



Information about Anaesthesia for Patients Undergoing Surgery

Information for patients

Preparing for your operation

Anaesthetic Pre-assessment Clinic

At the pre-assessment clinic you will be seen by a nurse and possibly a Consultant Anaesthetist. Anaesthetists are doctors that are responsible for your care during the operation and work closely with surgeons to ensure you get the most appropriate treatment. They are responsible for your wellbeing and safety throughout your surgery and in the recovery room. You may also meet Anaesthesia Associates who are highly trained healthcare professionals. It may be necessary for you to have some simple tests such as blood tests and X-rays, or more specialist tests like heart scans or exercise tests before your operation. These will be discussed and explained to you on your visit.

You might also be asked to visit your GP or another specialist doctor for review of any existing medical conditions prior to your operation. If you smoke it is important to try to stop for at least 24 hours before your operation.

In the pre-assessment clinic the most common type of anaesthetic will be discussed with you, however, your anaesthetist will make the final decision with you about your anaesthetic on the day of your operation.

Preparing for theatre on the day of your operation

Washing and changing

A bath or shower before your operation will clean your skin and reduce the chance of infection. Avoid using make-up, body lotions or creams as they can prevent heart monitor pads and dressings from sticking to your skin. Remove nail varnish and false nails as these can interfere with oxygen monitoring.

You will be given a hospital gown. This is quite light so you may also wish to bring your own dressing gown to keep warm. You can keep your underwear on as long as it does not interfere with the operation (no underwire in bra).

Take clean, comfortable clothes with you to wear after your operation. It is important to think how you can best relax on the day of your operation as you may have to wait before your surgery. Magazines, puzzles or listening to music through headphones can all be helpful.

Personal items and jewellery

You can wear your glasses, hearing aids and dentures. If you are having general anaesthesia these will need to be removed in the anaesthetic room and will be returned to you in the recovery area after your operation.

Jewellery and piercings must be removed as bare metal against your skin can cause burns due to some of the equipment used during your operation.

Who will you see on the day of your operation?

You will have received a letter advising you where to go and at what time on the day of your operation. When you arrive, you will see a nurse, your anaesthetist and your surgeon. When it is time for your operation a member of the theatre staff will come to take you to the operating department.

Staying warm

Staying warm throughout your stay in hospital is important to reduce the risk of complications after your operation. We will assess your risk of becoming cold based on your general health, the type of anaesthetic you will have, and your operation, and measure your temperature frequently throughout your stay. The hospital might be colder than your home, so consider bringing additional clothing, such as a dressing gown (as mentioned previously), a vest and slippers to keep you comfortably warm. If you feel cold at any point in your hospital stay, please tell us. A forced air warming blanket may be applied if needed.

The Operating Department (Theatre)

The anaesthetic room

You will come to the anaesthetic room where you will see your anaesthetist and several other people including the anaesthetic assistant. You will have a thin plastic tube (cannula) inserted through a needle into a vein in your arm/hand so the anaesthetic medication can be given. This is usually no more painful than an insect bite. Routine monitoring of the following will be commenced:

- Heart rhythm (ECG): sticky pads will be placed on your chest
- Blood pressure: a cuff will be placed on your upper arm
- Oxygen level (pulse oximeter): a clip will be placed on your finger

General anaesthesia

Starting general anaesthesia

You will be given oxygen through a clear plastic mask. General anaesthesia is usually given by medication through the cannula. Occasionally the anaesthetic medication can feel cold or aching in your arm – this is normal. Once your anaesthetic has started you will be asleep very quickly (within a minute or so).

General anaesthesia in the operating theatre

The anaesthetist will stay with you during your operation and will constantly watch your condition, check the monitors, adjust the anaesthetic and give you other medications and fluids that you may need. Other medications may include antibiotics to prevent infection, pain-relief and anti-sickness drugs.

Local and regional anaesthesia

The type of local or regional anaesthetic injection will depend on the operation that you are having. It is common for your surgeon to give local anaesthetic to the part of your body where they are operating.

Spinal, epidural and nerve blocks are common types of regional anaesthetic. If a regional anaesthetic technique is recommended for you this will sometimes be discussed with you at the pre-assessment clinic. It will also be discussed with you by your anaesthetist on the day of your operation.

A local anaesthetic injection is given to numb your skin before doing any regional injection. The local anaesthetic will sting but once your skin is numb you should feel only pushing and pressure. If you do feel pain let your anaesthetist know.

