Having a Regional Anaesthetic

Anaesthetics
Surgery and Critical Care
Deputy Chief Executive's Office & Directorate of Operations

Information for patients about spinals, epidurals and nerve blocks. This information leaflet will be given to you by a pre-assessment nurse in the clinic. Please read through it. We recommend that you bring this leaflet with you to the hospital when you are coming in for your operation. After your anesthetist has discussed your anaesthetic plan with you, you can concentrate on the information from this leaflet which is most applicable to you.

Information for patients and visitors

If you are coming to have an operation you will need some form of anaesthetic. Many people may be anxious before coming into hospital. This leaflet aims to explain the process of having an anaesthetic and hopefully answer some of your questions. It has been written by patients, patient representatives and anaesthetists.

There Are Several Types of Anaesthetic

General Anaesthesia

This is when you are given medicines that make you temporarily unconscious or 'send you to sleep'. We have a separate leaflet 'Having a general anaesthetic' which explains this in more detail.

Regional Anaesthesia

This is when part of the body is numbed, so you are awake but feel nothing. Regional anaesthesia is provided usually by anaesthetists and usually larger part of body is numbed e.g. whole arm, leg or lower half of body. Sometimes it is used together with a general anaesthetic. This leaflet explains this in more detail.

Local Anaesthesia

This is when part of the body is numbed, so you are awake but feel nothing. This is usually done by surgeons and small part of body is numbed e.g. finger, toe.

Your Anaesthetist Will Discuss the Choice of Anaesthetic Individually With You

It will depend on:

- The type of operation you are having
- Any medical conditions you have
- The recommendations of the Anaesthetist
- The facilities and equipment available at the hospital
- Your preferences

Who are anaesthetists?

Anaesthetists are doctors with specialist training who:

- discuss types of anaesthesia with you and find out what you would like, helping you to make choices
- discuss the risks of anaesthesia with you
- agree a plan with you for your anaesthetic and pain control
- are responsible for giving your anaesthetic and for your wellbeing and safety throughout your operation
- manage any fluid therapy you may need
- plan your care
- make your experience as pleasant and comfortable as possible

Types of Regional Anesthesia

Spinal

This is a single injection in you lower back which numbs the nerves from your spine. You will become numb from your waist down to your toes. It lasts for about 4 hours.

Epidural

It is one of the methods of pain relief during child birth. It is used as a method of pain relief during and after some operations. This is similar to a spinal injection but instead of a single injection a small plastic tube remains in place for up to 3 days after your operation.

Nerve Block

This is when nerves to the part of the body where your operation is being performed are numbed individually, for example the arm or leg.

Depending on the type of operation and your own medical condition, a regional anaesthetic may sometimes be safer for you and suit you better than a general anaesthetic. It also has the advantage of providing pain relief after your procedure.

All of the above techniques:

- can be used alone, so you stay awake but feel no pain
- they can be used with a sedative medication, which makes you feel drowsy but isn't a full general anaesthetic
- can be combined together with a general anaesthetic

Your anaesthetist will discuss your specific case with you in detail. They will explain the benefits, risks and alternatives. If you are having a general anaesthetic as well they will discuss whether you will have the spinal or epidural whilst you are awake or asleep.

Spinals and Epidurals

There are many similarities between spinals and epidurals so they are discussed together. The important differences are highlighted.

Spinal Anaesthetic

Spinals can be used for any surgery from the waist down. Operations for which spinals are commonly used:

Orthopaedic surgery – any major operation on the leg bones or joints

General surgery – hernia repair, varicose veins, piles (haemorrhoids)

Vascular surgery – repairs to the blood vessels of the leg

Gynaecology – vaginal repair or operations on the bladder

Urology – prostate removal, bladder operations and genital surgery

What are the benefits of a spinal?

There may be:

- Less risk of chest infections after surgery
- Less effect on the heart and lungs
- Excellent pain relief immediately after surgery
- Less need for strong pain-relieving drugs
- Less sickness and vomiting
- Earlier return to drinking and eating after surgery
- Less confusion after the operation in older people

Epidurals for Pain Relief

Epidurals can be used for the same operations as spinals; with the above advantages. However they also have a particular benefit in providing excellent pain relief after some types of major operation. In major abdominal surgery they are commonly combined with a general anaesthetic to keep the area around the scar numb for up to 3 days.

