

Pain relief during childbirth



Various forms of pain relief are possible during childbirth. This folder discusses the forms of pain relief that are used when you give birth in a hospital of Haaglanden Medisch Centrum (HMC).

General

Childbirth is painful. The duration and pain experienced during childbirth is different for each woman. The body produces substances during childbirth that have an analgesic effect: endorphins. However, it regularly happens that women find the pain unbearable. Exhaustion, fear or tension can play a role in this. For many women, a hot shower, a hot bath or massage helps relieve the pain. If this does not work sufficiently, the pain can be suppressed with medication. If you are experiencing too much pain during the delivery, you can indicate this to the person who is accompanying your delivery. He/she then discusses the possibilities with you, after which a choice is made. You can also discuss pain relief with your midwife or doctor during your pregnancy.

Forms of pain relief

Several different methods of pain relief are possible during childbirth. Each method has its own application and its advantages and disadvantages.

Pain relief with Pethidine

Pethidine is a morphine-like drug that is given in the leg or the buttock via an injection. The injection helps lessen the pain and means you can relax better between the contractions. Some women become drowsy or even fall asleep. Mostly Pethidine is given in combination with the soothing substance Phenergan. A CTG (cardiotocography) is done prior to the injection. This registers the heartbeat of the baby and the condition of the baby can be monitored. This takes approximately 30 minutes. After the injection, it takes about 15 minutes before the medicine starts working.

Advantages

Pethidine has a strong analgesic effect. This allows you to rest and handle the pain better. As a result, the dilatation is often quicker. The medication can be administered by the nurse who is taking care of you.

Disadvantages

For the mother

A Pethidine injection does not work for more than two to four hours. Sometimes this is not long enough. You may then receive another injection. Sometimes you become nauseous, dizzy or experience headaches. Pethidine makes you sleepy and less aware of what is happening around you. This can mean that some women do not experience the delivery consciously and sometimes even feel horrible. Afterwards they may feel that they have “lost” part of the child birth. If the doctor or obstetrician thinks that this causes problems, for example that you cannot push properly, medicine (Naloxone) can be given that counteracts the actions of Pethidine. Pethidine is only given at the hospital. If you get this medicine, you can give birth with your own midwife. Once you have received the injection, you may no longer walk around because you may be drowsy and could fall. If you have severe asthma or are taking certain medicines, you may not be able to use this form of pain relief.

For the child

Because Pethidine passes through the placenta, it also comes into contact with the baby. This results in the baby also becoming sleepy and less mobile in the womb. Pethidine can also inhibit the baby’s breathing, making it difficult to breathe after birth or making the baby drowsy. It may mean that the baby drinks less well after birth. There are medicines that can be given to counteract the effects of the Pethidine. This is then given after birth through an injection in your baby’s leg. If the midwife or doctor has doubts about the condition of your baby, Pethidine may not be an option.

Epidural anaesthesia

There are two types of anaesthesia available, the epidural and the spinal. If you need pain relief and have a regular delivery, you will be given an epidural. A spinal is normally administered for a caesarean. This is described later on in this folder and in the caesarean section folder. In this folder, we will use the general term epidural when talking about pain relief during a regular delivery.

For an epidural, the anaesthesiologist inserts a tube into your lower back via a needle, close to the nerves there. Via this tube, the anaesthesiologist injects anaesthetic fluid into the space between the vertebrae (the epidural space, hence the name epidural). Nerves run through here, which carry pain stimuli from the uterus and the pelvic floor to the brain. When these nerves are temporarily “turned off”, you will no longer feel the pain of the contractions. In addition to pain nerves, there are also nerves in this space that control the muscles in the lower body. As a result, the epidural can cause the muscle strength in the legs to temporarily decrease so that you experience less feeling in the legs and lower abdomen.

Preparations and checks

The nurse gives you an infusion. This is a needle in your arm through which extra fluid will be administered. This is necessary to prevent your blood pressure from decreasing too much. The drop in blood pressure can be a reaction to the medication. Your pulse and blood pressure will be monitored. The heart sounds of the child are monitored with a CTG.

Placing the epidural

The epidural is given by an anaesthesiologist. This is done in a special room with equipment in the operating department. The anaesthesiologist punctures you while you are sitting, leaning forwards. You must stretch your back as much as possible and keep your body as still as possible. This increases the space between the vertebrae.

The skin where the puncture is inserted is cleaned with disinfectant and locally numbed with a thin needle. Then the doctor will insert a larger needle into your back. Through this needle a thin tube is inserted between the vertebrae. The analgesic fluid is then administered through this tube, temporarily “turning off” the nerves. The tube is held in place by a plaster.