Spinal anaesthesia

Spinal anaesthesia may be used instead of general anaesthesia for some operations on the lower part of your body. With a spinal anaesthetic you can remain fully conscious or have some sedation, which can help you to relax. Occasionally you may have a spinal in combination with general anaesthetic.

A spinal is an injection of local anaesthetic through a very thin needle into the back to numb the nerves coming from the spine. The anaesthetist will explain the procedure to you in more detail. When the spinal is placed it is common to feel odd sensations like tingling in your legs. When the spinal is working fully you will be unable to move your legs or feel pain below your waist for up to 4 hours. The anaesthetist will check that your spinal is working well before your operation begins.

Advantages of spinal anaesthesia:

- Better pain relief after surgery
- You will be able to eat and drink sooner after surgery
- Less need for other strong pain-relieving drugs
- Less nausea and vomiting and bowels often work better
- Less confusion after the operation in older people
- Less risk of chest infection after the operation
- Reduced blood loss during surgery
- Reduced risk of blood clots, e.g. deep vein thrombosis (DVT)

Epidural anaesthesia

Epidural anaesthesia involves your anaesthetist placing a small plastic tube (epidural catheter) into your back through a needle. Local anaesthetic is given via this catheter to numb the nerves running close to your spine in the epidural space. Epidurals can be placed when you are awake or under general anaesthetic. An epidural pump connected to the plastic catheter allows local anaesthetic to be given continuously after your operation. This is a common way of giving you pain relief after major surgery on your bowel or pelvis.

Advantages of epidural anaesthesia

- Pain relief for several days after surgery
 - Less need for strong pain-relieving drugs, hence less likely to be sick
 - Less risk of chest infection after the operation
 - Reduced risk of blood clots, e.g. deep vein thrombosis (DVT)
 - Earlier return of bowel function
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Nerve block

This is an injection of local anaesthetic around the nerves that provide sensation to your arm or leg. Some operations can be done with only a nerve block while others also require general anaesthetic. The part of your body affected by the nerve block will be numb and pain free for 4-24 hours after your operation (depending on the type of local anaesthetic used).

Advantages of a nerve block

- Improved pain relief after surgery
- You usually have less strong pain killing drugs and may feel less drowsy and less sick afterwards

Can everyone have regional anaesthesia?

Regional anaesthesia is not suitable for everyone. It may not be the recommended anaesthetic for your type of operation, it may risk complications if you are on blood thinning medications or it may not be technically possible if you have back problems such as previous spinal surgery. This is something that can be discussed between you and your anaesthetist.

Recovery after your operation

At the end of your operation the anaesthetist will stop any anaesthetic drugs. You will be taken to the recovery area, which is also part of the operating theatre department. Recovery nurses will monitor you closely and will look after you. You may be given an oxygen facemask and may also have extra medications such as pain-relief, anti-sickness and intravenous fluids. If you had dentures, hearing aids or glasses they will be returned to you. You will be taken back to the ward when the clinical team looking after you are satisfied that you have recovered safely from your anaesthetic.

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

If you are having major surgery or are very unwell, you may need to go to the HDU or ICU for closer monitoring and specialist care after your operation. Sometimes it may be necessary to continue sedating medications for a few hours or even overnight, until your condition is stable. Your family and loved ones will be updated about your condition and will be allowed to visit you once you are stable.

After your operation

It is common to feel tired and exhausted after you have had an operation – sometimes for days. This is not usually caused by the anaesthetic and can be related to many things

- The energy used by the healing process
- Your general health before the operation
- Anxiety/Stress before the operation
- Not eating, drinking or sleeping properly before and after the operation
- Pain before and after the operation
- Blood loss during your surgery (post-operative anaemia). You may require a blood transfusion. Blood transfusions are only undertaken if necessary. You can find more information about blood transfusions on the NHS website:

www.nhsbt.nhs.uk/what-we-do/blood-services/blood-transfusion

Pain relief after your operation

Good pain relief is important. It reduces suffering and helps you to recover quicker. Being comfortable also allows you to take regular deep breaths and cough, which makes you less likely to develop a chest infection. You can also move around more easily, making you less likely to develop blood clots (DVT or pulmonary embolism). Methods of controlling post-operative pain include:

- **Oral medications (tablets or liquids)**

These are useful for all types of pain. They take around 20 minutes to work and should be taken regularly when you return to the ward or go home. You may be given oral pain-relieving medications like co-codamol to take home. They do not work well if you feel sick and cannot eat and drink.

- **Injections**

These can be given in the recovery area or on the ward either through the plastic cannula in your arm/hand or by a small needle into your thigh. They can take 10-20 minutes to work.

