

Additional informative material on anaesthesia, pre- and post-anaesthetic diet

The anaesthetist is responsible for anaesthesia (i.e. excluding the sensation of pain and your consciousness) during surgery or other painful manipulations. It also controls and ensures all the vital processes of the body, such as breathing and blood circulation. Anaesthesia protects you from the unwanted effects of pain and the stress of surgery on your body, and creates optimal conditions for surgery. Anaesthesia also includes medical measures to help your body maintain vital functions under extreme conditions, such as those that can occur during any surgery.

There are the following types of anaesthesia:

- * general anaesthesia or anaesthesia
- * regional anaesthesia
- * a combination of both

In the case of general anaesthesia, the use of intravenous anaesthetics and/or inhalation anaesthetics (anaesthetic gases) eliminates consciousness and pain throughout the body.

Before starting anaesthesia, a cannula is always inserted into the vein and connected to the drip infusion system - this ensures that the medication can always be administered into the vein. The anaesthetic is then administered, consciousness is switched off and the patient spends the entire anaesthetic in a sleep-like state. Additional oxygen is supplied to the air inhaled - depending on the type of anaesthesia, this is done with a mask or special tubes are inserted deeper into the airway (throat or trachea). The airway tubes are inserted when the patient is in a deep sleep. In this artificial sleep, the patient often breathes insufficiently or stops breathing altogether, and the airway tubes allow full artificial respiration, usually provided by an artificial lung ventilator. In the deepest sleep and for the longest operations, tubes are inserted into the trachea - so-called endotracheal intubation. It best protects the respiratory tract from inhalation of saliva or stomach contents (in case of vomiting). Once the operation is over, the anaesthetic is no longer administered and its effects gradually diminish. When consciousness and breathing return and all other parameters are stable, the airway tubes are removed and, after a period of observation, the patient is transferred to a ward where care is continued by ward staff.

With regional anaesthesia, the pain is eliminated only in the region of the body to be operated on. Around the nerves that carry sensation from this region, drugs (local anaesthetics) are injected to block the impulse transmission in the nerve, numbing the surgical area. This means that the patient can remain awake during regional anaesthesia - usually only sedative drugs are administered during the operation to reduce possible psychological discomfort and memories of the operation. Breathing and circulation are less affected than under general anaesthesia. In case of incomplete nerve block or other circumstances, it may be necessary to switch to general anaesthesia or anaesthesia. Such combined anaesthesia can also be used in a planned, premeditated way.

In the case of shoulder or arm surgery, a brachial plexus block is performed - the medicine is injected around the brachial plexus into the neck or armpit. The nerve is located by anatomical clues, but its position can be more accurately determined with a special needle that receives a weak electrical impulse - when the needle comes in close proximity to the nerve, it causes a painless muscle contraction or tingling in the arm. Limb numbness and muscle weakness persist for several hours (6-8h), analgesic effect up to 20 hours. Spinal and/or epidural anaesthesia is most commonly used for operations on the legs, groin or perineum. In spinal anaesthesia, a very thin needle is inserted into the spinal canal while the patient is sitting or lying on their side. It feels like a small pinprick. A local anaesthetic is injected through it into the nerves exiting the spinal cord. The result is numbness in the lower body and legs within 10-20 minutes, which lasts 2-4 hours.

For longer-lasting effects or for post-operative analgesia, epidural anaesthesia is used - a very thin catheter is left in the spinal canal, through which the local anaesthetic can be delivered to the nerves repeatedly, over a long period of time.

Vascular catheterisation or cannulation.

During anaesthesia, various drugs need to be injected continuously or repeatedly into the vein. This is why a vein is always cannulated before anaesthesia is started. Sometimes access to a larger blood vessel is needed to deliver medicines particularly quickly - in these cases, a central vein (usually in the neck or shoulder) is catheterised and drains directly into the heart. Under local anaesthetic, the puncture site is numbed and a long catheter is inserted, which extends further into the vein. The catheter is also used to administer medication in the post-operative period and is less uncomfortable for the patient than catheters in the arm veins.

