



Information brochure nerve block for operations on chest and abdomen

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This brochure provides more information about regional anaesthesia (nerve block) during chest or abdominal surgery.

A regional anaesthesia means that part of the body - for example the groin region - is temporarily made insensitive to pain and numb by injecting anaesthetic medication close to a nerve or group of nerves.

The purpose of a nerve block is to give you a less intense general anaesthetic, and to provide you with greater pain relief with fewer painkillers after the surgery. Therefore you will suffer less from the side effects of these (heavy) painkillers: you will be less nauseous and dizzy. This also means you will need to remain in bed for less time, you will be able to get up sooner, may be able to eat and drink more quickly (depending on what type of operation you had), and will often shorten your hospital stay.



In practice

This regional anaesthetic or nerve block provides excellent pain-relief for 3 to 24 hours, depending on the type of local anaesthetic used. (If longer pain relief is required, the effect can be prolonged by sliding a catheter (fine plastic tube) next to the nerve and connecting it to a pain pump).

The nerve-block injection may, depending on the operation, take place at various parts of the chest or abdomen.

For chest surgery (breasts, lungs, ribs, etc.), two nerve blocks are sometimes combined (because certain areas may contain several nerves). Common injection sites are under the collar-bone, below the armpit or between the spine and shoulder-blade.

For pain relief after abdominal surgery (caesarean section, umbilical hernia, inguinal hernia, etc.), on the side of the operation, sometimes on both sides for surgery over the midline, the injection may be under the ribs, in the flank(s), above the groin, around the navel, etc.

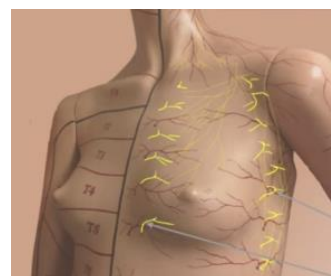
Your anaesthetist can explain which anaesthetic is most suitable for you.

The injection

You should not eat or drink before surgery. Clear instructions can be found in the anaesthetic information leaflet.

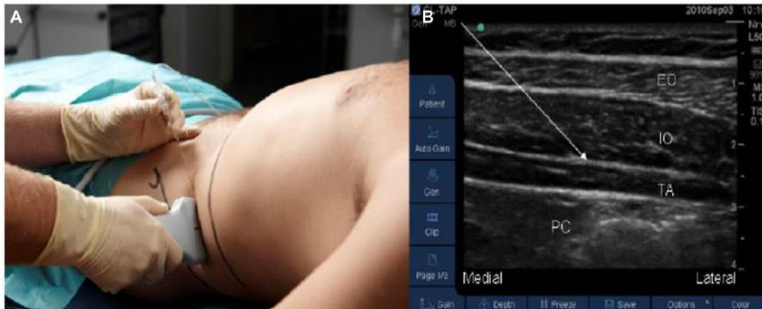
Before the nerve block, you will be taken to a room near the operating room, in which all monitoring is first switched on: blood pressure, oxygen saturation and heart activity.

Sometimes a mild sedative (minor anaesthetic) will be given in advance: your anaesthetist will give you medication to help you relax.



When a nerve block is combined with total or partial anaesthetic (spinal anaesthesia by means of an epidural), this anaesthetic will often be administered after the injection for the nerve block.

The skin around the injection site is always disinfected, after which the injection site is locally anaesthetised with a minor prick.



The nerves are located by means of an ultrasound and/or nerve stimulator.

By means of the ultrasound, we can see the nerves, the needle and the injected product.

N = nerve

The nerve stimulator is a device that stimulates the nerve in question with a low electrical current through the tip of the needle. This helps to ensure that we are close enough, but not too close to, the nerve. You will find that some muscles may make minor involuntary movements (twitches) as a result. However, this does not hurt.

In this way, we ensure the best chance of a successful block and reduce the risk of complications.

Most people experience the injection as no more painful than inserting an infusion.

During the operation

In cases where no general anaesthetic is used (spinal anaesthesia by epidural with/without nerve block), you will still NOT see the procedure because surgical drapes are used for sterility.

An operating theatre is a busy place. On average 5 to 8 people will be walking around the room, each with their own role in your care.

An anaesthesia nurse will be with you throughout the procedure. Your anaesthetist will also be nearby.

If you have been sedated, you will feel relaxed and sometimes a little sleepy. You may be given extra oxygen through a plastic mask or nasal cannula. You will probably not remember everything that happened in the operating room.

If you were under general anaesthetic, you will of course not remember anything that happened during the operation.



Advantages of a regional anaesthetic / nerve block

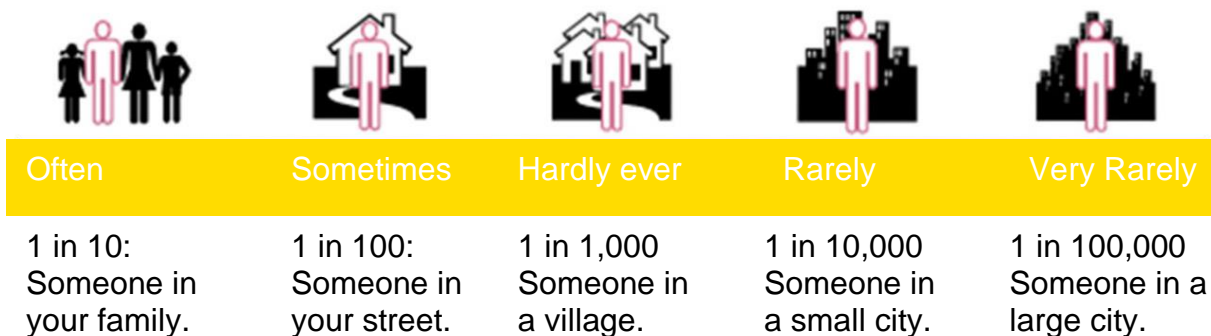
- Better pain-relief afterwards. It generally reduces the need for powerful pain-killers (morphinates) which have their own side-effects (nausea, itching, upset stomach, constipation, etc.).
- There is less risk of nausea, therefore, depending on the type of surgery, you will be able to eat and drink sooner.
- People also tend to be able to get up and leave the hospital sooner.

