

A/Prof Patrick Weinrauch  
Orthopaedic Surgeon  
Brisbane Hip Clinic  
Level 7 St Andrew's War Memorial Hospital  
457 Wickham Terrace  
Spring Hill Q 4000



P 07 3831 9777  
E [reception@brisbanehipclinic.com.au](mailto:reception@brisbanehipclinic.com.au)  
W [www.brisbanehipclinic.com.au](http://www.brisbanehipclinic.com.au)

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Document Title:  
**Anaesthetics (Overview)**

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## What is an anaesthetic?

An anaesthetic is a combination of drugs that causes loss of sensation.

- General anaesthetic – A combination of drugs that causes deep sleep. You will not be aware of what is happening and afterwards you will not remember anything that has happened.
- Epidural or spinal anaesthetic – Involves injecting local anaesthetics and other painkillers near your spinal cord to give pain relief in certain areas of your body.
- Local anaesthetic – Temporarily stops nerves working so that you do not feel pain. The anaesthetic can be injected just around the area where the operation is going to take place. It is possible to numb the nerves to your arm or leg (called a nerve block).

Your anaesthetist or surgeon will discuss the options with you and recommend the best form of anaesthesia for you. However, it is your decision on the form of anaesthesia to have. This document will give you information about the benefits and risks to help you to make an informed decision. If you have any questions that this document does not answer, ask your surgeon or anaesthetist, or the healthcare team.

## What are the benefits of an anaesthetic?

These are the main reasons for needing an anaesthetic.

- You may need to have an operation or procedure – So that your surgeon or doctor can perform the operation safely, you need to be in a state where you do not move and your muscles are relaxed. A safe way to achieve this is to give you an anaesthetic.
- You may be in pain because you have had surgery or have a particular condition – Anaesthetics, usually given by an epidural, can give you pain relief and keep you comfortable.

## Who will give me my anaesthetic?

If you have a general, epidural or spinal anaesthetic, the anaesthetic will be given to you by an anaesthetist (doctor trained in anaesthesia). Your anaesthetist is usually assisted by a specially-trained healthcare practitioner.

If you have a local anaesthetic, the anaesthetic will be given to you either by your surgeon or anaesthetist.

## How is a general anaesthetic given?

Most people are sent to sleep by injecting the anaesthetic through a drip (small tube) in a vein. It takes about 30 seconds to work. The injection can ache a bit at the time but any discomfort will usually be gone when you wake up.

For some people it may be more appropriate to go to sleep by breathing an anaesthetic gas through a face mask. This also takes about 30 seconds to work.

You will be kept asleep either by giving you more of the same anaesthetic into the vein or by breathing anaesthetic gases. Your anaesthetist may also give you medication to reduce pain and sickness after the operation.

When the operation has finished, the anaesthetic wears off, allowing you to wake up again.

## How is an epidural or spinal anaesthetic given?

An epidural works by temporarily numbing your nerves to give pain relief. A fine catheter (tube) is inserted in the epidural space, near your spinal cord (see figure 1).

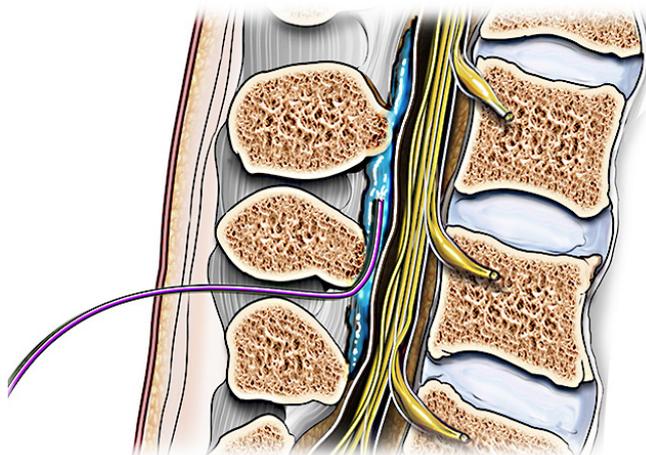


Figure 1

A catheter in the epidural space

Most of your nerves pass through this space. Local anaesthetics and other painkillers are injected down the catheter into the epidural space to numb your nerves.

The epidural can be maintained by giving extra doses or by giving a continuous low dose (an infusion).

The technique for a spinal is similar but usually involves only one injection into the subarachnoid space (bag of fluid that surrounds your spinal cord) (see figure 2).

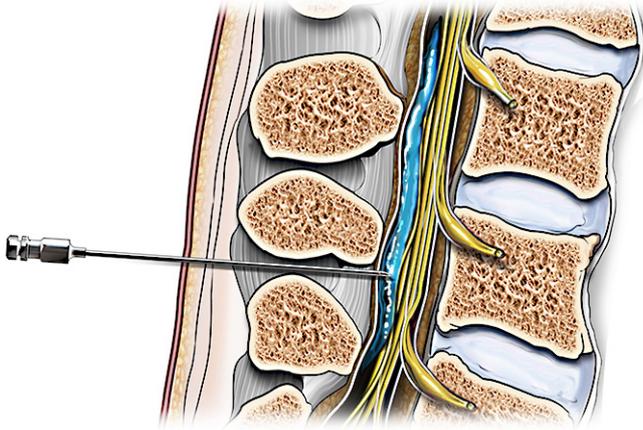


Figure 2  
A spinal needle in the subarachnoid space

### How is a local anaesthetic given?

The simplest form of local anaesthesia is to inject the anaesthetic just around the area where the operation is going to take place. This tends to sting or burn for a few seconds and then the area goes numb.

