

This booklet is designed to be read in clinics, wards, waiting rooms and surgeries.

It explains anaesthesia how important it is to provide information and choice for patients.

It was written by a partnership of patient representatives, patients and anaesthetists, and is one of a series that includes information about anaesthesia in specific situations.

You can find more information about having an anaesthetic on the inside front cover of this booklet.



Third edition May 2008

This leaflet will be reviewed within five years of the date of publication



The Royal College of Anaesthetists



The Association of Anaesthetists of Great Britain and Ireland

Anaesthesia explained

Information for patients, relatives and friends

This booklet is for adults who are expecting to have an anaesthetic. It offers some information about anaesthesia and suggests how and where you can find out more. It has been written by patients, patient representatives and anaesthetists, working in partnership.

You can find more information in other leaflets in the series on the website www.youranaesthetic.info. They may also be available from the anaesthetic department in your hospital.

The series includes the following:

- You and your anaesthetic (a shorter summary)
- Your child's general anaesthetic
- Your spinal anaesthetic
- Epidurals for pain relief after surgery
- Headache after an epidural or spinal anaesthetic
- Your child's general anaesthetic for dental treatment
- Local anaesthesia for your eye operation
- Your tonsillectomy as day surgery
- Your anaesthetic for aortic surgery
- Anaesthetic choices for hip or knee replacement

Risks Associated with your anaesthetic

A collection of 14 articles about specific risks associated with having an anaesthetic has been developed to be used with the patient information leaflets. The risk articles are available on the website www.youranaesthetic.info.

Throughout this booklet we use these symbols:



To highlight your options or choices



To highlight where you may want to take action



To point you to more information

Contents

1	An introduction to anaesthesia	4
	Some types of anaesthesia	5
	The anaesthetist	7
2	Before you come into hospital	9
3	On the day of your operation	12
	Meeting your anaesthetist	13
	Local and regional anaesthetics	20
	General anaesthetics	23
4	After your operation	26
5	Pain relief	28
	Ways of giving pain relief	29
	Drugs you may receive	30
6	How did it all go?	32
7	Benefits and risks of anaesthesia	33
8	Index of side effects and complications	36
9	Useful organisations	41

An introduction to anaesthesia

This booklet aims to offer you and your relatives and friends an introduction to anaesthesia. There are wide differences in how much information people want. Only you can know how much you want to know. We offer some information here and suggest how and where you can find out more.

Your anaesthetist will discuss the anaesthetic methods that are appropriate for you and will find out what you would like. Sometimes you can make choices if you want to – anaesthetists try to offer individual care. You and your anaesthetist can work together to make your experience as calm and free from pain as possible.

What is 'anaesthesia'?

The word 'anaesthesia' means 'loss of sensation'. If you have ever had a dental injection in your mouth or pain-killing drops put in your eyes, you already know important things about anaesthesia.

- It stops you feeling pain and other sensations.
- It can be given in various ways.
- Not all anaesthesia makes you unconscious.
- It can be directed to different parts of the body.

Drugs that cause anaesthesia work by blocking the signals that pass along your nerves to your brain. When the drugs wear off, you start to feel normal sensations again, including pain.

Some types of anaesthesia

Local anaesthesia

A local anaesthetic numbs a small part of your body. It is used when the nerves can easily be reached by drops, sprays, ointments or injections. You stay conscious but free from pain.

Regional anaesthesia

Regional anaesthesia can be used for operations on larger or deeper parts of the body. Local anaesthetic drugs are injected near to the bundles of nerves which carry signals from that area of the body to the brain.

The most common regional anaesthetics (also known as regional 'blocks') are spinal and epidural anaesthetics. These can be used for operations on the lower body such as Caesarean sections, bladder operations or replacing a hip joint. You stay conscious but free from pain.

General anaesthesia

General anaesthesia is a state of controlled unconsciousness during which you feel nothing and may be described as 'anaesthetised'. This is essential for some operations and may be used as an alternative to regional anaesthesia for others.

Anaesthetic drugs injected into a vein, or anaesthetic gases breathed into the lungs, are carried to the brain by the blood. They stop the brain recognising messages coming from the nerves in the body.

1 Anaesthetic unconsciousness is different from unconsciousness due to disease or injury and is different from sleep. As the anaesthetic drugs wear off, your consciousness starts to return.

Combining types of anaesthesia

Anaesthetic drugs and techniques are often combined.

For example:

- A regional anaesthetic may be given as well as a general anaesthetic to provide pain relief after the operation.
- Sedation may be used with a regional anaesthetic. The regional or local anaesthetic prevents you from feeling pain, and the sedation makes you feel drowsy and mentally relaxed during the operation.

Sedation

Sedation is the use of small amounts of anaesthetic or similar drugs to produce a 'sleepy-like' state. It makes you physically and mentally relaxed during an investigation or procedure which may be unpleasant or painful (such as an endoscopy). You may remember a little about what happened or you may remember nothing. Sedation may be used by other healthcare professionals as well as anaesthetists.



If you are having a regional or local anaesthetic, you may want to ask for some sedation as well.

The anaesthetist

Anaesthetists are doctors who have had specialist training in anaesthesia, in the treatment of pain, in the care of very ill patients (intensive care), and in emergency care (resuscitation). They will make major decisions with you, although if you are unconscious or very ill, they will make decisions on your behalf.

