Rode Kruis ziekenhuis

Patiënteninformatie

Anesthesiology

rkz.nl

Rode Kruis ziekenhuis

You have recently been informed that you will be undergoing a surgical procedure by your consultant surgeon. An operation cannot take place without the use of anaesthesia whether it be general, regional or local. This brochure will help you to understand the different types of anaesthesia used as well as general information about the operation.

Preoperative Screening in the anaesthetic department
After you have been to your surgeon, you will be asked to fill in a form about your general health and medical history. You will then report to the department of anaesthesiology (desk C3) with your completed form for a consultation with the anaesthetist. In most cases it is possible to see an anaesthetist directly but if that is not possible a further appointment will be made at your convenience. During the consultation you will talk to the anaesthetist or nurse-anaesthetist. The anaesthetist carries out the different forms of anaesthetic as well as monitoring your care during and after your operation. This includes being present when you wake up, managing your post-operative pain and any intensive care, if required. He/ She will have been informed of your medical condition and will ask questions regarding your general health. They will need to know the type of medication that you take and any allergies that you may have, for example to antibiotics.

You will also be asked about any previous operations you have had and how you reacted to the anaesthetic. The information the anaesthetist now has given a general impression of your health and wellbeing. The anaesthetist can then decide which type of anaesthesia is best for you. It is also a good idea to take your medication along with you so he/she can advise you on which medication to take on the day of your operation. In most cases it is better to continue your medication but not always. If it is necessary you will be asked to give a blood sample, have an ECG (electrocardiogram) or a chest X-ray. Or you may be asked to see a cardiologist or pulmonary specialist for further diagnostic tests. Any other information regarding your medical history from another hospital where you have been previously treated will be requested. When everything is in order your details will be passed on to the

admission office who will contact you when they know the date of your admission.

If there is any change in your health or medication between your consultation with the anaesthetist and your operation please contact the Anaesthetic dept .0251-265155.

Different types of anaesthesia
The most well-known is general anaesthesia where your whole body is anaesthetised and you are temporarily unconscious. Another well-known form is local anaesthesia where a small piece of skin is infiltrated (injected) with anaesthetic fluid. The area is temporarily numb so you can't feel any pain and is used, for example to stich up a small wound. Then there is regional anaesthesia where a larger part of the body, an arm, leg or from the waist down is anesthetised, so it has temporarily no feeling in it. With this method you are awake but you can ask for a light sedative so you can sleep during the operation.

You won't see the operation as there are screens in place.

Which form of anaesthesia is best for you?
Which form of anaesthesia is best for you depends on different factors, such as your age, condition and the type of operation you will be undergoing. Your preferred choice will always be taken into consideration by the anaesthetist.

Preparation for the operation
You must be nil by mouth to prevent vomiting during and after the operation. Vomiting during the operation is dangerous because it can be inhaled into your lungs. To prevent this you must not eat anything 6 hours before admission. Two hours before your admission to the hospital you may drink clear fluids (without any bubbles), water, tea or coffee without milk (see table underneath). Hereafter you must not drink anything other than a small amount of water to take your medication with. It is advisable not to smoke for as long as possible before the operation. The airways of smokers are often irritated and therefore prone to infection and irritation.

Rode Kruis ziekenhuis

Coughing can be painful after an operation and wound healing is delayed in smokers.

HOURS BEFORE ADMISSION	WHAT YOU MAY EAT	WHAT YOU MAY DRINK	
6 hours before admission	Everything	Drink what you would normally drink	
6 till 2 hours before admission	Nothing	Clear fluids NO milk products NO fizzy drinks	
2 till 0 hours before admission	Nothing	Nothing except a little water to take with your medication	

If there is any change in your health or medication between your consultation with the anaesthetist and your operation please contact the Anaesthetic dept .0251-265155.
Leave your glasses, false teeth and hearing aid on the ward in your bedside locker unless your anaesthetist says otherwise. You can now be dressed in your hospital gown.