- **Suppositories**

Waxy pellets can be placed into your back passage if you are not able to swallow tablets. The pain-relieving drug in these pellets dissolves and passes easily into your body. They are commonly used for pain relief in small children and sometimes for adults.

- **Patient-controlled analgesia (PCA)**

This is a machine that allows you to control pain relief yourself. It has a pump with strong pain-relieving medication (usually morphine) that is attached to the cannula in your arm/hand by a long tube. It has a handset with a button that you can press to give yourself a small dose of the drug. Your anaesthetist will set the pump to limit the dose you are given to ensure safety.

- **Epidural**

Local anaesthetic is given continuously into the epidural space in your back via an epidural catheter placed by your anaesthetist before your operation.

If you feel your pain relief is inadequate then please let the ward nurse know as your pain-medication may need to be reviewed by the ward doctor or pain team.

Drugs you may receive during and after your operation

- Paracetamol
- Anti-inflammatory drugs (sometimes avoided in people with asthma, stomach ulcers and kidney disease)
- Opiates – morphine, diamorphine, oxycodone

Risks of anaesthesia

Risk of anaesthetic is higher if:

- You have other illnesses or are on medication
- If you are frail i.e. a distinctive health state related to the aging process in which multiple body systems gradually lose their in-built reserves
- You smoke or are overweight
- You are having an operation, which is complicated, long or done as an emergency

Your anaesthetist will advise you about the anaesthetic technique that gives you the greatest benefit and reduces risk as much as possible. The risk of anaesthesia may sometimes

outweigh the benefit of the operation. Your anaesthetist will help you to make the choices that are right for you.

Common side effects and complications of general and regional anaesthesia

Risk table		
Verbal description ^a	Risk	Risk description ^b
Very common	1 in 1 to 1 in 10	A person in family
Common	1 in 10 to 1 in 100	A person in street
Uncommon	1 in 100 to 1 in 1000	A person in village
Rare	1 in 1000 to 1 in 10000	A person in small town
Very rare	Less than 1 in 10000	A person in large town
^a EU-assigned frequency		
^b Unit in which one adverse event would be expected		

- **Feeling sick and vomiting after surgery**

Some operations, anaesthesia and pain-relieving drugs are more likely to cause vomiting than others. Sickness can be treated with anti-vomiting drugs, but may last from a few hours to several days.

- **Sore throat**

During your operation you may have a tube in your windpipe to help you breathe, which can give you a sore throat. Soreness can last from a few hours to several days and can be helped by pain-relieving drugs like paracetamol.

- **Dizziness, blurred vision and feeling faint**

Your anaesthetic may lower your blood pressure and make you feel faint. This may also be caused by dehydration. Fluids or medications can be given into the cannula in your arm/hand to treat this.

- **Shivering**

Care is taken to keep you warm during and after your operation, but sometimes you can still get cold. Shivering can also happen even when you are not cold due to the effect of the anaesthetic drugs.

- **Headache**

There are many causes of headache including dehydration, stress, the anaesthetic or your operation. Most headaches get better within a few hours and can be treated with pain-relieving drugs like paracetamol. Headache occurs in 1:100-200 people after spinal or epidural anaesthesia. Specific treatment for this involves fluids, pain-relieving drugs and caffeine. Sometimes another procedure called a blood patch may be required. Should this happen your anaesthetist would come to review and advise you on the best treatment.

- **Itching**

This is normally a side effect of opiate medications given for pain relief but can also be caused by allergy to medications or dressings. This can often be relieved by simple antihistamine medications.

- **Chest infection**

A chest infection is more likely to happen to someone with an existing breathing condition or in people who smoke. It is important to give up smoking for as long as possible before your operation. We especially recommend that you stop smoking 24 hours prior to your operation.

- **Bladder problems**

After certain types of operation and regional anaesthesia, men may find it difficult to pass urine and women tend to leak. To prevent this problem, a urinary catheter (plastic tube into the bladder) may be recommended.

- **Aches, pains and backache**

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; however, some people may feel uncomfortable for a short while afterwards.

- **Bruising and soreness**

Bruising and soreness can happen around injection or cannula sites (changing the position of your cannula may be advisable) and occasionally around joints due to lying on the operating table. This normally settles without treatment.

- **Confusion and memory loss**

This is common among older people who have had an operation, particularly if there is memory loss (however mild) before the operation. It can happen for many reasons and is usually temporary but may sometimes be permanent.