Your anaesthetist is responsible for:

- your wellbeing and safety throughout your surgery
- agreeing a plan with you for your anaesthetic
- giving your anaesthetic
- planning your pain control with you
- managing any transfusions you may need
- your care in the Intensive Care Unit (if this is necessary).

You will be treated by a consultant anaesthetist, or by another qualified anaesthetist or an anaesthetist in training. You can ask to talk to a consultant anaesthetist if you want to – there is always one available to help if needed.



The anaesthetist and the team

Anaesthetists work closely with surgeons and other theatre staff.

- **Operating department staff** with training in anaesthesia, who prepare and maintain equipment, help the anaesthetist and take part in your care.
- **Trained staff in the recovery room** will care for you after your surgery until you are ready to go back to the ward.
- **Medical students and other healthcare staff in training** can only take part in your care with your permission. If they do, they are closely supervised.
- **Physicians' assistant (anaesthesia) or PA(A)s** are a new grade of healthcare professional trained to maintain anaesthesia under the supervision of a consultant anaesthetist. This means they look after the anaesthetic once it is underway. An anaesthetist will always be present at the beginning and end of each anaesthetic. PA(A)s are not medically qualified, but they have completed training and assessments for the skills they need. They will always have access to an anaesthetist when they need it. At the moment they are only employed in a small number of hospitals.

Before you come into hospital



Here are some things that you can do to prepare yourself for your operation and reduce the likelihood of difficulties with the anaesthetic.

- **If you smoke**, you should consider giving up for several weeks before the operation. The longer you can give up beforehand, the better. Smoking reduces the amount of oxygen in your blood and increases the risk of breathing problems during and after an operation. If you cannot stop smoking completely, cutting down will help.
- **If you are very overweight**, many of the risks of having an anaesthetic are increased. Reducing your weight will help. Your GP or practice nurse will be able to give you advice about this.
- **If you have loose or broken teeth, or crowns that are not secure**, you may want to visit your dentist for treatment. The anaesthetist may need to put a tube in your throat to help you breathe, and if your teeth are not secure, they may be damaged.
- **If you have a long-term medical problem** such as diabetes, asthma or bronchitis, thyroid problems, heart problems or high blood pressure (hypertension), you should ask your GP if you need a check-up.

Health check before your anaesthetic

Before your anaesthetic we need to know about your general health. You may be asked to go to a pre-assessment clinic or you may be asked to fill in a questionnaire. Sometimes the health check happens on the ward after you are admitted to hospital.

You may be asked about:

- your general health and fitness
- any serious illnesses you have had
- any problems with previous anaesthetics
- whether you know of any family members who have had problems with anaesthetics
- any pains in your chest
- any shortness of breath
- any heartburn
- any pains you have which would make lying in one position uncomfortable
- any medicines you are taking, including herbal remedies and supplements you may have been prescribed or may have bought
- any allergies you have
- any loose teeth, caps, crowns or bridges
- whether you smoke
- whether you drink alcohol
- whether you use recreational drugs (drugs that are not prescribed to you or bought over the counter).

The pre-assessment clinic

Nurses usually run this clinic. There may be a surgical team doctor and sometimes an anaesthetist available for advice. If you need blood tests, an ECG (electro-cardiogram or heart tracing), an Xray or other tests, these will be arranged. Some tests can be done in the clinic, for others you may need to come back another day. This is a good time to ask questions and talk about any worries you may have. If you want to talk to an anaesthetist, you should ask for this to be arranged.



Pills, medicines, herbal remedies and allergies

- If you are taking any pills, medicines, herbal remedies or supplements, it is important to bring these with you. A written list of everything you are taking, whether they have been prescribed or whether you have bought them over the counter, would be helpful for your anaesthetist.
- If you have any allergies, a note of these will also be helpful.



On the day of your operation



Nothing to eat or drink – fasting ('Nil by mouth')

The hospital should give you clear instructions about fasting. It is important to follow these. If there is any food or liquid in your stomach during your anaesthetic, it could come up into the back of your throat and then go into your lungs.

This would cause choking, or serious damage to your lungs.

In an emergency (such as needing surgery for badly broken bones), where people have not had time to fast, there are other techniques and drugs that allow anaesthesia to be given safely which your anaesthetist will explain to you.



Your normal medicines

You should continue to take your normal medicines up to and including the day of surgery, unless your anaesthetist or surgeon has asked you not to. However, there are exceptions. For example, if you take drugs to thin your blood (such as wafarin, aspirin or clopidogrel), drugs for diabetes or herbal remedies, you will need specific instructions. If you are not sure, your anaesthetist or surgeon will advise you.



If you feel unwell

If you feel unwell when you are due to come into hospital for your operation, the hospital will need to know. Depending on the illness and how urgent the surgery is, your operation may need to be postponed until you are better. Your hospital should give you details of who to contact.

Meeting your anaesthetist

You will meet your anaesthetist before your operation. Your anaesthetist will make every effort to meet you on the ward before your surgery, but this is not always possible.

