


Find out more about anaesthesia

Anaesthesia Department





 COMPASSIONATE CARE

Dear patient

You will soon undergo a surgical procedure or medical examination at our hospital for which anaesthesia will be administered.

We here in the Anaesthesia Department would like to provide you with information so that you can feel confident about the anaesthesia. This leaflet is the first step towards that goal. We hope to inform you as much as possible before your procedure for your own peace of mind. Do you still have specific questions after reading the leaflet? Please contact your GP or the secretariat of the Anaesthesia Department on +32 (0)9 246 17 00.

Before administering the anaesthesia, one of our anaesthesiologists will talk with you and answer any questions you may have. There is an anaesthesiologist at our hospital 24 hours a day.

We hope that your hospital admission goes smoothly!

Dr Henk Vanoverschelde,
Department Head for Anaesthesia.



www.anesthesiegent.be
www.mariamiddelares.be

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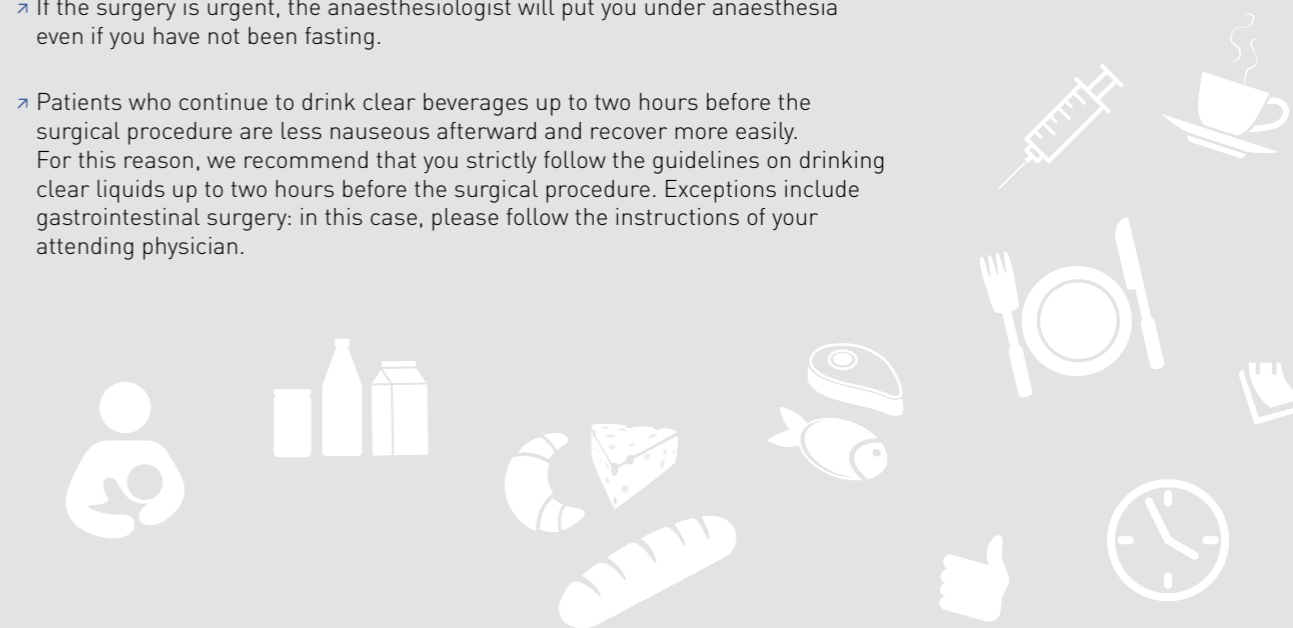


Agreements about eating and drinking before the surgical procedure

For (general and partial) anaesthesia, you must be on an empty stomach. If you are not fasting when you come for anaesthesia, there is a significantly higher risk of airway inflammation or even pneumonia. This is because most forms of anaesthesia or severe pain relief suppress the swallowing reflex. This allows saliva or stomach contents to enter the lungs through the trachea.