Uncommon side effects and complications of general and regional anaesthesia

- **Breathing difficulties**

Some anaesthetic medications can cause slow breathing, difficulty breathing or drowsiness after surgery. This can be treated with other medications.

- **Damage to teeth, lips or tongue**

Minor damage to your lips and tongue is common. Damage to your teeth is uncommon but may happen as your anaesthetist places a breathing tube in your airway. Damage to teeth is more common if you have tooth decay or gum disease. Caps, crowns and bridges can also be damaged.

- **An existing medical condition getting worse**

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 in the past it is possible that it may happen again. Other conditions such as diabetes, breathing problems or high blood pressure will also need to be closely monitored around the time of your operation.

Rare or very rare but potentially serious complications of general and regional anaesthesia

- **Awareness: 1:20000**

Awareness means becoming conscious during an operation under general anaesthetic. It can happen 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 allow your anaesthetist to judge how much anaesthetic you need to keep you unconscious.

- **Damage to eyes: 1:2800**

Your eyelids may be held closed by adhesive tape, which is removed before you wake up. We take great care to look after your eyes however sterilising fluids could leak past the tapes or you could rub your eyes as you wake up. This could cause damage to the surface of your eyes, which is usually temporary and responds to treatment with eye drops.

- **Aspiration**

When you are unconscious if your breathing muscles are weak or stomach is not empty you may aspirate stomach contents into your lungs and develop a chest infection.

- **Heart attack or stroke**

While your anaesthetist takes great care to provide the best anaesthetic for you, if you suffer from heart problems, have had a stroke in the past or if your operation is very long and complicated you may be more prone to having a heart attack or stroke under anaesthesia.

- **Serious allergy to drugs: 1:10000**

Allergic reactions will be noticed and treated very quickly. Very rarely allergic reactions can be so severe that they lead to death even in healthy people. Be sure to inform your anaesthetist if you have any allergies.

- **Nerve damage: 1:1000**

Nerve damage (paralysis or numbness) can be caused by pressure on a nerve during an operation due to the position you lie in, tourniquet or pre-existing conditions like diabetes. Spinal or epidural anaesthesia may also cause nerve damage. Most nerve damage is temporary but, in some cases, damage is permanent. Nerve damage can include damage to the arms and legs and damage to eyes or ears causing blindness or deafness. Loss of vision can occur in 1:100000 cases.

Permanent nerve damage is a very rare complication of regional anaesthesia.

Temporary numbness, pins and needles or weakness may last for days to weeks.

Permanent nerve damage associated with epidural anaesthesia occurs in 1 in 5,700 patients and with spinal anaesthesia in 1 in 38,000.

Following a nerve block about 1 in 5 patients report temporary numbness or tingling for up to 5 days. 1 in 200 patients may notice a prolonged patch of numbness or tingling, which usually resolves within 4-6 weeks and rarely persists for up to a year. Permanent damage from nerve blocks is rare and can occur between 1 in 1,000 to 1 in 10,000 patients.

- **Death: 1:100000**

Deaths caused by general anaesthesia are very rare. There are about 5 deaths for every million anaesthetics given in the UK.

Additional procedures you may have for major operations

Central venous catheter (CVC)

This is a special type of long narrow plastic tube placed in a large vein in your neck or groin. It is used to measure pressure of fluid within your veins and to give certain types of medications

that are irritating to smaller veins, such as strong medications used to treat low blood pressure and intravenous food replacement (Total Parenteral Nutrition – TPN).

Placing a CVC involves cleaning your neck or groin with antiseptic solution and covering you with a sterile sheet to prevent infection. Local anaesthetic is given to numb your skin. An ultrasound scanner is used to help your anaesthetist to locate a large vein, then a needle is inserted and a long plastic tube. It is secured in place with small stitches and a dressing. A chest x-ray is done to check it is in the right position.

Complications of CVC placement:

- Bleeding – minor bruising is common. A larger bruise (haematoma) happens in 1 in 10 people and will gradually disappear over days.
- Infection – happens in 1 in 100 patients. This is more common if you already have an infection and often needs to be treated with antibiotics.
- Clots – clots happen in around 1 in 50 patients. Occasionally clots need to be treated with blood thinning medication.
- Abnormal heart rhythm – a fine wire is used to guide placement of the CVC. This can occasionally touch the heart causing an abnormal heart rhythm, which usually resolves when the wire is removed. For this reason, we monitor your heart closely when placing a CVC.
- Pneumothorax (collapsed lung) – the top of the lung is very close to the large neck veins. If the lung is punctured with the needle air escapes around the lung and collects in the chest wall. This happens in around 1 in 100 patients and usually resolves by itself. Sometimes it needs to be treated with a tube (chest drain) to remove the air.
- Air embolism/stroke – this is a very rare complication caused by air getting into the CVC. Your anaesthetist takes great care to prevent this.