Epidural Pump: Patient Controlled Epidural Analgesia (PCEA)

- An epidural pump allows local anaesthetic to be given continuously through the epidural catheter
- Other pain relieving drugs can also be added in small quantities
- The amounts of drugs given are carefully controlled
- You may be able to press a button to give a small extra dose from the pump. Your anesthetist will set the pump to limit the dose which you can give, so overdose is extremely rare
- When the epidural is stopped, full feeling will return

What are the benefits of an epidural?

There may be reduced complications after major abdominal surgery, for example:

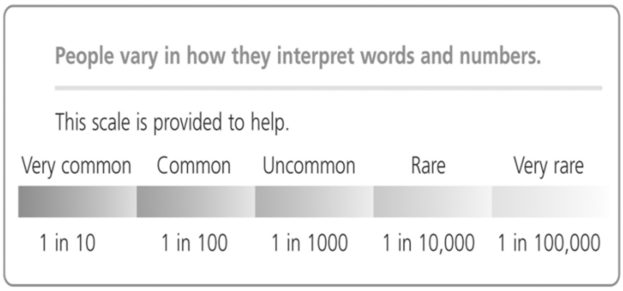
- Less nausea / vomiting
- Less leg / lung blood clots
- Less chest infections
- Less blood transfusions
- Less delayed bowel function
- Possibly a shorter stay in hospital compared to other methods of pain relief

Side Effects and Complications of Spinals and Epidurals

Side effects are secondary effects of a treatment. They occur commonly and may be unavoidable. Although they may be unpleasant (for example, feeling sick), they are not usually dangerous.

Complications are unwanted and unexpected events that are known to occur occasionally. Serious complications are rare or very rare. The risk of complications should be balanced against the benefits and compared with alternatives. Your anaesthetist can help you do this. As with all anaesthetic techniques there is a possibility of unwanted side effects or complications. Spinal and epidurals have similar side effects and complications.

Very common side effects



These may be unpleasant, but can be treated and do not usually last long.

Low blood pressure – As the spinal or epidural takes effect, it can lower your blood pressure and make you feel faint or sick. This can be controlled with the fluids given by the drip and by giving you drugs to raise your blood pressure.

Itching – This can occur as a side effect of using morphine-like drugs in combination with local anaesthetic drugs in spinal anaesthesia. If you experience itching it can be treated, as long as you tell the staff when it occurs.

Difficulty passing water (urinary retention) – You may find it difficult to empty your bladder normally for as long as the spinal lasts. Your bladder function returns to normal after the spinal wears off. You may require a catheter to be placed in your bladder temporarily, either while the

numbness wears off or as part of the surgical procedure.

Pain during the injection – As previously mentioned, you should immediately tell your anaesthetist if you feel any pain or pins and needles in your legs or bottom as this may indicate irritation or damage to a nerve and the needle will need to be repositioned.

Headache – There are many causes of headache, including the anaesthetic, the operation, dehydration and anxiety. Most headaches get better within a few hours and can be treated with pain relieving medicines. Severe headache can occur after a spinal anaesthetic. Occasionally a severe headache occurs after an epidural because the lining of the fluid filled space surrounding the spinal cord has been inadvertently punctured (a 'dural tap'). The fluid leaks out and causes low pressure in the brain, particularly when you sit up. If this happens to you, your nurses should ask the anaesthetist to come and see you. You may need special treatment to settle the headache.

Inadequate pain relief – It may be impossible to place the epidural catheter, the local anaesthetic may not spread adequately to cover the whole surgical area, or the catheter can fall out. Epidurals can provide better pain relief than other techniques. Other methods of pain relief are available if your epidural fails. If your operation is planned only under epidural anaesthesia, and if it is inadequate, anaesthesia may have to be converted to general anaesthesia.

Rare Complications

Nerve damage – This is a rare complication of spinal / epidural anaesthesia. Temporary loss of sensation, pins and needles and sometimes muscle weakness may last for a few days or even weeks but almost all of these make a full recovery in time. Permanent nerve damage is even rarer and has about the same chance of occurring as major complications of general anaesthesia.

Estimated frequency (cases per spinal / epidural injection):

The risk of damage to nerves is between 1 in 1,000 and 1 in 100,000.

In many of these cases the symptoms improve or resolve within a few weeks or months.

Catheter infection – The epidural catheter can become infected and may have to be removed. Antibiotics may be necessary. It is very rare for the infection to spread any further than the insertion site in the skin.