TYPE OF FOOD	EXAMPLE	ALLOWED UNTIL AT THE LATEST
Normal meal		midnight before the day of the operation
Light meal	e.g. a sandwich or toast with jam Deep-fried/fatty foods or meat are not included	six hours prior to the surgical procedure or medical examination
Dairy products	milk, bottle-feeding for a child, yogurt...	six hours prior to the surgical procedure or medical examination
Breastfeeding		four hours prior to the surgical procedure or medical examination
Drinks	As desired: water, sugar water, sports drinks, clear fruit juices without pulp (apple juice, grape juice). Maximum a cup: clear tea and coffee without milk	Recommended: continue to drink up to two hours before the surgical procedure or medical examination No dairy products

- If the surgery is urgent, the anaesthesiologist will put you under anaesthesia even if you have not been fasting.
- Patients who continue to drink clear beverages up to two hours before the surgical procedure are less nauseous afterward and recover more easily. For this reason, we recommend that you strictly follow the guidelines on drinking clear liquids up to two hours before the surgical procedure. Exceptions include gastrointestinal surgery: in this case, please follow the instructions of your attending physician.



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Do you have diabetes? If so, your treatment may be adjusted. Contact your GP, your attending endocrinologist or our diabetes team at +32 (0)9 246 13 42.

Home medication

There are a lot of misconceptions about whether or not to take your medication at home before undergoing anaesthesia.

As a general rule, take your medication and use your inhalers and aerosols at home at the usual time on the day of surgery. Taking your medications with a small sip of water is allowed while fasting. For many medications, it is very important that they be taken on the day of surgery. Suddenly stopping certain medication (e.g. for high blood pressure) can have undesirable consequences.

Certain medications should be held, though always in consultation with your attending physician

Please see below for the various types of medications that should sometimes be stopped before an operation. Always contact your GP or attending physician if you are taking any of the following types of medication:

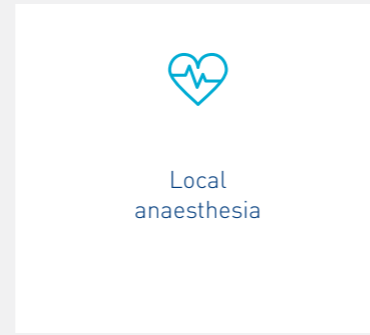
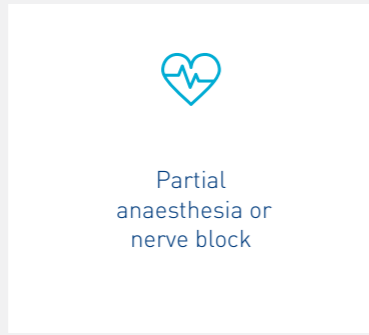
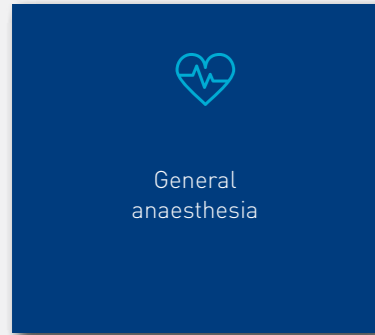
- anticoagulant medication (blood thinners)
- medication for diabetes
- diuretic medication



What should you be aware of?



- Jewellery and piercings must be removed: they are not allowed in the operating room for hygiene and safety reasons.
- Remove your contacts and bring your glasses and eyewear case.
- You may keep your hearing aids in.
- What about a removable dental prosthesis or loose teeth? Be sure to report this to the nurse.
- Stop smoking for as long as possible before the surgical procedure. Smokers are more likely to have respiratory tract infections and will cough more than non-smokers upon awakening from anaesthesia.
- Do not drive vehicles after you have had anaesthesia. Your health insurer will probably not cover you in the event of an accident or damage to third parties.
- We recommend that you not operate machinery and that you postpone important decisions on the day you receive anaesthesia.



General anaesthesia

This form of anaesthesia renders the patient completely unconscious and free of pain.

General anaesthesia can be administered in two ways:

1

It is preferable to use a **blood vessel**.

Using an IV assures that, at any time, we can administer medications safely.

The only disadvantage for the patient is that he or she will be poked with a needle before the anaesthesia takes effect.

2

If placing an IV proves difficult, **mask anaesthesia** can be performed.

An IV is preferable as it enables the immediate administration of medication.

Inhaling anaesthetic gas is typically considered more unpleasant.