What do you feel?

You first feel a small sting from the anaesthetic. The sting from the needle with which the tube is inserted is quick and does not hurt because of the numbness of the skin. Inserting the tube can give a kind of shock when it is in the right place.

After the injection

Once the tube is correctly in place you can move again. The tube is connected to a pump through which a small amount of anaesthetic fluid continuously runs. On average, it takes ten to thirty minutes before you notice the effect.

Further checks

Your blood pressure, pulse and temperature are checked regularly during labour. The nurse who takes care of you will regularly ask you if the pain relief still works sufficiently. Your baby is continuously monitored through the CTG.

Because you no longer have feeling in the lower part of your body, you no longer feel that you have to urinate. For this you will receive a temporary bladder catheter. This is a tube that is inserted through the urethra to the bladder and keeps your bladder empty.

The effect of the epidural

Usually you experience virtually no pain during the dilation or during pushing. Sometimes your legs can become limp or you feel a tingling, numbness in your abdominal skin and/or your legs. These effects disappear when the medication is stopped.

The epidural may have insufficient results. In about five to ten percent of women this is the case. Then the tube must be checked to see if it is correctly positioned. Sometimes it is necessary to do the puncture again. The anaesthesiologist looks for a balance in the dosage. The pain must be tolerable, while the side effects are kept to a minimum. At the height of a contraction you can still feel some pressure or a little pain. The epidural, however, gives you some rest and you can regain strength. By reducing pain and anxiety, the dilation can then go faster.

How does childbirth happen with an epidural?

The epidural will stay in place until you have given birth. Most women get and feel the contractions despite the epidural. Sometimes it takes a while before the spontaneous sensation to push starts. When this takes too long or does not happen, the pump that administers the medication is stopped.

You will then feel the contractions and the urge to push again. The pushing phase can therefore take a little longer. If this takes too long, the doctor may decide to use the vacuum or forceps.

Can an epidural always be given?

In principle, at the hospitals of HMC, an epidural is possible 24 hours a day. In certain situations, an epidural is undesirable, such as in cases of blood clotting disorders, infections, some neurological disorders and abnormalities or previous spinal surgery. If you are overweight, the placement of the epidural can be more difficult and may be slower.

Side effects

Blood pressure drop

The drugs of the epidural widen the blood vessels in the lower body. This can lower blood pressure. To prevent this, you will receive extra fluids via an infusion before the epidural is inserted. When blood pressure is too low, you start to feel unwell or experience dizziness. The blood pressure drop may also change the heart rate of your baby. This is visible on the CTG.

Bladder function

Because of the anaesthetic of the lower body, it is difficult to feel if your bladder is full with an epidural. Urinating can also be difficult. For this you will receive a temporary bladder catheter. This is a tube to the bladder that drains the urine and keeps the bladder empty.

Itching

A slight itch is sometimes a reaction to the anaesthetic fluid used. Treatment is rarely necessary.

Shivering

You may start shivering after the spine has been punctured without being cold. This is harmless and usually short-lived. The shivering is caused by changes in your temperature feeling.

Fever

If the epidural is present for a long time, this can lead to fever in the mother and an accelerated heartbeat in the mother and child. When your temperature rises above 38 degrees and your baby's heart rate exceeds 160 beats per minute, antibiotics are administered via the infusion. This is out of precaution because fever and a high heart rate can be signs of an infection. Your child will be checked by the paediatrician after delivery and transferred to the children's ward for observation if necessary.

Complications

Headache

In one percent of all patients with an epidural, the space around the spinal cord (the epidural space) is punctured. The result is a headache, which usually only occurs the next day. This is an unfortunate complication. When it comes to headaches, it is important that you contact your doctor. He will then consult with the anaesthesiologist.

Back complaints

Back complaints during pregnancy and around delivery occur in between five and thirty percent of women. Back complaints after delivery with an epidural are not directly caused by the epidural but are probably the result of the unusual posture during childbirth. However, the epidural can give a temporary feeling of soreness at the puncture site.

Influence of pain medication on the start of breast feeding

The period immediately after birth is very important to make breastfeeding successful. The baby uses its reflexes (search, suction and swallow reflex) to find, with or without help, the breast and to drink from the breast. Because of the pain relief or an instrumental delivery, these reflexes can be numbed, making it harder for the baby to look for the breast themselves.

The use of Oxytocin (contraction inducer) can mean that the release of the natural Oxytocin is more difficult. Lots of skin-to-skin contact (at least one hour), right after birth and in the days after, can help. Oxytocin is a hormone that also helps the production of breast milk.

