural is called 'local anaesthetic toxicity'. This can occur due to excessively high levels of the local anaesthetic medicine in the blood. Symptoms can include confusion, light-headedness, dizziness, ringing in the ears, metallic taste in the mouth, tingling around the lips, drowsiness or very rarely seizures (fits). These problems are avoided by carefully calculating your child's dose according to his or her weight. However, if your child shows any of these symptoms, please inform a member of nursing staff immediately.

An even rarer but potentially serious complication is nerve damage either by injury to the nerve when an epidural is inserted or by a blood clot (haematoma) forming in the area. To prevent this, all anaesthetists inserting epidurals are highly trained in techniques designed to avoid this complication. The estimated frequency of nerve damage from an epidural is 1 in every 10,000 patients, compared with the frequency of being involved in a road traffic accident of 1 in every 200 people.

Infection in the epidural space is another very rare but potentially serious complication, occurring around 1 in 100,000 patients. An infection can develop close to the spinal cord, which may cause an abscess (collection of pus) to develop. If such an infection were to occur, it would need treatment with antibiotics to prevent nerve damage. To avoid this, all epidurals are inserted in sterile conditions, such as during an operation. The site is kept clean under a dressing and the ward nurses will check your child's back frequently.

Your child's anaesthetist will discuss all of these side effects and complications with you before the epidural is inserted and will also be able to suggest alternative methods of pain relief for your child.

For further information on how your child's pain will be managed after an operation or procedure at GOSH, please ask for a copy of our general pain relief after surgery information sheet, available from ward nurses, the Pain Control Service, the Pals Office or from our website.

If you have any questions about your child's pain, please ask the nurses on the ward, your child's anaesthetist or pharmacist, or a member of the Pain Control Service.