From the moment that the patient falls asleep, the anaesthesiologist keeps the anaesthesia at a sufficient level for the duration of the procedure. Anaesthetic monitors continuously follow and record your blood pressure, blood oxygen level and heart rate. This allows the anaesthesiologist to customise the anaesthesia to your needs during the procedure.

THE ANAESTHESIOLOGIST WILL PLACE EXTRA CATHETERS FOR SOME PROCEDURES*

An extra catheter in the artery: this ensures the highly accurate and immediate control of blood pressure.

An extra catheter in the arm or neck: this is for administering specific medication or blood products.

The 'Swan Ganz' catheter: this may be placed for high-risk operations or if the patient's health status requires it. This extra catheter gives the anaesthesiologist access to take direct measurements in the heart.

*A catheter is a thin, flexible plastic tube.

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In certain cases, the anaesthesiologist may also apply an ultrasound technique that uses an oesophageal ultrasound probe to evaluate heart function.



Partial anaesthesia or nerve block

This technique renders a certain part of your body numb.

The nerve bundles responsible for sensation in a certain part of the body are temporarily deactivated after being injected with an anaesthetic. Since no more pain signals are sent to the brain, you will not experience any pain. The mobility of that body part is also usually reduced. The term 'nerve block' is commonly used for this procedure.

THE MOST FREQUENTLY APPLIED NERVE BLOCKS IN OUR HOSPITAL ARE:



The lumbar puncture or epidural

The part of the body that is numbed depends on where the epidural is given.

- With a low-placed epidural, you will not feel sensation in the bottom half of the body (often used for hip or knee replacement surgery).
- If you have an epidural placed higher, you will not feel sensation in the abdominal area (often used for abdominal surgeries).

For some epidural cases, the anaesthesiologist leaves an 'epidural catheter' (a thin tube) in place. This catheter can be used to administer extra pain relief after the operation. It may also be connected to an epidural pain pump.

Anaesthesia for childbirth

Contractions can be very painful at times. In that case, spinal anaesthesia or 'epidural anaesthesia' can provide very welcome relief from pain during labour.

The medication we administer via an epidural and the technique we use are never harmful to the baby. Nor will the placement of the epidural cause the mother very much discomfort.

It is important to know that the

decision may be made to reduce the epidural during the phase right before the birth so that the woman can push more actively. You may still experience some pain while pushing. That does not mean that the epidural did not work sufficiently.

Anaesthesia for a caesarean section

The gynaecologist, in consultation with the parents, may decide to perform a caesarean section. The anaesthesia will, nearly always, be administered via an epidural, though using a modified technique. The

anaesthesia in this case is stronger and will take effect more quickly so that the caesarean section can be performed painlessly.

We do our best to try to avoid general anaesthesia due to the adverse effect on the unborn child.

You may immediately start to breastfeed after the delivery. The gynaecologists, paediatricians and midwives are happy to assist you.

Nerve block of the lower leg and the foot

The nerve block, or regional anaesthetic, is administered by numbing the nerve bundle just above the back of the knee.

This block, which is often used for foot or ankle surgeries, ensures that you will have very good pain relief during the first couple of hours after the surgery.

Local anaesthesia

This is an anaesthetic technique where an anaesthetic product is administered at the level of the injury or surgical site. The GP or attending physician usually administers this type of anaesthesia without the involvement of an anaesthesiologist (e.g. for wound suturing or after a cut).

Nerve block of the shoulder and the arm

This nerve block, or regional anaesthesia, is often used for shoulder surgery.



Modern anaesthesia is very safe. We always have completely prepared anaesthesia equipment and extensive monitoring on hand to monitor your health status during the administration of the anaesthesia. The medication used for your anaesthesia is quite advanced and is always tested extensively. We only use safe and approved anaesthesia techniques and medication.

Even so, we can never rule out all risks with anaesthesia. Below is a summary of possible side effects or complications.

Side effects or complications that occur either very frequently (1/10) or fairly frequently (1/100)



Nausea and vomiting

Let us know if you have had nausea or vomiting before with anaesthesia. We will try to minimise the chance of nausea or vomiting by carefully considering the medications used. Drinking sufficient fluids (clear liquids) before the surgical procedure helps prevent nausea. Read more about this on page 6.