Your anaesthetist will look at the results of your health check and may ask you more questions about your health. He or she may also need to listen to your chest with a stethoscope, examine your neck and jaw movements, and look in your mouth.



Your anaesthetist will discuss with you which anaesthetic methods can be used.

The choice of anaesthetic depends on:

- your operation
- your answers to the questions you have been asked
- your physical condition
- your preferences and the reasons for them
- your anaesthetist's recommendations for you and the reasons for them
- the equipment, staff and other resources at your hospital.

Having talked about the benefits, risks and your preferences, you can then decide together what would be best for you.

Nothing will happen to you until you understand and agree with what has been planned for you. You have the right to refuse if you do not want the treatment suggested or if you want more information or more time to decide.

Premedication

Premedication (a 'pre-med') is the name for drugs which are given before some anaesthetics. These days they are not used very often, but if you feel a pre-med would help you, you can ask your anaesthetist about having one.

Most are tablets or liquid that you swallow, but you may need an injection, a suppository (see page 29) or an inhaler. They can:

- reduce or relieve anxiety
- help to prevent sickness after the operation
- treat any health problems you may have
- help with pain relief after your operation.

They may make you more drowsy after the operation. If you want to go home on the same day, this may be delayed.

Needles and local anaesthetic cream

A needle may be used to start your anaesthetic. If this worries you, you can ask to have a local anaesthetic cream put on your arm to numb the skin before you leave the ward. The ward nurses should be able to do this.

Blood transfusion

During most operations, you will lose some blood. If necessary, your anaesthetist will usually make up for this blood loss by giving you other types of fluid into a vein through a drip. If you lose a lot of blood, your anaesthetist will consider a blood transfusion.

If your anaesthetist expects you to need a blood transfusion, he or she will discuss this with you beforehand.

Occasionally, you might need blood unexpectedly. You have the right to refuse a blood transfusion, but you must make this clear to your anaesthetist and your surgeon before the operation.

What blood will I be given?

Your anaesthetist will know your blood type from your records.

Most commonly, you will receive blood from a volunteer (a blood donor). It is supplied by the National Blood Service. In some hospitals the following services are available, so ask your surgeon or GP about them in good time if you want to know more.

- It may be possible to collect your blood during the operation and return it to you ('blood salvage' or 'cell saving').
- It may be possible to take blood from you before your operation and store it so that it may be returned to you during your surgery (autologous transfusion).

Why does the anaesthetist postpone some operations?

Occasionally, your anaesthetist might find something about your general health that could increase the risks of your anaesthetic or operation. It might then be better to delay your operation until the problem has been reviewed or treated. The reasons for any delay would always be discussed with you at the time.

Your anaesthetist's main concern is your safety.



Getting ready for 'theatre'

Here are some of the things that you may be asked to do to get yourself ready for your operation.

Washing and changing

- A bath or shower before your operation will clean your skin and reduce the risk of infection. You must avoid using make-up, body lotions or creams as they prevent heart monitor pads and dressings from sticking to your skin properly.
- You will be given a hospital gown to put on. You may like to wear your own dressing gown over this.
- You can keep your pants on as long as they will not get in the way of the operation. Sometimes, you may be given paper pants.
- Please remove nail varnish and ask for advice about false nails. These can interfere with oxygen monitoring.

Personal items and jewellery

- You can wear your glasses, hearing aids and dentures to go to the operating theatre. If you are having a general anaesthetic, you will probably need to remove them in the anaesthetic room to make sure they are not damaged or dislodged while you are anaesthetised. They will be returned to you as soon as you want them. If you are not having a general anaesthetic, you can keep them in place.
- Jewellery and decorative piercing should ideally be removed. Bare metal against your skin could get snagged as you are moved. If you cannot remove your jewellery, it will need to be covered with tape to prevent damage to it or to your skin.



- If you are having a local or regional anaesthetic block, you can take a personal tape, CD or MP3 player with you to listen to music through your headphones.

When you are called for your operation

When it is time for your operation, a member of staff will go with you to the theatre.



- A relative or friend may be able to go with you to the anaesthetic room. A parent will normally go with a child.



- Most people go to theatre on a bed or trolley. You may be able to choose to walk but this will depend on your general health, whether you have had a premed and how far the theatre is from your ward. If you are walking, you will need your dressing gown and slippers.

The operating department ('theatres')

The operating department includes a reception or waiting area, anaesthetic rooms, operating theatres and a recovery room. It looks and feels quite different from other hospital departments – more cold and clinical. Operating theatres are brightly lit and may have no natural light.

The theatres may also be quite cool. As it is important for you to keep warm, a blanket will help if you feel cold.

The staff

Theatre staff normally wear coloured 'pyjamas' and paper hats. Because of this, they all look much the same, but you will probably recognise your anaesthetist as you should have met him or her already.

Reception

If you have walked to theatre, you will now need to get onto a theatre trolley for your anaesthetic. This is narrower and higher than a hospital bed and may feel quite cold and hard. A member of staff will help you climb onto it.

Theatre staff will check your identification bracelet, your name and date of birth, and will ask you about other details in your medical records as a final check that you are having the right operation.

The anaesthetic room

You will then be taken into the anaesthetic room or, sometimes, into the operating theatre. Several people will be there, including your anaesthetist and the anaesthetic assistant. There may also be an anaesthetist in training, a nurse and a student doctor or nurse.