Very Rare Complications

Permanent disabling nerve damage, epidural abscess (infection), epidural haematoma (blood clot) and cardiac arrest (stopping of the heart) are very rare indeed. If you have had an epidural, sometimes you can have delayed onset of complications like epidural haematoma or epidural abscess, it may manifest after you have been discharged from hospital. An information leaflet will be given to you on your discharge about this. You can report back to hospital if you develop any warning signs indicating these complications.

In comparison, you are more likely to die from an accident on the roads or in your own home every year than suffer permanent damage from an epidural. These risks can be discussed further with your anaesthetist and more detailed information is available.

Can anyone have a spinal or an epidural?

No. It may not always be possible if the risk of complications is too high.

The anaesthetist will ask you if:

- you are taking blood thinning drugs, such as warfarin
- you have a blood clotting abnormality
- you have an allergy to local anaesthetics
- you have severe arthritis or deformity of the spine
- you have an infection in your back

How will the spinal or epidural be performed?

The spinal or epidural will be performed in the anaesthetic room or operating theatre. You will meet an anaesthetic assistant who works with the anaesthetist. They will attach machines to routinely monitor your blood pressure, heart rate and oxygen levels.

A needle will be used to insert a thin plastic tube (a 'cannula') into a vein in your hand or arm.

You will either sit on the side of the bed with your feet on a low stool or lie on your side, curled up with your knees tucked up towards your chest. In either case, the staff will support and reassure you during the injection.

Your lower back will be cleaned with antiseptic. The anaesthetist will press around your spine to identify the correct place. They will inject some local anaesthetic to numb the skin. This can sting at first but allows an almost painless procedure. The anaesthetist will explain what is happening throughout the process so that you are aware of what is taking place "behind your back".

The anaesthetist will perform the spinal or epidural injection. Usually it is a painless procedure. It is important to keep as still as possible. Occasionally, an electric shock-like sensation or pain occurs during needle or tube insertion. If this happens, you must tell your anaesthetist immediately.

When the injection is finished you normally lie flat as the spinal works quickly and is usually effective within 5–10 minutes. An epidural works more gradually in 10-15 minutes. To start with the skin feels numb to touch and the leg muscles are weak. When the injection is working fully you will be unable to move your legs or feel any pain below the waist. Your anaesthetist will check that you have become numb before the operation starts. They will stay with you throughout the procedure.

After Your Spinal

Your nurses will make sure that the numb area is protected from pressure and injury until sensation returns.

It takes 1.5–4 hours for feeling (sensation) to return to the area of your body that is numb. **You should tell the ward staff about any concerns or worries you may have.**

As sensation returns you may experience some tingling in the skin as the spinal wears off. At this point you may become aware of some pain from the operation site and you should ask for more pain relief before the pain becomes too obvious.

As the spinal anaesthetic wears off, please ask for help when you first get out of bed.

You can normally drink fluids within an hour of the operation and may also be able to eat a light diet.

After Your Epidural

At regular intervals, the nurses will take your pulse and blood pressure and ask you about your pain and how you are feeling. They may adjust the epidural pump and treat side effects. They will check that the pump is functioning correctly. They will encourage you to move, eat and drink, according to the surgeon's instructions.

The Pain Relief Team doctors and nurses may also visit you, to check your epidural is working properly.

When will the epidural be stopped?

The epidural will be stopped when you no longer require it for pain relief.

The amount of pain relieving drug being given by the epidural pump will be gradually reduced.

A few hours after the pump is stopped, the epidural catheter will be removed, as long as you are still comfortable. The sensation and strength will return in your legs.

Nerve Blocks

Nerve blocks involve injecting local anaesthetic around nerves to a specific part of the body to cause numbness in that area.

Areas suitable for nerve blocks:

- Shoulder, arm, hand
- Leg, knee and foot
- Abdomen

They may be used alone or combined with sedation or a general anaesthetic.

What are the benefits of nerve blocks?

- excellent pain relief immediately after the operation
- an alternative to a spinal or epidural if this is too risky
- a lighter general anaesthetic with less effect on the heart and lungs
- less need for strong pain relieving medications
- less chance of sickness
- return to eating and drinking more quickly

Side Effects and Complications of Nerve Blocks

Very Common

- Numbness or heaviness of the area where the nerve block is performed
- Inadequate effect of the nerve block. If some of the nerves escape the effect of the local anaesthetic, this will result in a partial effect. Having no anaesthetic effect is uncommon. If this happens the anaesthetist may ask the surgeon to

inject some extra local anaesthetic. They will also give you additional painkillers

- Pain or discomfort during the injection. If this happens tell your anaesthetist as it may indicate irritation of the nerves. They can then reposition the needle