Sore throat

With general anaesthesia, we frequently use a tube placed in, or just above, the trachea. For most abdominal surgeries, we place a tube into your nose by going through the oesophagus and into the stomach while you are under anaesthesia. For this reason, you may have a sore throat after the operation. This feeling may last for a few days and is best treated with throat lozenges.



Low blood pressure and dizziness

Fluid loss during the procedure, in combination with some anaesthetic techniques, may cause low blood pressure or dizziness. For this reason, your blood pressure will be regularly monitored. If necessary, we will keep you for a bit longer in the recovery room until your blood pressure is stable.



Chills

The body's normal temperature controls are disrupted while a person is under anaesthesia. Many patients feel cold and have chills when they wake up from anaesthesia. We try to avoid this by maintaining your body temperature as much as possible with extra blankets or with a machine that blows warm air through a blanket.



Headache

Due to stress, fasting or fluid loss during the surgical procedure, or as a result of the anaesthesia, you may have a slight headache that will go away quickly after the procedure. In rare cases, you may develop a headache after an epidural. If the headache is persistent, the anaesthesiologist will discuss a technique with you that can help get rid of the headache more quickly.



Muscle, joint and back pain

All operating tables are outfitted with especially soft cushions. Even so, you may have muscle, joint and back pain after the operation, which will usually subside quickly and spontaneously. This pain is usually the result of being in an unnatural position during the surgical procedure. The anaesthesia causes the muscles to be very tense, which places more stress than normal on the ligaments.



Confusion or memory loss

In older people, there is a greater chance of confusion or memory loss after an operation. This is usually temporary, but it can sometimes last for days or even weeks.



Insufficient nerve block

In contrast to general anaesthesia, we are never 100% certain with partial anaesthesia whether the effect will be sufficient to be able to perform the operation painlessly. If we are in doubt about whether the nerve block is working well or if you are experiencing pain, we will switch to general anaesthesia. For this reason, we always follow the same preparations that we usually would for general anaesthesia.



Bruising or pain at the IV insertion site

Inserting an IV includes placing a catheter in a vein. The nurse or anaesthesiologist will poke one of the blood vessels. This sometimes causes a little bleeding, resulting in bruising. This usually goes away quickly, with no treatment necessary. Inform your nurse (or your GP if you are at home) if you experience persistent pain at or above the IV insertion site, or if this is accompanied by redness in the area.



Side effects or complications that occur seldomly (less than 1 in 1000)

**Eye problems**

Anaesthesia suppresses the normal blinking reflex of the eyelids. In order to keep eyes sufficiently moist, we typically use special eye drops or a salve in the eyes. We then keep the eyes shut using a patch during the surgical procedure. This can cause eye irritation after a long surgical procedure.

**Damage to teeth, lips and tongue**

The teeth, lips and tongue may be damaged by tensing the jaw shut while waking up from anaesthesia. You are usually not sufficiently aware to feel the pain, so it is hard to prevent damage.

The anaesthesiologist may also damage the teeth while placing a breathing tube, but this is not usually the case for healthy teeth.

**Serious sensitivity to or serious allergic reaction to medication**

We always ask beforehand whether you have any known allergies. Since you may never have had anaesthesia medication before, an allergic reaction can never be ruled out entirely. All equipment and appropriate medications are on hand in the operating room in order to treat allergic reactions.

**Lung infections**

Lung infections usually occur in people who smoke or who had a cold before the surgical procedure.

**Waking up during the surgical procedure.**

With modern anaesthesia equipment and measuring instruments, the chance is almost zero that you will wake up during an operation. Some patients confuse the experience of waking up during the surgical procedure with the experience during the awakening phase, in which people do not clearly understand that the procedure is actually finished. After all, you will hear all manner of noises in the recovery room or you may have the impression that you cannot really tell whether you are completely awake or not.

**Difficulties urinating**

Especially after an epidural, patients (especially men) may have problems urinating. Always tell a nurse if you have problems. This problem is usually solved by waiting or, if necessary, by emptying the bladder with a catheter.

Side effects or complications that are extremely rarely (less than 1 in 100,000)

**Loss of strength or sensation in the lower extremities or parts of the body**

This may be caused by nerve damage from a needle, bleeding with partial anaesthesia or pressure on a nerve during an operation. Most nerve damage is temporary and heals without treatment, though slowly.

**Death**

A death during anaesthesia is extremely rare and is almost always caused by a confluence of multiple complications that occur simultaneously.