All the checks you have just been through will be repeated once again. If you are having a general anaesthetic, you will probably now need to remove your glasses, hearing aids and dentures to keep them safe.



If you would prefer to leave your dentures in place, ask your anaesthetist if this would be alright.



To monitor you during your operation, your anaesthetist will attach you to machines to watch:

- **your heart:** sticky patches will be placed on your chest (electrocardiogram or ECG)
- **your blood pressure:** a blood-pressure cuff will be placed on your arm
- **the oxygen level in your blood:** a clip will be placed on your finger (pulse oximeter).

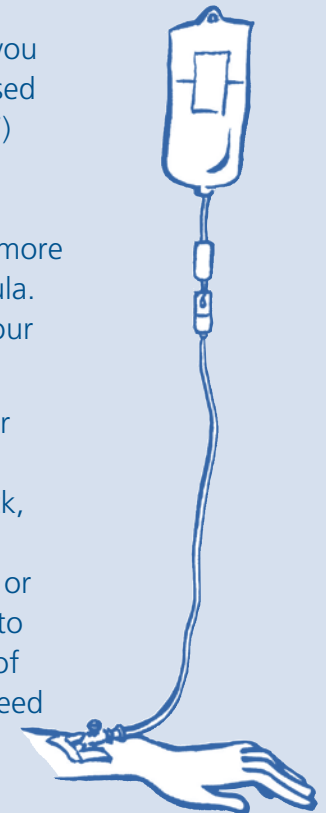
More monitoring may be needed for major operations.

Setting up your cannula

Your anaesthetist may need to give you drugs into a vein. A needle will be used to put a thin plastic tube (a 'cannula') into a vein in the back of your hand or arm. This is taped down to stop it slipping out. Sometimes, it can take more than one attempt to insert the cannula. You may be able to choose where your cannula is placed.



If you have not been able to drink for many hours before your operation, or you have lost fluids from being sick, you may have become dehydrated. Bags of sterile water with added salt or sugar can be given through a drip into your cannula to keep the right level of fluids in your body. Any blood you need will also be given through the drip.



Local and regional anaesthetics

These anaesthetics are usually given to you while you are conscious, either in the anaesthetic room or in theatre. You can then:

- help your anaesthetist get you into the correct position
- tell your anaesthetist if the needle causes pain
- tell your anaesthetist when the anaesthetic is taking effect.

The type and place of a local or regional anaesthetic injection will depend on the operation you are having and the pain relief you will need afterwards.

Local anaesthetics

Local anaesthetics are injected close to the area of your operation. They can also be used to numb the skin before anything sharp is inserted, such as a cannula for a drip.

Regional anaesthetics

Spinals or epidurals (the most common regional anaesthetics) are used for operations on the lower half of your body.

Spinals are single injections which take only a few minutes to work and last about two hours. They cannot be topped up to make them work longer.

Epidurals can take up to half an hour to work but can be used to relieve pain for hours and sometimes days after your operation. They can be topped up by putting more local anaesthetic into the fine plastic tube.

There are other nerve blocks that your anaesthetist may be able to offer for specific operations.

For more details, see the other leaflets in this series.

Starting a regional anaesthetic

Some local anaesthetic can be given to help the discomfort of the injection for the block.

It can take more than one attempt to get the needle in the right place so that the area is properly numbed. If you find this too painful, you can always ask your anaesthetist to stop, and use other types of anaesthesia.

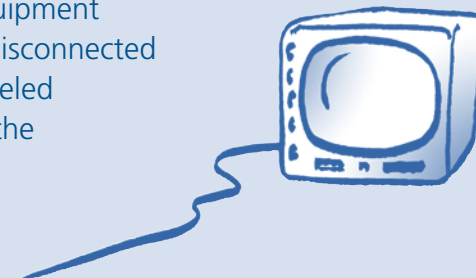
Your anaesthetist will ask you to keep quite still so he or she can give you your local or regional anaesthetic block. When the needle is inserted, your anaesthetist will ask you if you feel any tingling or shocks.

You may notice a warm tingling feeling as the anaesthetic begins to take effect. It is common to feel as though the part of your body which is anaesthetised does not belong to you.

Your operation will only go ahead when you and your anaesthetist are sure that the area is numb.

Once the local or regional block is working, your anaesthetist will continue with the plan you have agreed.

Your monitoring equipment will be temporarily disconnected and you will be wheeled on your trolley into the operating theatre.



In the operating theatre: local or regional anaesthetics

This is often a busy place, with staff bustling to get ready for your surgery and noises echoing around. Music may be playing. You may be moved across from your trolley onto the operating table. Monitoring equipment will be reconnected, beeps will start indicating your pulse and a cuff will inflate on your arm to take your blood pressure regularly.

A cloth screen is used to shield the operating site, so you will not see the operation unless you want to. Your anaesthetist is always near to you and you can speak to him or her at any time.

You can listen to your own music or ask for none at all.