Epidural anaesthesia can cause a fever in the mother. For this, antibiotics are given via the infusion during labour. With these antibiotics you can still breastfeed. If a mother has a fever, this is discussed with the paediatrician. Because fever can be a sign of an infection, the paediatrician can decide to take the baby to the incubation department for observation and for the administration of antibiotics. We advise you to request additional guidance when breastfeeding if necessary.

Other complications

The chance that large amounts of anaesthetic fluids will unintentionally enter the bloodstream or spinal fluid is extremely small. In such a case, breathing becomes more difficult. You will then be treated accordingly.

Advantages and disadvantages

- An epidural is the most effective form of pain relief during childbirth because in most cases it removes all pain and does not fade.
- An epidural can be given day and night.
- An epidural gives pain relief during the entire delivery. Depending on the situation, the doctor may decide to stop the epidural which will make you feel more pain again.
- Your condition and that of the baby are continuously monitored. As a result, you will be in bed attached to wires and you cannot leave the bed.
- The chance of serious complications is very small. Sometimes unpleasant side effects can occur that are not serious: drop in blood pressure, headache, loss of strength in the legs, itching, reduced bladder function and fever. These complaints are easily treatable and of a temporary nature.
- In about five to ten percent of women, the analgesic effect is insufficient.
- With an epidural there is an increased chance of an instrumental delivery. This concerns a vacuum or a forceps delivery. There is no increased chance of a Caesarean.

Pain relief with nitrous oxide

At HMC Westeinde we use nitrous oxide (laughing gas) as a form of pain relief during childbirth. The hospital has technical provisions that are prescribed by law to prevent the employees who administer nitrous oxide daily from inhaling too much. In Dutch hospitals, the use of nitrous oxide has been minimal for a while due to the question of whether chronic exposure of nitrous oxide would be dangerous for employees in the delivery rooms. In contrast to countries such as England, Canada, Australia, Finland, Sweden and Norway where it is frequently used.

For who?

For women who give birth under the supervision of the midwife and have a desire for pain relief in a further uncomplicated (“without problems”) delivery. But also, for women who give birth under the supervision of the gynaecologist and where nitrous oxide is medically safe during childbirth.

How does it work?

Nitrous oxide is a mixture of nitrogen gas and oxygen which is inhaled. It affects the nerve conduction of the pain signals to the brain. It is not yet clear how the mechanism works. Research into the effectiveness of nitrous oxide as pain treatment during childbirth shows that women suffer less pain. In 40-50% of women, nitrous oxide helps sufficiently and no other pain relief is needed. Nitrous oxide causes the woman to become somewhat drowsy and the sharpest pain is no longer felt. It works fast and short-term. Sometimes women can also become very cheerful and happy. That is where the name “laughing gas” came from. Laughing gas has no influence on the course of the delivery and no effects on the child.

When is it administered?

Laughing gas can be given at any time during the dilation, but the dilation must already be somewhat advanced. The laughing gas helps you relax and numbs you a little. During pushing you can no longer use laughing gas because you have to be able to fully concentrate. After you stop using laughing gas, you will be given another five minutes of oxygen. This will eliminate the effects of the laughing gas.

Advantages of laughing gas

- It works immediately from the moment you start using it.
- Laughing gas ensures that you can relax properly.
- You fully experience the delivery.
- Once the laughing gas is stopped, it quickly disappears from your body.

Disadvantages of laughing gas

- See possible side effects below.
- You cannot walk around.
- You cannot use laughing gas when pushing.
- You can only use laughing gas when it is available in the department (up to two patients can use the laughing gas at the same time). Inquire about the possibilities.

Possible side effects of laughing gas

- Nausea and vomiting (can also occur without laughing gas during child birth).
- Dizziness.
- Exuberant mood.
- Sleepiness and drowsiness.
- Fear of breathlessness because of the mask.

How is laughing gas administered?

Laughing gas is only given from the moment the contraction starts until it has disappeared and is administered with a mask. You hold the mask yourself. You need to start with the laughing gas by breathing (deeply) about half a minute before the contraction starts. This ensures that you have the most effect during the contraction.

The concentration of laughing gas in the delivery room must be kept as low as possible so that the safety of the employees is guaranteed. That is why you have to wear a chin mask so that all laughing gas exhaled by you is sucked away. Women do not seem to suffer from these masks. When you stop inhaling the laughing gas, you will be given another five minutes of oxygen with an oxygen mask.

Then you will have to wear the chin mask for another 20 minutes, as laughing gas is still present in the air you exhale.



Laughing gas mask (this gives the laughing gas)

Instructions during child birth

The obstetrician/gynaecologist or nurse will accompany you during the administration of the laughing gas with the mask. They will give you instructions during labour.