The awakening phase

For general anaesthesia, the administration of medication is stopped just before or after the end of the surgical procedure. The medication gradually wears off and then you wake up. You will barely be aware of this while lying in the recovery room bed. This situation may be disconcerting. Please know that there is always a nurse close by. You will still be connected to a monitor at that time to measure your blood pressure and other parameters at regular intervals. For your own safety, the side rails of your bed will always be raised.

Effects of partial anaesthesia

With partial anaesthesia, it is completely normal for the numbed area to remain numb for quite a while. In many cases, mobility in this area or of the extremity is also quite reduced. This type of anaesthesia wears off gradually and you will regain mobility.



Pain relief

During the surgical procedure, the anaesthesiologist will administer pain medication so that you can wake up as free of pain as possible.

After the surgical procedure, the nurses will ask you at regular intervals whether you have pain. A commonly-used method is to give a pain score from 0 to 10. A '0' means that you do not have any pain. If you indicate a 10 out of 10, we will interpret that as intolerable pain. Every number from 0 to 10 will be evaluated and documented by the nurses. We will then use the appropriate measures so that you can achieve tolerable pain scores as quickly as possible.

For children or adults who find it difficult to vocalise their pain, we use an adjusted measurement scale.

For some, usually more severe surgical procedures, we place a pain pump during or immediately after the procedure. If this could benefit you, you will receive more information before your operation.

To your room

You will leave the recovery room as soon as you are ready. You will, of course, be able to leave the recovery room more quickly after a laparoscopy free of complications than after an abdominal surgery (which we need to monitor for a longer time to make sure there is no bleeding, and to make sure the patient is able to urinate). You will not go to your room if you are experiencing too much pain.

The nurses in the department will check regularly to see if you have questions and to make sure your pain is well managed.

All information contained in this leaflet is also valid for children.

There are some specific issues that are important if your child is below the age of 15.

- In our hospital, children (aged 14 or younger) can be accompanied by their parent or guardian, including up to when they enter the operating room. Once the child is under anaesthesia, the parent or guardian is led out of the operating room. Due to the sterile environment and other patients' privacy, you are not allowed to stay in the operating room.
- We generally use mask anaesthesia for children up to the age of 10. As with adults, for children older than 10, we prefer the normal technique of using IV anaesthesia.
- For small children, we made a nice little book titled 'To the hospital'. Ask our specialist or the receptionist for a copy. The book explains, in a playful way, what happens during anaesthesia.
- After the operation, your child will go to the recovery room designed specially for children. As soon as your child is in the recovery room safe and pain free, one parent or guardian may visit the child.
- Afterwards, the child's nurse, together with the parent or guardian, accompanies the child back to the department.



Text: Yann Vandormael and Liesbet Slegers
Illustrations: Liesbeth Slegers



- The rates for anaesthesia and the reimbursement of those rates are regulated by an agreement with the RIZIV (National Institute for Health and Disability Insurance). More information about the fee surcharges can be found in the reception leaflet of Maria Middelaers General Hospital. Most hospitalisation insurances reimburse the fee surcharges.
- In exceptional cases (e.g. plastic surgery), there are no RIZIV regulations for the anaesthesiologist fees. For these cases, there is an agreement about fixed fee rates for the procedure. You will be informed of these beforehand.



INFORMED CONSENT

Your attending physician spoke with you about a surgical procedure or medical examination that requires appropriate anaesthesia. It is important to us that each patient provide his or her (voluntary) consent for the anaesthesia.

1

On the day of the surgical procedure, you will always have the opportunity to speak in person with the anaesthesiologist who will be performing the anaesthesia. At that time, you will also be able to receive any additional information about the type of anaesthesia chosen. You can also ask any other questions about your anaesthesia or the follow-up care after the anaesthesia.

2

Contact the Anaesthesia secretariat: Tel. +32 (0)9 246 17 00. Though these staff members can provide explanations when requested, if you prefer, you may always make an appointment with an anaesthesiologist.

Is everything clear?

In that case, we ask that you sign the **form 'Informed consent for anaesthesia'** found in the included **informational packet** and **bring it with you** on the day of the medical procedure. If this document is not included in your medical chart, the anaesthesiologist can refuse to perform anaesthesia on you or your child.



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