

Anaesthesia explained

Information for
patients, relatives
and friends

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

It gives an explanation of anaesthesia and emphasises the importance of providing 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 leaflets about anaesthesia in specific situations.

A summary of this booklet, **You and your anaesthetic**, is also included in the series.

You can find the titles of all the leaflets in the series on the inside back cover.



Second edition January 2003



The Royal College of
Anaesthetists



The Association of
Anaesthetists of
Great Britain and
Ireland

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.

Throughout this booklet and the leaflets included in the series, we use the following symbols.



To highlight your options or choices.



To highlight where you may want to take particular action.



To point you to more information.

You can get more copies, and large print copies, of this booklet from www.youranaesthetic.info. It may also be available from the anaesthetic department in your local hospital or the anaesthetic organisations listed on page 41.

Your local hospital should be able to give you more detailed leaflets about the anaesthetic services it provides.

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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 pleasant 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 important 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 Controlled 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) but where your co-operation is needed.

You may remember a little about what happened but often you will remember nothing. This is known as 'conscious sedation', and may be used by other 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** who 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.

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 may 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-standing medical problem** such as diabetes, asthma, hypertension, thyroid problems or epilepsy, your GP should give you a checkup. This should include checking your blood pressure.

Health check before your anaesthetic

You will be asked a number of questions in plenty of time to check your health before your operation. This will be at a pre-assessment clinic (or pre-admission clinic), when you meet your anaesthetist, by a questionnaire, or on the ward.

The questions may be 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.

The pre-assessment clinic

Nurses usually run this clinic (with a doctor available for advice). A sample of blood may be necessary if you need more tests. This is a good time to ask questions and talk about any worries you may have.



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 emergencies where people have not had time to fast, there are other techniques and drugs that allow anaesthesia to be given 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 stop you getting blood clots (anticoagulants), aspirin, 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 may ask you about your replies to the health check questions, or ask you the questions if you have not been to a pre-assessment clinic. 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. Having talked about the benefits, risks and your preferences, you can then decide together what would be best for you. Or you may prefer to ask your anaesthetist to decide 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.

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.

Premedication

Premedication (a 'premed') is the name for drugs which are sometimes given before an anaesthetic, although today they are not often used.

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

- reduce or relieve anxiety
- help prevent problems during and after the operation
- treat any health problems you may have.

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

If you think a premed would help you, ask your anaesthetist. For more information, go to the last paragraph on page 42.

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, some blood will be lost. If necessary, your anaesthetist can usually make up for this blood loss by giving you other types of fluid into a vein through a drip.

You will only be given a blood transfusion if your anaesthetist thinks it is necessary. If your anaesthetist expects you to need a blood transfusion, he or she will discuss this with you beforehand.

Occasionally, blood will be needed unexpectedly.

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. This would be less likely if you have been to a pre-assessment clinic. 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. Make-up, body lotions or creams 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.

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 or CD 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 where your anaesthetist will prepare you for your anaesthetic. 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 all right.



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 (a sphygmomanometer)
- **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 blocks, 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 through a fine plastic tube inserted with the local anaesthetic.

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.

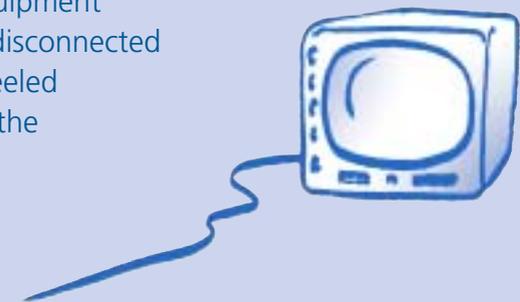
Your anaesthetist will ask you to keep quite still so he or she can give you your local or regional anaesthetic block. When the needle is inserted, your anaesthetist will ask you if you feel any tingling or shocks.

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 whenever you want to.



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

After a local or regional anaesthetic

- After surgery you may have difficulty 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.
- If you have had a local or regional block, 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 be with you and will be constantly aware of your condition, checking the monitors, adjusting the anaesthetic and giving you any fluids that you need.

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

- **anaesthetic drugs** 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
- **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 it.
- 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.

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. You may remember little for several days. This is because you will be receiving sedation and other drugs to help you recover.

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 will need pain-relieving medicines and you may then suffer from their side effects.



Full details of all side effects and complications are in the index starting 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. Worry 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 half an hour 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

These are often needed, and are given either into a vein for immediate effect, or into your leg or buttock muscle. Drugs given into a muscle may take up to 20 minutes 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 to supplement 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 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, 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. If it is something you are concerned about, ask the nurses who will be able to help.