Arterial line

This is a special type of narrow plastic tube placed in one of the arteries in the wrist, arm or groin to measure your blood pressure very closely. Local anaesthetic is given to numb your skin before inserting a needle followed by a plastic tube. Some of the side effects are bruising, clots and infection. Very rarely small clots can break off and cause gangrene in your hand or foot.

Nasogastric tube (NG)

This is a tube passed through your nose and into your stomach. It can be used to drain excess fluid from your stomach to keep it empty, or to feed you if you are too unwell to eat normally.

Urinary catheter

This is a tube passed into your bladder to drain your bladder and measure the amount of urine. You will have a urinary catheter inserted for most major surgery. You may have a urinary catheter inserted after spinal or epidural anaesthesia.

Contacts:

Tunbridge Wells Hospital
Tonbridge Road
Pembury Tunbridge Wells
Kent
TN2 4QJ

Maidstone Hospital
Hermitage Lane
Maidstone
Kent
ME16 9QQ

Pre-operative assessment clinic Tunbridge Wells Hospital ☎ 01892 635854

Pre-operative assessment clinic Maidstone Hospital ☎ 01622 224607

Lead practitioner for pre-operative assessment clinic ☎ 01622 224604

Further information and advice can be obtained from:

NHS 111
NHS Choices online

☎ 111
www.nhs.uk

Other useful organisations

Association of Anaesthetists of Great Britain and Ireland

21 Portland Place, London WC1B 1PY

Phone: ☎ 020 7631 1650

Email: info@aagbi.org

Website: www.aagbi.org

The Royal College of Anaesthetists

Churchill House, 35 Red Lion Square, London WC1R 4SG

Phone: ☎ 020 7092 1500

Email: info@rcoa.ac.uk

Website: www.rcoa.ac.uk



Please use this space for your notes.

Should you wish to download this leaflet to a mobile device please scan the QR code located top left of the front page.

MTW NHS Trust is committed to making its patient information accessible in a range of languages and formats. If you need this leaflet in another language or format please ask one of your clinical care team or the Patient Advice and Liaison Service (PALS). We will do our best to arrange this.

Maidstone and Tunbridge Wells NHS Trust welcomes all forms of feedback from our service users. If the standard of service you have received from the Trust does not meet your expectations, we want to hear from you. Please speak with the ward manager or the nurse in charge in the first instance, or you can contact the **Patient Advice and Liaison Service (PALS)** on:

Telephone: ☎ 01622 224960 or ☎ 01892 632953

Email: mtw-tr.palsoffice@nhs.net

or visit their office at either Maidstone or Tunbridge Wells Hospital between 9.00am and 5.00pm, Monday to Friday.

You can be confident that your care will not be affected by highlighting any areas of concern or making a complaint. The Trust will retain a record of your contact, which is held separately to any medical records. If you are acting on behalf of a patient, we may need to obtain the patient's consent in order to protect patient confidentiality. More information on PALS or making a complaint can be found on the Trust's website: www.mtw.nhs.uk or pick up a leaflet from main reception.

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FAMILY NAME:	
Given name:	
Preferred name:	
Title:	Gender:
NHS number:	
Hospital number:	
Date of birth: __ / __ / ____	
<i>Complete above in full or affix patient label</i>	
Location:	



Information about Anaesthesia for Patients undergoing Surgery Leaflet – Confirmation Statement

Guidance to clinician:

- Respond to all questions the patient has regarding their specific Anaesthesia procedure
- Check the patient has capacity to sign their consent form and this form and that they have no additional communication needs
- Ask the patient to sign below
- Cut off this page and file in the patient's healthcare record
- Give the patient information leaflet back to the patient

Additional communication needs identified:

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Confirmation information provided and understood

I have been provided with and have read the leaflet titled 'Information about Anaesthesia for Patients undergoing Surgery' (version 1, October 2020). I have had the opportunity to discuss all my questions and concerns with an Anaesthetist

Signature:

Print name:

Date:

Second confirmation (to be signed on the day of surgery if above was signed at an earlier date)

Signature: **Date:**

Name of Surgeon: **Position:**

Signature: **Date:**

Statement of Interpreter: (where appropriate)

I have interpreted the information contained in the leaflet to the patient to the best of my ability and in a way in which I believe the patient can understand.

Signed: **Date:**

Print Name:

