



General / Regional Anaesthesia

What is anaesthesia?

Anaesthesia is a “loss of sensation”. It stops you from feeling pain and other unpleasant sensations and can be given in various ways. Not all anaesthesia makes you unconscious and it can be directed at different parts of the body.



Common types of anaesthesia

1. General Anaesthesia (GA)

GA produces a drug-induced state of controlled unconsciousness to facilitate surgery. While under GA, you will be completely asleep and will have no knowledge or memory of the surgery. GA can be administered either through inhaled gas or intravenous medications.

2. Regional Anaesthesia (RA)

RA is used to numb only a portion of your body undergoing the surgical procedure.

There are two forms of RA:

- Injections in your back to numb nerves emerging from your spinal cord
- Targeted injections to numb specific nerves around the site of surgery

This involves injecting drugs around major nerve bundles. It may be used on its own or combined with GA. Such anaesthesia may cause numbness or a tingling sensation in the area supplied by the nerves. The patient may also experience difficulty moving that part of the body temporarily.

3. Procedural sedation

Procedural sedation is used on procedures where GA is not required. It allows patients to tolerate painful and uncomfortable procedures.



Your anaesthetic journey

Your anaesthetist will be with you throughout the operation, from pre-operation assessment to the close monitoring of your health and well-being after surgery.

- **Before surgery**

You will be asked a series of questions about your health, and may require additional blood tests, electrocardiogram (ECG), and X-rays. Other tests will be advised as required. With such information, the anaesthetist can monitor your health during anaesthesia and minimise the likelihood of any complications.

After a complete assessment of your health, we will discuss your choice of anaesthetics, as well as its benefits and risks. You are encouraged to ask questions and share any concerns you have with your anaesthetist.

In preparation for your surgery:



- **Fast**

You will be required to fast before an operation to prevent the risk of vomiting and choking if there is food and liquid in your stomach, and may cause serious damage to your lungs. Please adhere to this strictly.



- **Medication**

Inform your anaesthetist if you are allergic to any medications. Your anaesthetist will advise you on the type of medications you can consume or stop taking before your operation. If you are unsure, please consult your anaesthetist.



- **Unwell**

If you feel unwell, please inform your anaesthetist before the operation. Depending on its severity, we may reschedule your operation until you feel better. Your anaesthetist will advise you accordingly.



- **Loose tooth**

See a dentist if you have loose teeth as they can be dislodged during a general anaesthetic and cause complications.



- **Stop smoking**

Smoking reduces oxygen in your blood and increases the risk of breathing difficulty during and after your operation.



- **In the operating theatre**

Once you arrive at the operating theatre, your heart rate, blood pressure and oxygen levels will be monitored. A small plastic tube will be inserted into one of your veins to administer medications and fluids. You will then receive your choice of anaesthetics.

After a regional anaesthetic has been administered, your operation will only proceed when you and your anaesthetist confirm that the surgical site is numb.

- **After your surgery**

If a general anaesthetic has been administered, you will regain consciousness in the recovery room as we continue to monitor your blood pressure, pulse rate and oxygen levels. We will also optimise your pain medications.

If a regional anaesthetic has been administered, there will be numbness and weakness in the affected region even after surgery. Hence, please stay in bed until the numbness wears off. Ask for assistance in mobilising. The affected parts cannot sense temperature, so do be careful until you recover normal sensation.

Ensuring your comfort is our top most concern and our staff will care for you and relieve any pain or feelings of sickness after your surgery.

Once you have safely recovered and we observe that your condition is stable, we will discharge you from the general ward. Depending on the nature of your operation, it may take some time before you can return to eating and drinking normally.

Do not drink alcohol, operate heavy machinery or drive for 24 hours after your operation.





Pain relief options

There are many options and combinations of treatments that may be used for effective pain relief. This depends on the type of surgery, your doctor's advice, and your individual preference. Your anaesthetist will discuss the types of pain-relieving methods to help you make a more informed decision.

1) Medications

Pain relief medications include non-opioid options, such as Paracetamol, NSAIDs, or opioid options, such as Codeine.

These medications can be given via different routes, such as:

- **Oral**

Medicine taken orally are useful in controlling mild to moderate pain after surgery (e.g. day surgery procedures). For effective pain control, these medications should be taken at set times.

It may take about 20 minutes for the medication to take effect each time. Sometimes, they are supplemented by other pain-relieving techniques.

It is important to let your doctor know if you have an allergy to a particular type of drug or prior discomfort with a painkiller.

- **Suppository**

Waxy pellets are inserted into your back passage which will then be dissolved and absorbed by your body. Suppositories are used when you cannot swallow a medication.

- **Injection**

Medications are given through a plastic tube inserted into a vein in your hand. Occasionally, it is given through a muscle in your arm or buttock. This could provide faster relief for your pain.

It is important to let your nurse or doctor know when the painkiller is wearing off and you feel uncomfortable. Do not wait until the pain is unbearable before alerting someone. Preparing another injection can take time and it is harder to control the pain when it has become severe.

- **Patient-controlled analgesia**

One of the unique ways to help with pain relief after surgery, when the patient is unable to eat and drink, is to give them Patient-Controlled Analgesia (PCA). PCA allows you to control the amount of medication required. It involves the use of a machine with a linked handset. By pressing the button, pain relief medicine will be released.

2) Nerve blocks

This is commonly done for limb surgery and involves injecting local anaesthetics around a nerve using a needle or a fine tube (catheter). In this manner, the area of your surgery will be numbed both during and after the surgery for enhanced pain relief.

3) Epidural analgesia

Epidural analgesia involves an anaesthetist placing a very fine tube (catheter) into your back. This procedure is usually done just before the operation or sometimes after the operation. This method provides very satisfactory pain relief.

Risks and complications of anaesthesia

Although anaesthesia is generally safe, there are still some risks involved. Your risks are related to your general health and the type of surgery.

Risks and complications of anaesthesia (GA or RA)*

Common (1 in 10 to 1 in 100)	Uncommon (<1 in 100)	Rare (<1 in 10,000)
Nausea, vomiting	Breathing difficulties	Heart attack
Shivering	Worsening of existing medical condition	Stroke
Itching		Serious allergy to drugs
Bruising, soreness at drip site		Nerve damage
Difficulty passing urine		Death

Risks and complications specific to GA*

Common (1 in 10 to 1 in 100)	Uncommon (< 1 in 100)
Sore throat	Chest infection, breathing difficulties
Minor cuts to lips / mouth	Loosening of / knocking out teeth
Temporary confusion / memory loss	Unintentional awareness during surgery

Risks and complications specific to RA*

Common (1 in 10 to 1 in 100)	Uncommon (< 1 in 100)
Bruising, soreness at injection site	Insufficient numbness needing additional injection or GA
Headache	

** Certain risks may be more common if you have certain predisposing health conditions. Your anaesthetist will explain to you in greater detail.*

Scan to read the details on
each side effects



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at NUH and AH

About Regional Anaesthesia
at NUH and AH



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at NTFGH

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