After a local or regional anaesthetic

- After surgery you may have problems passing urine. A thin soft tube (catheter) may need to be inserted temporarily into the bladder to drain it. This is more likely after a spinal or epidural anaesthetic, as you will not be able to feel when your bladder is full.
- It will take some hours for feeling to return to the area of your body that was numb. This ranges from one hour to about 18 hours depending on the type of anaesthetic injection.
- During this time, the recovery or ward staff will make sure that the numb area is protected from injury. You can expect to feel tingling as feeling returns, but this soon passes. At this point it is important to let staff know if you are feeling pain.

General anaesthetics

Starting a general anaesthetic (induction)

Induction usually takes place in the anaesthetic room, although you may go direct to the operating theatre. If you have had premedication to help you relax, you may not remember this later.

There are two ways of starting a general anaesthetic.

Either:

- anaesthetic drugs may be given through the cannula (this is generally used for adults); or
- you can breathe anaesthetic gases and oxygen through a mask, which you may hold if you prefer.

Induction happens very quickly, and you will become unconscious within a minute or so. People usually describe a swimmy, light-headed feeling.

If it hurts when anaesthetic drugs are given through your cannula, it is important that you tell your anaesthetist.

Once you are unconscious, your anaesthetist will continue to give drugs into your vein or anaesthetic gases to breathe (or both) to keep you anaesthetised.

In the operating theatre: general anaesthetics

When your anaesthetist is satisfied that your condition is stable, the monitors will be temporarily disconnected and you will be taken into the theatre. He or she will stay with you and will be constantly aware of your condition, checking the monitors, adjusting the anaesthetic and giving you any fluids or drugs that you need.

These are some of the drugs you may be given during your anaesthetic:

- **anaesthetic drugs or gases** to keep you anaesthetised
- **pain-relieving drugs** to keep you pain-free during and after your operation
- **muscle relaxants** to relax or temporarily paralyse the muscles of your body
- **antibiotics** to guard against infection
- **anti-sickness drugs** to stop you feeling sick
- **other drugs** depending on your condition as it changes.

Your anaesthetist will choose a way of making sure that you can breathe easily. He or she may do this by simply tilting your head back and lifting your chin. You may have a tube placed in your airway. Keeping your airway open is essential for your safety.

For some operations, muscle relaxants, which will stop you breathing, are necessary. Your anaesthetist will use a machine (a ventilator) to 'breathe' for you.

At the end of the operation, your anaesthetist will stop giving anaesthetic drugs. If muscle relaxants have been used, a drug that reverses their effect will be given. When your anaesthetist is sure that you are recovering normally, you will be taken to the recovery room.

After a general anaesthetic

Most people regain consciousness in the recovery room. Recovery staff will be with you at all times and will continue to monitor your blood pressure, oxygen levels and pulse rate.

- You may receive pain-relieving drugs before you regain consciousness, but if you are in pain, tell the staff so they can give you more.
- Oxygen will be given through a lightweight clear-plastic mask, which covers your mouth and nose. Breathing oxygen keeps up its levels in your blood while the anaesthetic wears off. The staff will remove your mask as soon as these levels are maintained without oxygen.
- If you feel sick, you may be given drugs which will help this.
- Depending on the operation you have had, you may have a urine catheter. This is a thin soft tube put temporarily into the bladder to drain it.
- When you are fully alert, dentures, hearing aids and glasses can be returned to you.
- You may shiver after your operation. If you are cold you will be warmed with a warming blanket.



High Dependency Unit (HDU) or the Intensive Care Unit (ICU)

After some major operations, you may be taken to the HDU or ICU. If this is planned, it will be discussed with you beforehand. If you are going to one of these areas, you can ask your surgeon, anaesthetist or ward nurse what to expect. An information leaflet may also be available from your ward nurses.



After your operation

Back to the ward

The recovery staff must be totally satisfied that you have safely recovered from your anaesthetic, and all your observations (such as blood pressure and pulse) are stable before you are taken back to the ward.

The operation will affect how long it will be before you can drink or eat. After minor surgery, this may be as soon as you feel ready. Even after quite major surgery you may feel like sitting up and having something to eat or drink within an hour of regaining consciousness.



What will I feel like afterwards?

How you feel will depend on the type of anaesthetic and operation you have had, how much pain-relieving medicine you need and your general health.

Most people feel fine after their operation.

However, you may suffer from side effects of some sort. You may feel sick, dizzy or shivery, or have general aches and pains. Some people have blurred vision, drowsiness, a sore throat, a headache and breathing difficulties.

You may have fewer of these side effects after a local or regional anaesthetic block. Until the block wears off, you will usually feel fine. However, when it has worn off, you may need pain-relieving medicines and you may then suffer from their side effects.



You can find more information about side effects and complications in the index which starts on page 36.



It is important to ask for help:

- **when you first get out of bed**
(although you may feel fine lying in the bed, you may feel faint or sick when you first get up)
- **if you have had a spinal or epidural,**
as your legs may still be weak or numb for some hours. They may not regain their full strength for about 12 hours. This will help prevent you from falling over.

Pain relief

Good pain relief is important. It prevents suffering and it helps you recover more quickly. Your anaesthetist will probably discuss different pain-relief methods with you before your surgery so you can make an informed decision about which you would prefer.



- Some people need more pain relief than others. Feeling anxious increases the pain people feel.
- Pain relief can be increased, given more often, or given in different combinations.
- Occasionally, pain is a warning sign that all is not well, so the nursing staff should be told about it.