General anaesthesia
Before you are given the anaesthetic agents you will be attached to a monitor. ECG stickers will be put on your chest so that your heartbeat and rhythm can be observed. You will have a clip on your

finger to measure the oxygen saturation level in the bloodstream. Blood pressure will be measured on your arm or leg. An intravenous infusion (commonly known as a Drip or IV) will be brought into your arm. The anaesthetist can then inject the anaesthetic fluid via your IV. After about 20 seconds you will fall into a deep sleep.

Small children are very often afraid of needles. They can be induced into sleep by breathing in an anaesthetic gas via a breathing mask. It is also possible to use local anaesthetic cream to numb the skin so they can hardly feel the IV cannula (needle) being inserted.

To control and manage breathing during general anaesthesia a plastic tube will be introduced into your throat. You won't be aware of this because you are deeply asleep.

During the operation the anaesthetist or nurse-anaesthetist is constantly by your side. They monitor and control your vital functions during your operation. Because of the monitoring equipment they can see how your body is reacting to the operation and the anaesthetics. Breathing and blood circulation can be controlled and drugs can be injected via your IV to maintain general anaesthesia.

Waking up after general anaesthesia
Shortly after the operation you may still feel sleepy or now and again fall asleep (nod off). When the anaesthetics begins to wear off you may feel pain in the operation site. Because of the anaesthetics or as a consequence of the operation nausea may occur, you can ask the nurse for an anti-emetic drug (medicine to alleviate nausea).

Side effects of general anaesthesia
On your return to the ward you can still feel sleepy, nausea and vomiting can occur and you may have pain. The nurse knows precisely which medication she can give you, to ease your symptoms and make you feel comfortable. You may have a painful or irritated feeling in your throat, this is from the tube that was inserted during the operation to manage and control your breathing. The irritation will go within a few days. Many people are very thirsty

after an operation, if you are allowed to drink, take only small amounts. If you are not allowed to drink, the nurse can wet your lips to reduce your thirst.

You may also experience muscle pain throughout your body a few days after the operation. This is a result of a drug given as a part of the general anaesthesia. The muscle pain will gradually disappear.

Is general anaesthesia safe?
With improved monitoring equipment, availability of modern drugs, well trained anaesthetists and anaesthetic nurses, general anaesthesia is very safe. Despite all the safety measures taken, complications can not always be prevented. There can be unexpected allergic reactions to drugs. With the introduction of the breathing tube (endotracheal tube or a laryngeal mask) your teeth can be damaged. During the operation nerves in your arm or leg can be constricted causing tingling and weakness, due to unsatisfactory positioning (on the operation table).

Health professionals working with blood are at constant risk of infection because of blood transmitted diseases. If they are injured while using a needle or a blade and come into contact with blood or other body fluids, it is possible that they will become infected. If this does happen your blood will have to be tested but this can not take place without your permission. Usually your permission has already been requested in the questionnaire (form) you have completed for the anaesthetist.

Regional anaesthesia
Parts of your body can be anaesthetised by injecting anaesthetic fluid around a nerve, to enable nerves and their pathways to be shut down (blocked) causing them to be temporarily out of action. The part of the body that the nerve or nerves control becomes temporarily without feeling or movement.

With regional anaesthesia the nerves that react to pain are shut down as much as possible, but sometimes there is some feeling left. It is normal that you can feel you are being touched but it

shouldn't be painful. Often pain nerves run alongside the nerves that control the muscles. These will also be shut down, (blocked) so the muscles are temporarily paralyzed and unable to work. When the anaesthesia wears off gradually your strength and muscle control will return to normal.

What happens with spinal anaesthesia?
First of all you will be attached to a monitor, to monitor your heart rhythm, oxygen saturation and blood pressure. An intravenous cannula (IV or drip) will be inserted into your arm. Depending on the choice of the anaesthetist you will be asked to sit right up or lie on your side. The introduction of the needle is no more painful than a normal IV cannula.