Side-effects and complications of regional anaesthetics

Serious problems are rare in modern anaesthesia. Although risks cannot be completely excluded, modern medicines, equipment and training have made your anaesthetic a much safer procedure in recent years.

Your anaesthetist will take all possible precautions to prevent the risks listed below. He/she can give you more information about each of these risks, and the precautions that are taken.

Potential risks are shown in this figure:



Bleeding by puncturing a blood vessel

- In some cases a blood vessel may be punctured. This is usually remedied by applying pressure to stop the bleeding.

Muscle weakness of the leg in the case of an abdominal nerve block.

- The sedative may sometimes seep through to the leg nerves, causing temporary anaesthesia, resulting in muscle weakness at the leg. In that case there is a risk of falling if attempting to walk. This effect will disappear together with the effect of the anaesthetic.

Rare to very rare: pneumothorax

- Up to 4 in every 10,000 nerve blocks around the collar-bone can cause a pneumothorax by puncturing the pulmonary membrane. Depending on severity, a drain will either be placed or not placed between the pulmonary membranes.

Very rare: pricking of the intestines with possible injury or bleeding

- In cases of nerve blocks in the abdominal wall, there is a risk of perforation of the intestines, with possible injury or bleeding as a result. This risk did exist in the past, when pricking was done without proper monitoring. Ultrasound control is used nowadays, so this risk is very remote.

Rare to very rare: Nerve injury

- After every operation there is a degree of risk of nerve injury, irrespective whether you have received a nerve block. This risk is difficult to measure exactly, but studies show that it occurs in 9 patients in every 10,000 operations 6 months after surgery.
- It can occur as a result of the procedure, your posture during the operation, direct nerve trauma caused by the needle or by excessive pressure around/in the nerve when injecting the medication.
Swelling around the operation site, or a pre-existing condition such as diabetes, smoking or high blood pressure, can also contribute to nerve injury after surgery.
- No cases of nerve injury have been described to date as a result of nerve blocks of the chest or abdomen.
- What will you notice in cases of nerve injury?
Some people experience a slightly different sensation. For example, an area of numb skin or tingling can be noticed. Some patients describe a changing sensation or even pain at a particular region.
In rare cases, muscle weakness in one or more muscles may occur.

Rare to very rare: a seizure or other life-threatening situation

- A seizure (8/100,000 nerve blocks) or another life-threatening situation may occur. Your anaesthetist will treat these immediately.
He/she will give you more information about this complication.

Your anaesthetist will obviously make every endeavour to prevent and/or treat these complications.

Alternatives

Various techniques are available for pain-killing after an operation. Every patient will receive a combination of pain-killers through the catheter or in tablets.



In addition, a pain pump can also be started up instead of, or together, with a nerve block.

There are four types of pain pumps. One technique is to administer pain-killers through an epidural catheter (fine plastic tube between the vertebrae high or low in the back). This provides excellent pain control, which can be maintained by using a pain pump.

Epidural pain-killers of this type always work on both sides (left and right, which is not always necessary), and means that you are 'attached' to your hospital bed, both literally (because of the plastic tubes between your catheter and the pump) and in a practical sense (your leg muscles may be sedated to a greater or lesser extent). Also, the pain pump which administers

intravenous pain-killers (through the infusion), or the pain pump where the catheter is placed next to the nerve, makes you physically attached to the serum stand/bed.

A last type of pain pump works by administering a pain-killing tablet under the tongue (Zalviso).

After the operation

You should take a pain-killer before the block wears off completely, making sure it can start working before pain actually occurs.

Aftercare

Ensure, in cases of an abdominal nerve block, that you haven't lost muscle power in your legs before getting up.

Special situations

You should seek special medical help if you experience inexplicable shortwindedness, severe pain that does not go away with medication or a numb or paralysed feeling of a limb.

You can reach the anaesthetist through the reception of Jan Yperman Hospital at 057 35 35 35.

Further information

Anaesthetists are doctors who specialise in sedation and pain- control, who:

- Explain to you with type or types of anaesthesia are suitable for your surgery. If there are several options, he or she will help you make the right choice.
- Will discuss the risk of sedation with you.
- Will discuss a pain-control plan with you after the operation.
- Are responsible for the administration of medication in cases of anaesthesia.
- Are responsible for your comfort and safety during and after the operation.
- Take care of a blood transfusion if necessary.
- Arrange for admission to intensive care if necessary.
- Ensure that the experience before, during and after your surgery is as peaceful and pain-free as possible.

Information video on regional anaesthetics

Would you like more information about the anaesthesia? Watch the video on our YouTube channel *vzw Jan Yperman Ziekenhuis* or scan the QR code below with your smartphone.