Good pain relief helps prevent complications

- If you can breathe deeply and cough easily after your operation, you are less likely to develop a chest infection.
- If you can move around freely, you are less likely to get blood clots (deep-vein thrombosis or DVT).



It is much easier to relieve pain if it is dealt with **before** it gets bad. So, you should ask for help as soon as you feel pain, and continue the treatment regularly.

Ways of giving pain relief

Pills, tablets or liquids to swallow

These are used for all types of pain. They take at least 20 minutes to work and should be taken regularly. You need to be able to eat, drink and not feel sick for these drugs to work.

Injections

If needed, these may be given through your cannula into a vein or into your leg or buttock muscle. If they are given in your muscle, they may take 20 minutes or more to work.

Suppositories

These waxy pellets are placed in your back passage (rectum). The pellet dissolves and the drug passes easily into the body. They are useful if you cannot swallow or if you are likely to vomit. They are often used alongside other methods.

Patient-controlled analgesia (PCA)

This is a method using a machine that allows you to control your pain relief yourself. It has a pump which contains an opiate drug (see page 30). The pump is linked to a handset which has a button. When you press the button, you receive a small dose of the drug painlessly into your cannula. If you would like more information, ask your ward nurses for a leaflet on PCA.

Local anaesthetics and regional blocks

These types of anaesthesia can be very useful for relieving pain after surgery. More details are in the leaflet 'Epidurals for pain relief after surgery'.



Drugs you may receive

Opiates

These are the drugs often used for severe pain. They include morphine, diamorphine, codeine and pethidine. They may be given by tablets, injections or patient-controlled analgesia. They may also be added to a spinal or epidural to give longer and better pain relief.

Some people have side effects – the most common include feeling sick, vomiting, itching, constipation, and drowsiness. Larger doses can produce breathing problems and low blood pressure (hypotension). The nursing staff will watch you closely for these. These side effects can be treated with other drugs.

Your reaction to opiates will affect you considerably. One in three people finds opiates unpleasant. If they make you very sick, controlling your pain may be more difficult.



Constipation can be a problem. Your nurses and doctors will check on this and treatment can help.

Some other pain relievers

Drugs such as diclofenac or ibuprofen may be given during an anaesthetic as a suppository or afterwards as tablets. They must be used carefully by people with asthma, kidney disease, heartburn or stomach ulcers. You may also be given paracetamol.

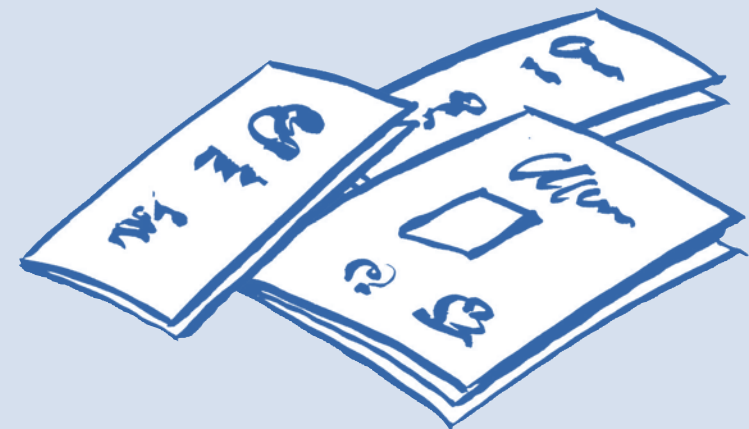
Pain-relief teams

Most hospitals have a team of nurses and anaesthetists who specialise in pain relief after surgery.

One of the team may visit you before major surgery to discuss ways to control your pain.



You can ask to see a member of the team at any time. Your questions will be welcome. They may have leaflets available about pain relief.



How did it all go?

For most people, the part that the anaesthetist plays in their care is over within an hour or two of day surgery, or a day or two for more major surgery. The anaesthetist's interest in your welfare continues with visits after surgery (postoperative visits) and reports from the pain-relief team when they are needed.

If there have been any problems during the anaesthetic that have affected you or your treatment, you should be told about them. This is not only because you have a right to know, but also so that you can warn anaesthetists who may care for you in the future.



Sometimes, it is helpful to see your anaesthetic notes and you can ask to see these. Your anaesthetist will be able to explain them to you if you want.

What will I feel like later?

You may feel tired or even exhausted after the operation – sometimes for days. This is unlikely to be caused by the anaesthetic. Tiredness may have many causes, including:

- worry before the operation
- not sleeping properly before or after the operation
- pain or discomfort before or after the operation
- loss of blood (causing postoperative anaemia)
- the condition that needed surgery
- not eating or drinking normally before and after your operation
- the energy used up by the healing process
- your general health.

Benefits and risks of anaesthesia

Safety in anaesthesia

Anaesthesia has made much of today's surgery possible, and has brought great benefits. Today, joints can be replaced, organs can be transplanted, and diseased tissue can be removed with a high degree of comfort and safety.

The benefit of anaesthesia is that it will remove pain and sensation. This benefit needs to be weighed against the risks of the anaesthetic procedure and the drugs used. The balance will vary from person to person.