In more serious operations with higher risks, it may also be necessary to cannulate an artery (in the arm or groin) to measure changes in blood pressure with particular precision.

Before longer operations, it may be necessary to catheterise the bladder to drain and measure urine continuously.

CHOICE OF ANAESTHETIC

The optimal type of anaesthesia is chosen by the anaesthetist, taking into account the type of surgery, the patient's general condition and, as far as possible, the patient's wishes. Each method has its advantages and disadvantages, and we will suggest the method that is best for you. The anaesthetist will tell you about your chosen method and answer any unclear questions at the pre-operative visit.

Different circumstances may require the anaesthetist to change the type of anaesthesia before or during surgery, or to perform additional manipulations that were not foreseen beforehand.

It is our duty to let you know that no anaesthesia is without risk!

Serious, life-threatening complications directly related to anaesthesia (cardiac arrest and sudden death, permanent disruption of an organ system) are possible, but extremely rare. The most realistic possibilities are myocardial infarction, severe allergic reaction, stroke or spinal cord damage with irreversible mobility problems, critical or even fatal oxygen deprivation due to unforeseen respiratory problems. The likelihood of complications can only be partially predicted before surgery. During surgery, complications can arise not only from the anaesthesia but also from the surgery itself - for example, severe bleeding, blockage of the pulmonary artery by a thrombus or other elements. Modern anaesthetic agents, their precise dosing technology, continuous recording of vital signs by monitors significantly increase patient safety. During surgery and anaesthesia, you will be constantly monitored by an anaesthetist and an anaesthetic nurse.

Patients find general anaesthesia attractive because the time of the operation passes in sleep, without unpleasant memories of it. However, vital bodily functions are more severely affected than under regional anaesthesia, so the chance of life-threatening complications is higher. Other complications may occur, such as vomiting during anaesthesia and inhalation of stomach contents, traumatisation due to various manipulations (e.g. damage to the mouth or teeth, blood vessels, nerve impingement), very rarely, but possibly also incomplete sleep and episodic recollection of the operation. Some days may include drowsiness, impaired concentration and memory.

After spinal and epidural anaesthesia, some patients may experience headaches (approx. 1% of patients). They usually last for several days, but are uneventful and only require special treatment if the complaints are particularly severe. Nausea, vomiting and vomiting can be difficult to treat after surgery under regional or general anaesthesia.

Contrary to many patients' fears, serious neurological complications with nerve damage and subsequent movement and sensory disturbances are extremely rare with regional anaesthesia. Life-threatening complications during regional anaesthesia are rarer than during general anaesthesia.

PLEASE NOTE!

If vomiting or regurgitation of stomach contents starts during anaesthesia, these can be inhaled - one of the most real and dangerous complications. To make it less likely:

- **You must not eat for 8 hours before surgery.**
A light dinner may be taken no later than 20:00 the evening before the day of surgery.
 - **You must not drink for 4 hours before surgery.**
On the morning of the day of the operation, by 7:00 am, you may drink no more than 150 ml (half a glass) of clear, non-carbonated liquid (water, tea).
 - **Before surgery, please:**
 - remove dentures, contact lenses
 - not apply make-up, not wear (remove) nail varnish, remove jewellery
 - do not chew gum
 - You should not smoke for 12 hours before surgery and not drink alcohol for 24 hours.
 - Continue taking your regular medication up to and including the morning of the day of surgery. Only those specifically indicated by the anaesthetist or attending physician should be discontinued.
 - The night before and the morning of your operation, take the pills prescribed to prepare you for the operation and anaesthesia.
 - If you spent the night before the operation at home and go to hospital in the morning after taking the pill:
 1. You must not drive a vehicle (of any kind).
 2. You must not travel on public transport unaccompanied.
 3. You must not use electrical or mechanical devices that require care and could cause injury.
- These instructions should also be followed 12 hours after the end of surgery and anaesthesia.
4. If you are discharged home on the day of your operation, you must spend the whole day until the next morning in the presence of your family.