Spinal anaesthesia is a form of regional anaesthesia involving the injection of a local anaesthetic into the subarachnoid space, generally through a fine needle. When the anaesthetic drug is injected you will feel your legs and buttocks becoming warm and they will begin to tingle. Eventually you will lose all feeling and control of your lower body. During the operation the anaesthetist or anaesthetic nurse stays with you constantly monitoring your care. You are conscious but can not see any of the operation as everything is screened off. If you prefer to sleep during the operation you can ask for a light sedative (sleeping medication). It is possible that you will hear background noise during the operation but this should not be too disturbing. The spinal anaesthesia can take three to six hours to wear off, depending on which strength was used.

With epidural anaesthesia, a thin catheter is left in your back to continuously inject anaesthetics during the operation for pain control. The effect of the anaesthetics depends on how long it is given. When the effect of the anaesthetics wears off you may begin to feel pain. Do not wait too long to ask the nurse for painkillers.

Side effects during spinal anaesthesia
Inadequate pain control
In some cases the anaesthetic doesn't work satisfactorily enough. The anaesthetist can sometimes inject extra anaesthetic. If this is

still not enough then the anaesthetist will ask your permission to convert to a general anaesthesia.

Hypotension (low blood pressure)
A side effect of spinal anaesthesia is that low blood pressure can occur accompanied by nausea and vomiting. The anaesthetist is aware of this and has drugs available to treat these symptoms.

High distribution of anaesthetic agent.
Sometimes the anaesthetic agent can expand and rise higher than it is required. Your hands will begin to tingle and breathing can become difficult. The anaesthetist will administer oxygen and medication, this usually alleviates the problem.

Difficulty with urinating
The anesthetised area includes the bladder, which makes urination difficult. Sometimes a catheter is inserted (temporarily) to empty your bladder.

Side effects and complications after spinal anaesthesia
Back pain
Sometimes back pain is present at the puncture site, where the needle was inserted. This is due to your posture during the operation. The pain will disappear within a few days.

Headache
After spinal anaesthesia you may experience a headache. This headache differentiates from a normal headache because the pain is reduced by lying flat but increases when you sit upright. You may also be sensitive to light e.g. sunlight. Usually this headache disappears within a week. If the symptoms are so uncomfortable that you remain in bed for more than two days then you must call the pre-operative outpatients department.

Is spinal anaesthesia always possible?
No, sometimes it isn't possible to insert the spinal cannula (needle) in the correct place. This can happen if the anatomy of the spinal column is changed for example due to old age. Sometimes the

anaesthetic doesn't work adequately enough to operate on the patient. If this is the case it is better to choose another form of anaesthesia such as general anaesthesia. These situations don't arise often.

What happens with plexus anaesthesia?
A part of an arm or a leg can be anesthetised via a nerve bundle (plexus) in a limb. This is done by injecting an anaesthetic agent around the nerves to temporarily put them out of action (shut them down).The injection can be in the armpit, neck, above the collar bone or in the back of the knee depending on the operation.

You will be given an intravenous infusion (IV or drip) before the procedure begins so intravenous medicine can be given to you, if required. The anaesthetist then introduces a needle to the area where the nerves are using the help of an echo screen. During the insertion of the needle you must lie as still as possible. When the needle is in the correct position the anaesthetist then injects the anaesthetic drug into the area around the nerves. Soon afterwards you will realise that the area anesthetised starts to tingle and becomes warm. Gradually the sense of feeling and movement disappears until the optimal effect is required. During the operation you are awake but may ask for light sleeping sedation, if preferred. You may also hear distant background noise but this shouldn't be too disturbing for you. There are screens in place so you cannot see any of the operation. When the anaesthetic wears off your feeling and movement will gradually return.

The duration of anaesthesia depends on the site and the type of anaesthetic agent that is used. When it gradually wears off you may experience pain. Do not wait too long to ask for painkillers. After plexus anaesthesia (peripheral block) in your arm you do not always have to stay in hospital until the anaesthetic has worn off. This depends on what type operation you have just had. As long as the arm is anesthetised it can be supported with a sling.

Side effects and complications of a plexus block
Inadequate pain control

Sometimes the anaesthetic drug injected doesn't work adequately enough. Sometimes the anaesthetist can inject more but if this is still not enough then general anaesthesia will be given once the anaesthetist has your consent.