It is difficult to separate these risks from those of your operation or procedure and your general health.

The risk to you as an individual will depend on:

- whether you have any other illness
- personal factors, such as whether you smoke or are overweight
- surgery which is complicated, long or done in an emergency.

Everyone varies in the risks they are willing to take. Anaesthetists and patients may also hold different views about the importance of risk.

To understand a risk, you must know:

- how **likely** it is to happen
- how **serious** it could be
- how it can be **treated**.

The anaesthetist may use many drugs or combinations of drugs. The more complicated the anaesthesia and surgery are, the more chance there is of complications and side effects (listed in the index starting on page 36).



It is the responsibility of the anaesthetist to advise you on what anaesthetic techniques will give you greatest benefit and reduce these risks as far as possible. Making these decisions is difficult, but your anaesthetist will want to help you so that you can make the choices that are right for you.



Safety of anaesthetic drugs

Many of the drugs used by anaesthetists have been successfully used for a long time. In the UK, all drugs must be tested and licensed by the Committee on Safety of Medicines before they can be generally prescribed. This involves examining the risks, safety, effectiveness and side effects of each drug before it is given a licence.

Anaesthetic patient information leaflets

Like paracetamol or other drugs you buy at the chemist, manufacturers provide a patient information leaflet for anaesthetic drugs. This leaflet describes what the drug is for, how it works and what its side effects are.

If you want to know more about a drug, ask to see the leaflet.

Side effects and complications of anaesthesia

Anaesthetic risks are thought of in terms of side effects and complications.

Side effects are secondary effects of drugs or treatment. They can often be anticipated but are sometimes unavoidable. Almost all treatments (including drugs) have side effects of some kind.

Unpleasant side effects do not usually last long. Some are best left to wear off and others can be treated. Examples would be a sore throat or sickness after a general anaesthetic.

Complications are unexpected and unwanted events due to a treatment. Examples would be an unexpected allergy to a drug or damage to your teeth caused by difficulty in placing a breathing tube.

The risk of something happening to one in 10 people means that it will not happen to nine out of 10 people.

Index of side effects and complications

People vary in how they interpret words and numbers.

This scale is provided to help.



If something is very common, this mean that about one in 10 will experience it

Common means about one in 100

Uncommon means about one in 1,000

Rare means about one in 10,000

Very rare means about one in 100,000


Using this index

The index is divided into three sections which relate to the scale.


There is also a key to show which side effect or complication is relevant to which type of anaesthetic.


RA = This may occur with a regional anaesthetic.

GA = This may occur with a general anaesthetic.


If you see the Info symbol  next to the item, that means you can find detailed information about this risk on our website (see the inside front cover of this booklet).


Very common and common

 **Feeling sick and vomiting after surgery** **RA GA**
Some operations, anaesthetics and pain-relieving drugs are more likely to cause sickness (nausea) than others. Sickness can be treated with anti-vomiting drugs (anti-emetics), but it may last from a few hours to several days.

 **Sore throat** **GA**
If you have had a tube in your airway to help you breathe, it may give you a sore throat. The discomfort or pain lasts from a few hours to days and can be treated with pain-relieving drugs.

Dizziness and feeling faint **RA GA**
Your anaesthetic may lower your blood pressure and make you feel faint. This may also be caused by dehydration (when you have not been able to drink enough fluids). Fluids or drugs (or both) will be given into your drip to treat this.

 **Shivering** **RA GA**
You may shiver if you get cold during your operation. Care is taken to keep you warm during your operations and to warm you afterwards. A hot air blanket may be used. However, shivering can happen even when you are not cold, due to the effects of anaesthetic drugs.

 **Headache** **RA GA**
There are many causes of headaches, including the anaesthetic, the operation, dehydration and feeling anxious. Most headaches get better within a few hours and can be treated with pain-relieving medicines. Severe headaches can happen after a spinal or epidural anaesthetic (see the leaflet about this listed on the inside front cover of this booklet). If this happens to you, your nurses should ask the anaesthetist to come and see you. You may need special treatment to cure your headache.

Itching

RA GA

This is a side effect of opiates (such as morphine), but can be caused by an allergy (for example, to drugs, sterilising fluids or stitches or dressings). If you have itchiness, it can be treated with other drugs.

Aches, pains and backache

RA GA

During your operation you may lie in the same position on a firm operating table for a long time. Great care is taken to position you, but some people still feel uncomfortable afterwards.

Pain

RA GA

Drugs may cause some pain or discomfort when they are injected.

Bruising and soreness

RA GA

This can happen around injection and drip sites. It may be caused by a thin vein bursting, movement of a nearby joint, or infection. It normally settles without treatment, but if the area becomes uncomfortable, the position of the drip can be changed.

 Confusion or memory loss

GA

This is common among older people who have had an operation under general anaesthetic. It may be due to several causes. It is usually temporary, but may sometimes be permanent.

 Chest infection

GA

A chest infection is more likely to happen to people who smoke, and may lead to breathing difficulties. This is why it is very important to give up smoking for as long as possible before your anaesthetic.

Bladder problems

RA GA

After certain types of operation and regional anaesthesia (particularly with a spinal or epidural), men may find it difficult to pass urine, and women tend to leak. To prevent problems, a urinary catheter may be inserted at a suitable time.