For a nerve block, local anaesthetics and other painkillers are injected near the major nerves to the part of your body to be operated on. It is possible to combine different forms of anaesthesia so the operation can be performed with as little discomfort for you as possible. Sometimes a local anaesthetic is given before a general anaesthetic.

### Is an anaesthetic safe?

All forms of anaesthesia are safe for most people. Death after an operation is almost always because a person's body cannot cope with the surgery. The risk is higher if you have ill health and for emergency surgery.

If you need a general anaesthetic, your anaesthetist may need to do some tests before the operation to assess how safe a general anaesthetic is for you. The tests will allow the healthcare team to decide if there is anything they might need to do differently.

Sometimes your anaesthetist may recommend that you go to your GP or another specialist to improve your medical condition before surgery. This happens most with people who have high blood pressure, angina, asthma or anaemia that is not well controlled.

### What can I do to help make the operation a success?

#### • Keeping warm

It is important to keep warm around the time of the operation. The hospital may be colder than your home, so bring extra clothing or a dressing gown.

If you become too cold you may have a higher risk of developing complications such as an infection of the surgical site (wound) or heart problems. Let the healthcare team know if you feel cold.

Your anaesthetist will take steps to keep you warm when you are having the operation.

#### • Lifestyle changes

If you smoke, stopping smoking several weeks or more before the operation may reduce your risk of developing complications and will improve your long-term health.

Try to maintain a healthy weight. You have a higher risk of developing complications if you are overweight.

Regular exercise should help to prepare you for the operation, help you to recover and improve your long-term health. Before you start exercising, ask the healthcare team or your GP for advice.

### What complications can happen?

The healthcare team will try to make the anaesthetic as safe as possible but complications can happen. Some of these can be serious and can even cause death (risk of anaesthesia contributing to death: 1 in 60,000, risk of death directly caused by anaesthesia: 1 in 200,000). The possible complications of the various forms of anaesthesia are listed below.

Any numbers which relate to risk are from studies of people who have had this anaesthetic. Your surgeon or anaesthetist may be able to tell you if the risk of a complication is higher or lower for you.

#### General anaesthetic

There are a number of possible minor complications (not disabling or life-threatening) such as feeling sick, sore throat, difficulty passing urine and headache.

The following are the possible serious complications.

- Loss or change of hearing (risk: 1 in 10,000). For most people this gets better.

- Eye injury (risk of short-term blurred vision: 1 in 20, risk of serious damage needing further treatment: 1 in 1,000, risk of loss of sight: 1 in 125,000).
- Nerve injury (risk: 1 in 1,000). The nerve that usually gets damaged is the ulnar nerve that runs just behind your elbow. Any damage is usually mild and gets better but the damage may be permanent.
- Heart attack (where part of the heart muscle dies). This is unusual in a person who was fit before the operation. A heart attack is more common, but still unusual, in people with heart disease, diabetes or high blood pressure.
- Stroke (loss of brain function resulting from an interruption of the blood supply to your brain). This is unusual in a person who was fit before the operation. A stroke is more common, but still unusual, in people with heart disease, diabetes, high blood pressure or a history of strokes.
- Chest infection and other breathing problems. You may get a minor breathing problem that settles (risk: 1 in 20). A chest infection is less common. The risk is higher if you smoke, have a chest or lung disease, or are having a chest or abdominal operation.
- Allergic reaction to the medication used in the anaesthetic. Your anaesthetist is trained to detect and treat any reactions that might happen but an allergic reaction can be life-threatening (risk: 1 in 10,000).

General anaesthetic and associated complications are explained more fully in the information document called 'A01 General Anaesthetic'.

### **Epidural or spinal anaesthetic**

There is a risk of significant permanent harm from an epidural or spinal (overall risk: 1 in 12,550 to 1 in 24,000). The following are the main possible complications.

- Failure of the epidural or spinal.
- Low blood pressure.
- Headache, if the bag of fluid around your spinal cord is punctured (risk: 1 in 100).
- Infection around your spine (abscess or meningitis), causing permanent damage (risk: 1 in 50,000).
- Cardiovascular collapse (where your heart stops) (risk: 1 in 100,000).
- Short-term nerve injury, which recovers fully (risk: 1 in 50,000 for an epidural, 1 in 2,000 for a spinal).

- Blood clot around your spine (risk: 1 in 20,000 for an epidural).
- Paralysis or death (overall risk: 1 in 26,300 to 1 in 63,000).

Epidural and spinal anaesthetic and associated complications are explained more fully in the information documents called 'A02 Epidural Anaesthetic' and 'A05 Spinal Anaesthetic'.

### **Local anaesthetic**

The following are the main possible complications.

- Not enough pain relief. Let your surgeon or doctor know if you are in pain.
- Allergic reaction to local anaesthetics. This is unusual.
- Bleeding, if the needle strikes a blood vessel.
- Nerve damage (risk: 1 in 5,000).
- Absorption into your bloodstream. This is rare. Your heart and brain can be temporarily affected, which can be serious. The dose of anaesthetic is always limited and care is taken to avoid injecting it into your bloodstream.

Local anaesthetic and associated complications are explained more fully in the information document called 'A03 Local Anaesthetic'.

Discuss these possible complications with your anaesthetist or surgeon if there is anything you do not understand.

### **Summary**

There are different forms of anaesthesia that can be used to provide a safe and effective way for you to have an operation or procedure, and to give you pain relief. Most people do not have any problems and are satisfied with their anaesthetic. However, complications can happen. You need to know about them to help you to make an informed decision about the anaesthetic. Knowing about them will also help to detect and treat any problems early.

**Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.**

### **Acknowledgements**

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