Post-operative tingling sensation
The nerves can be irritated due to the injection or the anaesthetic agent that was used causing a tingling sensation in the arm and hand, long after the anaesthetic effect has worn off. This sensation gradually disappears in most cases within weeks or sometimes months. If you have any doubt and are worried about your symptoms please contact an anaesthetist by calling the anaesthetic outpatients department.

Allergic reactions
Allergic reactions to anaesthetic agents are very rare. The symptoms consist of breathlessness, hives and hypotension (low blood pressure) and can be treated easily and efficiently with medication.

Toxic reactions
The nerves that must be anesthetised (blocked) run alongside large blood vessels. It is possible that the anaesthetic drug can be injected into the bloodstream. The symptoms may consist of a metal taste in your mouth, tingling around your mouth and you will feel sleepy. You may also experience heart rhythm disturbances, jerking of your limbs and eventually coma. These symptoms can be treated quickly and successfully. Fortunately serious toxic reactions are very rare.

Post-operative care
After the operation you will be transferred to the recovery unit. Specially trained nurses are there to make sure you have a quiet and comfortable recovery from your operation. You will still be attached to monitoring equipment to enable the nurses to read your vital signs (blood pressure, heart rhythm and oxygen saturation level). You may also be administered oxygen via a cannula (thin plastic tube) in your nose. When you are fully awake from general

anaesthesia or spinal anaesthesia has worn off you may return to the ward.

It is also possible that the operation may require you to have continuous monitoring and specialised care. You will then be transferred to the intensive care unit (ICU). Visitors are allowed on the intensive care and on the wards.

If you are discharged on the same day as the operation make sure you are accompanied home by an adult. It is advisable not to be alone the first twenty four hours after surgery. Arrange transport by car or taxi as you cannot drive yourself. In those first twenty four hours rest and take things easy. Do not operate any machines or make important decisions. Drink and eat easily digestible foods. It is normal that you do not feel as well as usual. Every operation is an anxious event. The body has to recover at its own pace and this takes time.

We advise you to buy paracetamol when you have returned home. The dosage is written clearly on the packet. Stronger painkillers can be prescribed and can be collected from the chemist when you are discharged.

If you have questions or problems related to your anaesthetic please contact the hospital. In the back of the folder you will find the necessary telephone numbers.

Postoperative pain control
Pain Measurement
Your pain will be registered on the ward or unit by using a pain score. This is done to enable the doctor to get a better insight into the pain that you may experience.
Three times a day you will be asked to give a number (pain score) measuring the pain that you may have. You yourself can only tell us if you have pain and if so how much it is. Because it is difficult to measure the intensity of your pain, using a number can help. When the nurse comes along use a number between 0 and 10 to describe how much pain you have. 0 is no pain and 10 is the worst pain you

can imagine. You can never give a wrong number because it's the pain you personally experience. For example if you think your pain is a 5, then give it a 5, even if you think someone else may give it a 3 or a 7. If you have no pain than give it a 0 and a small amount of pain can be given a number between 1 and 4. If you have a lot of pain give a number between 7 and 10.

Tip 1: When you give your pain score it can help to think of pain that you previously have experienced and use it to compare it with the pain that you now have.

Tip 2: If you have pain in more places than one give the pain with the highest score.

Tip 3: If you have pain at a specific time, for example pain on urinating, then give a score for the pain at that moment. Don't forget to tell the nurse that the pain score is for that moment and not constant.

You can discuss your pain with the doctor or nurse anytime; you do not have to wait until the nurse asks you your pain score. If you have questions regarding the pain score don't hesitate to ask.

Pain control after the operation
After the operation you can experience pain as the anaesthetics begins to gradually wear off. Administering adequate pain medication is very important. Good pain medication enables you to breath, cough and move pain free and comfortably. Above all it improves your recovery and reduces the chance of complications.

There are different methods available to control and manage pain other than tablets and injections. In our hospital we use PCA (Patient controlled analgesia) and epidural pain medication which are prescribed and controlled by the anaesthetist.