Some other pain relievers

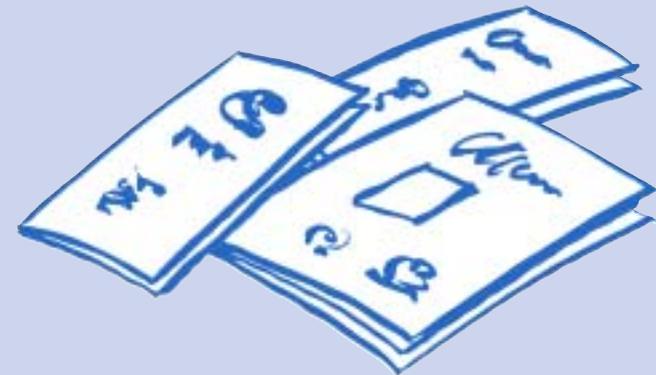
Drugs such as diclofenac, ibuprofen or paracetamol may be given during an anaesthetic as a suppository or afterwards as tablets. They must be used carefully by people with asthma, kidney disease, heartburn or stomach ulcers.

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 as necessary.

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
- 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, on average, 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.



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.

Very common and common

Feeling sick and vomiting after surgery RA GA

Some operations and anaesthetic 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 lozenges.

Dizziness, blurred vision RA GA

Your anaesthetic or loss of fluids may lower your blood pressure and make you feel faint. Fluids or drugs (or both) will be given into your drip to treat this.

Shivering RA GA

This may be due to you getting cold during the surgery, to some drugs, or to stress. You can be warmed very efficiently using a hot-air blanket.

Headache RA GA

This may be due to the effects of the anaesthetic, to the surgery, to lack of fluids, or to anxiety. More severe headaches may occur after a spinal or epidural anaesthetic (see the leaflet on spinal or epidural headaches). The headache usually gets better in a few hours and can be treated with pain relievers. If it lasts a long time, it may need special treatment.

Itching RA GA

This is a side effect of opiates (such as morphine) but can also happen as an allergic reaction (for example, to drugs, sterilising fluids or stitches (sutures)). 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 during injection of drugs 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 last a few days or weeks.

Uncommon side effects and complications**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.

Slow breathing (depressed respiration) 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

Damage can be caused to your teeth by clenching them as you recover from the anaesthetic. If your anaesthetist finds it difficult to get the breathing tube in the right place, your teeth may also be damaged. It will be more likely if you have limited mouth opening (for example, if you have arthritis of the jaw), a small jaw or a stiff neck.

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

Your risk of becoming conscious during your operation will depend on your general health and the type of operation you are having. For example, if you are very ill, the anaesthetist may use a combination of muscle relaxants and a lighter general anaesthetic to reduce the risks to you. However, the risk of your being aware of what is going on is increased.

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 prevent your anaesthetic from becoming too light.

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 are held closed with adhesive tape, which is removed before you wake up. However, sterilising fluids could leak past the tapes or you could brush your eyes 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 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) may be due to damage by the needle when performing a regional block, or it can be caused by pressure on a nerve during an operation. Most nerve damage is temporary and recovers within two to three months.

Death RA GA

Deaths caused by anaesthesia are very rare, and are usually caused by a combination of four or five complications arising together. 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 are now used which give an immediate warning of problems, and these failures rarely have serious effects.

Useful organisations

Royal College of Anaesthetists

48-49 Russell Square www.rcoa.ac.uk
 London WC1B 4JY E-mail: info@rcoa.ac.uk
 Phone: 020 7813 1900 Fax: 020 7813 1876

This organisation is responsible for 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.

Patient Concern

PO Box 23732 www.patientconcern.org.uk
 London SW5 9FY E-mail: patientconcern@hotmail.com
 Phone and Fax: 020 7373 0794

This organisation provides patient leaflets and a patient advisory service specialising in consent-related issues, campaigns for 'patient choice and empowerment'.

Patients Association

PO Box 935 www.patients-association.com
 Harrow Fax: 020 8423 9119
 Middlesex HA1 3YJ
 Phone: Helpline: 0845 6084455
 Office: 020 8423 9111

This organisation provides a helpline, information and advisory service and publications. It also campaigns for a better healthcare service for patients.

National Blood Service

Colindale Avenue
London NW9 9YR
Phone: 0845 7 711 711

www.blood.co.uk

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

National Confidential Enquiry into Perioperative Deaths (NCEPOD)

35 – 43 Lincoln's Inn Fields
London WC2A 3PE
Phone: 020 7831 6430

www.ncepod.org.uk
E-mail: info@ncepod.org.uk
Fax: 020 7430 2958

This is an organisation producing 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 health care.

The Cochrane Consumer Network (based in Australia) publishes a range of healthcare information. 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

www.youranaesthetic.info

This is a website supported by the Association of Anaesthetists and the Royal College of Anaesthetists.

It will hold a series of information leaflets on a range of subjects including the following.

- **You and your anaesthetic** (a summary of this leaflet)
- **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 and knee replacement**

Tell us what you think

These booklets are regularly reviewed. If you have a booklet that is more than two years old, please contact us for an updated copy.

We welcome any suggestions to help us improve this booklet. You should send these to:

The Patient Information Unit, 48 Russell Square, London WC1B 4JY email: admin@youranaesthetic.info

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