Muscle pains

GA

These sometimes happen if you have received a drug called suxamethonium. This is a muscle relaxant which is given for emergency surgery when your stomach may not be empty.

Uncommon side effects and complications**Breathing difficulties**

RA GA

Some pain-relieving drugs can cause slow breathing or drowsiness after the surgery. If muscle relaxants are still having an effect (have not been fully reversed), the breathing muscles may be weak. These effects can be treated with other drugs.

 Damage to teeth, lips or tongue

GA

Minor damage to your lips or tongue is common. Damage to your teeth is uncommon, but may happen as your anaesthetist places a breathing tube in your airway. It is more likely if you have weak teeth, a small mouth, a stiff neck or a small jaw.

An existing medical condition getting worse

RA GA

Your anaesthetist will always make sure that you are as fit as possible before your surgery. However, if you have had a heart attack or stroke, it is possible that it may happen again – as it might even without the surgery. Other conditions such as diabetes or high blood pressure will also need to be closely monitored and treated.

 Awareness

GA

Awareness is becoming conscious during some part of an operation under general anaesthetic. It happens because you are not receiving enough anaesthetic to keep you unconscious. Monitors are used during the operation to record how much anaesthetic is in your body and how your body is responding to it. These normally allow your anaesthetist to judge how much anaesthetic you need to keep you unconscious. If you think you may have been conscious during your operation, your anaesthetist should be told about it as soon as possible. He or she will want to know, to help both you and future patients.

Rare or very rare complications

Damage to the eyes GA

Anaesthetists take great care to protect your eyes. Your eyelids may be held closed with adhesive tape, which is removed before you wake up. However, sterilising fluids could leak past the tapes, sheets or drapes or you may rub your eye as you wake up after the tapes have been removed. These could cause damage to the surface of your eye, which is usually temporary and responds to drops. Serious and permanent loss of vision can happen but it is very rare.

Serious allergy to drugs RA GA

Allergic reactions will be noticed and treated very quickly. Very rarely, these reactions lead to death even in healthy people. Your anaesthetist will want to know about any allergies in yourself or your family.

Nerve damage RA GA

Nerve damage (paralysis or numbness) can be caused by a needle when performing a regional anaesthetic or can be due to pressure on a nerve during an operation. It varies with the type of anaesthetic you have but is generally rare or very rare. Most nerve damage is temporary, but in some cases damage is permanent.

Death RA GA

Deaths caused by anaesthesia are very rare. There are probably about five deaths for every million anaesthetics given in the UK.

Equipment failure RA GA

Vital equipment that could fail includes the anaesthetic gas supply or the ventilator. Monitors give an immediate warning of problems, and anaesthetists have immediate access to backup equipment.

Useful organisations

Royal College of Anaesthetists

Churchill House
35 Red Lion Square www.rcoa.ac.uk
London WC1R 4SG E-mail: info@rcoa.ac.uk
Phone: 020 7092 1500 Fax: 020 7092 1730

This organisation is responsible for keeping up standards in anaesthesia, critical care and pain management throughout the UK.

Association of Anaesthetists of Great Britain and Ireland

21 Portland Place www.aagbi.org
London WC1B 1PY E-mail: info@aagbi.org
Phone: 020 7631 1650 Fax: 020 7631 4352

This organisation works to promote the development of anaesthesia and the welfare of anaesthetists and their patients in Great Britain and Ireland.

National Blood Service

Colindale Avenue www.blood.co.uk
London NW9 9YR
Phone: 0845 7 711 711

This is an NHS service which guarantees to deliver blood components and blood products from blood centres to anywhere in England and North Wales.

National Confidential Enquiry into Perioperative Deaths (NCEPOD)

35–43 Lincoln's Inn Fields www.ncepod.org.uk
London WC2A 3PE E-mail: info@ncepod.org.uk
Phone: 020 7831 6430 Fax: 020 7430 2958

This is an organisation that produces yearly reports on deaths following surgery. Its aim is to review clinical practice and identify areas where improvements can be made in the practice of anaesthesia, surgery and other invasive medical procedures.

UK Cochrane Centre

Summertown Pavilion
Middle Way
Oxford OX2 7LG
Phone: 01865 516300

www.cochrane.de
E-mail: general@cochrane.co.uk
Fax : 01865 516311

This is an international non-profit organisation that aims to help people make informed decisions about healthcare.

The Cochrane Consumer Network (based in Australia) publishes a range of healthcare information. The most relevant are recently published 'hot topics' in 'Reducing Anxiety Before Surgery' and 'Getting Ready For Surgery'. These are available free from www.cochraneconsumer.com.

Tell us what you think

These booklets are regularly reviewed. We welcome any suggestions to help us improve this booklet. You should send these to:

The Patient Information Unit, Churchill House, 35 Red Lion Square, London WC1R 4SG

email: admin@youranaesthetic.info

© The Royal College of Anaesthetists (RCoA) and The Association of Anaesthetists of Great Britain and Ireland (AAGBI). The RCoA and AAGBI agree to the copying of this document for the purpose of producing local leaflets in the United Kingdom and Ireland. Please quote where you have taken the information from.