If after 15 minutes it appears that the use of the laughing gas with mask and chin mask is not going as planned, the pain relief is stopped. Otherwise there will be too much laughing gas in the room, causing the employees to breathe in too much.

In conclusion

Laughing gas is a fast-acting pain relief that is easy to use. You, your baby and the process of giving birth are of course closely monitored during use. The choice for pain relief is made in consultation with your partner and your midwife or gynaecologist.

Questions

If you have any questions, discuss them with your midwife or gynaecologist. They are always ready to answer your questions!

What if you need an operation?

For caesarean sections, both epidural and spinal anaesthesia can be used. Spinal anaesthesia is usually given during a planned caesarean section. In case of emergency, spinal anaesthesia is also given. Spinal anaesthesia works quickly and effectively.

If you have already had an epidural, it will often also be used for the caesarean section. A stronger local anaesthetic is then injected through the tube to strongly numb the lower half of your body.

We have already discussed epidural anaesthesia above. An explanation of spinal anaesthesia follows.

What is spinal anaesthesia?

In the case of spinal anaesthesia, the anaesthesiologist injects a small amount of anaesthetic fluid between the vertebrae in the fluid space around the spinal cord via a thin needle. The spinal itself almost never hurts and lasts for a short period. Sometimes the skin is numbed first. Occasionally, you may feel a pain in your legs during the puncture. Very soon the lower body is numbed to above the navel. In the beginning you will feel a warm, tingling sensation in your legs.

Once the effects of the injection start to work you will hardly be able to move your legs. The place where the gynaecologist makes the incision is completely numb. You will not have any pain during the operation, but you will feel that the gynaecologist is busy pushing aside abdominal muscles for example. You are conscious. Depending on the circumstances, it is possible to see your child immediately after birth. More information about the operation itself can be found in the folder "A caesarean section".

Side effects and possible complications of spinal anaesthesia

Blood pressure drop

The drugs of the spinal epidural widen the blood vessels in the lower body. This can lower blood pressure. To prevent this, you will receive extra fluids via an infusion before the spinal epidural is inserted. When the blood pressure is too low, you start to feel unwell or experience dizziness. The blood pressure drop may also change the heart rate of your baby. This is visible on the CTG.

Shortness of breath

Occasionally, the anaesthetic fluid goes up inside the area in which it is sprayed. This can cause breathlessness and sometimes an anxious feeling. Fear is not necessary because the anaesthesiologist intensively monitors your breathing and offers support if needed.

Headache

In spinal anaesthesia, a small hole is made in the membrane that is located around the spinal cord. Almost always, this hole closes automatically, but once in a while some fluid will leak out. This results in a headache. The chances of this is one to three percent. This is a tedious, but innocent complication that can be treated.

A total spinal block

In the case of a total spinal block, the anaesthetic fluid also numbs the upper part of the body. Breathing on your own is not possible and the anaesthesiologist will have to give you anaesthetic to be able to ventilate you. Once the anaesthetic fluid loses its effect, you can breathe again. This is an extremely rare complication.

Is spinal anaesthesia always possible?

Spinal anaesthesia for a caesarean section is possible at any time of the day; even if you already have contractions. Occasionally the gynaecologist or the anaesthesiologist would rather not opt for a spinal. For example, if they need to hurry or if you have a blood clotting disorder or an infection.

Pain relief information video

On the HMC website you can view an animated film about pain relief:

www.haaglandenmc.nl/specialismen/afdeling/vrouw-en-kindzorg.

You can also download a film about pain relief during delivery on the KNOV website at www.deverloskundige.nl/over-de-verloskundige.

Questions

If you still have questions after reading this folder, you can discuss these with your doctor or midwife. We request that you contact the hospital during office hours if your question is not urgent. The contact details:

- Gynaecology / obstetrics HMC Bronovo: 088 979 46 90
- Gynaecology / obstetrics HMC Westeinde: 088 979 24 22

In case of emergencies outside of office hours, you can contact the following telephone numbers:

- HMC Bronovo: 088 979 79 00. Then ask for the obstetrics department at HMC Bronovo
- HMC Westeinde: 088 979 21 04

Accountability text

This text has been officially established by the Nederlandse Vereniging van Obstetrie en Gynaecologie (NVOG) [Dutch Society of Obstetrics and Gynaecology] in collaboration with the Sectie Obstetrische Anesthesie van de Nederlandse Vereniging van Anesthesie [Obstetric Anaesthesia Section of the Dutch Association of Anaesthesia]. The text is adapted to the working method within HMC.

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