Rare Complications

- Bruising
- Infection
- Nerve damage. Temporary pins and needles, numbness or weakness can occur for a few days after the injection. Most patients make a full recovery in time. Permanent nerve damage is much rarer
- Nerve damage occurs in less than 3 out of every 100 nerve blocks (<3%). The risk varies between the different blocks. The vast majority of those affected (92–97%), recover within four to six weeks. 99% of these people have recovered within a year
- Permanent nerve damage is rare and precise numbers are not available. A possible estimate from the information that we do have suggests it might happen in between 1 in 5,000 and 1 in 30,000 nerve blocks. A recent review of 16 large studies reported only 1 case of permanent nerve damage
- Systemic toxicity (high levels of local anaesthetic into the blood). This can happen if the local anaesthetic is accidently injected into a large blood vessel. It can cause heart problems and loss of consciousness. A special treatment is available if this happens

Can anyone have a nerve block?

No. Your anesthetist will ask:

- If you are taking you are taking blood thinning drugs, such as warfarin
- you have a blood clotting abnormality
- you have an allergy to local anaesthetics

How will the nerve block be performed?

- The nerve block will be performed in the anaesthetic room when you come to theatre. The exact procedure will depend on the type of operation
- You will meet the anaesthetic assistant who will attach machines to routinely monitor your heart rate, blood pressure and oxygen levels. A needle will be used to place a small plastic tube (cannula) in a vein in your hand or arm
- If you are having a nerve block without a general anaesthetic you will be awake when it is performed. Some local anaesthetic is injected under the skin to make the nerve block as painless as possible. Special equipment may be used to help find the nerves. A piece of electrical equipment (nerve stimulator) can be used to pass a small electric current to locate the nerves, this can make the hand or leg twitch but is not usually uncomfortable
- Gradually over the next 10-15 minutes the area will go numb and begin to feel heavy. Your anaesthetist will check it is working fully before the operation is allowed to start. A screen will be put up so you don't have to see what is happening

- All the painful sensations will be taken away, but it is normal to be aware that something is happening. Your anaesthetist will stay with you throughout the procedure
- If the procedure is more complicated than expected or you feel discomfort you will be offered a general anaesthetic
- After you nerve block
- The nurses will help you protect your arm or leg from pressure or injury until the sensation returns. This takes a few hours. Numbness may last longer. Your anaesthetist will be able to tell you about the length of time it will take for the nerve block to wear off

Frequently Asked Questions

Do I have a choice which anaesthetic I have?

Yes. Your anaesthetist will assess your overall preferences and needs for the surgery and discuss them with you. If you have anxieties regarding the anaesthetic then these should be answered during your discussions, as it is usually possible to accommodate individual patients' wishes.

Will I be able to see what is happening in the operation?

Sometimes you can choose. Normally a screen is placed across your upper chest so that you see nothing when surgery starts. Some operations use video cameras and telescopes for "keyhole" surgery and many patients like to see what is happening to them on the video screen. You will be aware of the "hustle and bustle" of the operating theatre when you come in. Once surgery starts noise levels drop. You will be able to relax, with your nurse and your anaesthetist looking after you.

What will it feel like if I am awake?

Your anaesthetist will not permit surgery to begin until you are both convinced that the regional anaesthetic is working properly. You will be tested several times to make sure of this. You should not feel any pain during the operation but you may well be aware of other sensations such as movement or pressure as the surgical team carry out their work.

How do I ask further questions?

- Ask the nursing staff or your anaesthetist.
- Most hospitals have a team of nurses and anaesthetists who specialise in pain relief after surgery. You can ask to see a member of the pain team at any time. They may have leaflets available about pain relief. There is also more information on the website of the Royal College of Anaesthetists: www.rcoa.ac.uk/patientinfo

This publication includes text taken from the Royal College of Anaesthetists' (RCoA) leaflet but the RCoA has not reviewed this as a whole.

Concerns and Queries

If you have any concerns / queries about any of the services offered by the Trust, in the first instance, please speak to the person providing your care.

For Diana, Princess of Wales Hospital

Alternatively you can contact the Patient Advice and Liaison Service (PALS) on (01472) 875403 or at the PALS office which is situated near the main entrance.

For Scunthorpe General Hospital

Alternatively you can contact the Patient Advice and Liaison Service (PALS) on (01724) 290132 or at the PALS office which situated on C Floor.

Alternatively you can email: nlg-tr.PALS@nhs.net

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