Patient controlled analgesia (PCA)
This method enables you to give yourself medication when you want, allowing you to control how much is given. An infusion pump

with a remote control will be connected to your intravenous infusion. The pump is filled with a syringe containing morphine or a similar drug and is programmed by the anaesthetist. When you feel pain press the button on the remote control. The pump is programmed so you can not give yourself too much medication. You can decide for yourself when you need extra pain medication at the press of a button. An anaesthetic nurse will regularly control how you are feeling and ask if the PCA is giving satisfactory pain relief. It is possible to experience side effects from the medication such as sleepiness and nausea. Nausea can be treated effectively with medication. You cannot become addicted to pain medication given via a PCA pump.

Epidural anaesthesia for pain management
For epidural pain control the anaesthetist will introduce a thin catheter into the epidural space of the spinal cord. During the operation pain medication can be given through the catheter. When you wake up after the operation the pain medication will still be working. The catheter can be left in and pain medication can be given continuously for a few days. Normally the epidural catheter will be removed when the pain can be controlled with oral medication. You will notice a sensation of numbness below your waist and in your legs. It also paralyses the muscles in the bladder enabling you to feel the need to urinate so a urinary catheter will be inserted. The strength of your leg muscles will be reduced and you should not walk or stand without assistance. When the epidural pump is stopped your sensation will be back to normal within a few hours. Years of practice has taught us that epidural pain medication is safe and that complications are very rare.

Questions often asked about anaesthesia
I won't feel anything, will I?
No, during general anaesthesia you won't feel anything, although with regional anaesthesia you may experience a feeling of pressure and pulling.

I won't wake up during surgery, will I?
No, the most important part of general anaesthesia is the

administering of sleeping medication. Through the use of extensive monitoring equipment the depth of your sleep can be adequately controlled.

May I see the surgical procedure?
Yes, if it is possible. If you have regional anaesthesia you are awake. There are certain procedures such as an arthroplasty of the knee that can be followed on a monitor. Depending on the type of surgery, the site is screened off from the rest of your body to ensure that it remains sterile. This is to prevent contamination with potential harmful microorganism.

Am I paralyzed after a spinal anaesthesia?
Yes, but only temporarily. You will feel nothing from your waist down, roundabout the navel. Sometimes you can move your legs or toes but this doesn't mean that you will feel any pain.

May I continue my own medication?
In most cases yes. The anaesthetist needs to know what type of medication you use. Take your medication with you on the day of your consult with the anaesthetist. He/she can advise which medication you can or can not continue on the day of surgery.

How long do I have to stay in hospital?
This depends on the surgical procedure. Your surgeon will inform you how long you need to stay.

Finally
During your stay in the hospital you will come into contact with different nurses and doctors. They will ask you your name, date of birth, medication use, allergies and any other relevant information regarding previous surgery. These are compulsory procedures to reduce the chance of mistakes and risks during your stay in the hospital.

Use of anticonception or IUD (coil)
The use of general anaesthesia can reduce the effect of hormonal anticonception including, the pill, implants and hormone eluding

anticonception. It is therefore advised to use another form of anticonception along with your pill until you start your following pill strip. If you use another form of hormone eluding anticonception (for example an anti-conception ring, implant or IUD) you must use another form of non-hormonal anticonception (condoms) for 7 days after your operation.
If after reading this folder you still have questions about anaesthesia or pain control during, before and after your operation you can contact the Pre-operative outpatients clinic. The secretary is available from Monday until Friday from 8.00 -17.00.

Important telephone numbers
Within office hours Preoperative outpatients 0251-265155
Outside office (only for emergency questions): Reception desk: 0251-265555 and ask for the anaesthetist on call.

Rode Kruis ziekenhuis

Rode Kruis Ziekenhuis
Redactie: Afdeling Communicatie en Afdeling Anesthesiologie
Vondellaan 13
1942 LE Beverwijk
Foto: Robert Koelewijn - JuistInBeeld.nl
T : +31 (0) 251 26 5555
W : rkz.nl
/RKZ.BrandwondencentrumBeverwijk
/RodeKruisZH
/company/rode-kruis-ziekenhuis

Zorg van de Zaak

Het RKZ maakt deel uit van het Zorg van de Zaak Netwerk.

HD.90.0577-NL | 2017-04