

## Pain management during birth

### **Pain during childbirth**

Every woman experiences labour differently. Giving birth hurts, that's for sure. But every birth is different and some women can cope more easily with the pain than others. There are some important things to know about labour pain.

- Labour pain is caused by contractions of the uterine muscle.
- At the beginning of labour, the pain is not severe and there is more time between the contractions. Gradually, the contractions become stronger and the time between the contractions becomes shorter.
- The pain comes in waves. During a contraction, the pain increases slowly and then fades away again. In the interval between contractions, there is almost no pain.
- Pain ensures you are aware that you should focus on the labour, that you must seek a safe place and call for help.
- The body itself makes endorphins, which cause you to feel the pain less.
- Pain puts some useful stress mechanisms into operation. This is important for the progress of the delivery, it works as a motivation and is performance enhancing.

### **Dealing with pain during childbirth**

Dealing with the pain and going through the birthing process gives many women a sense of strength and pride. To achieve this, it is important that you are in an environment where you feel safe. It works best with those around you whom you trust and who can motivate and help you at times when it is difficult.

Therefore, you must think carefully who you want to have with you during

childbirth; only your partner, your family or a good friend. Perhaps you need the continuous presence of a doula, someone with extensive experience in supporting pregnant women and their partners. The medical supervision of the birth itself is always done by a midwife or an obstetrician/gynaecologist (in training). There is also a nurse and often an intern or student midwife present.

### **Pain relief without medication**

In the beginning of labour, the pain is not so severe. Then it is good to seek distraction. It usually works quite well to do some things around the house, to read or to watch TV. When the contractions become stronger, everybody has her own best way of dealing with the pain. It is good to try out a number of positions, such as sitting, leaning forward, lying on your side. Some women like to be massaged, others find relaxation in the bath or shower. Heat may well help to make the pain bearable. Try, during pregnancy, to investigate the possibilities. Childbirth classes can be helpful for practising postures and relaxation.

Women who have a medical reason to give birth in the hospital, usually have a monitor continuously recording the heart sounds of the baby via a CTG [cardiotocography]. Often, an IV drip is also necessary. This makes freedom of movement during labour somewhat limited, but there are still plenty of opportunities to find a comfortable position. Ask your midwife or gynaecologist about the possibilities. Bringing your own music is possible and can make the atmosphere in the room more relaxed.

### **Pain relief with medication**

For pain relief during childbirth, there are several possibilities; epidural analgesia and remifentanyl. We will, in a nutshell, explain each of the advantages and disadvantages.

### **Epidural analgesia**

The epidural provides the best pain relief and is not dangerous for the child. The epidural is given by an anaesthesiologist in the operating room or in the delivery room you are staying in. In Amstelland Hospital, an epidural can be given, in principle, 24 hours a day. If it is very busy in the operating room, it is possible that there is a waiting period before the epidural is given.

You have to give permission for the epidural beforehand. This means that you:

- know what the pain relief entails;
- have been informed about the risks, benefits and drawbacks;
- are not hypersensitive to drugs such as Marcaine, bupivacaine, Naropin, ropivacaine, lidocaine or sufentanyl.

### **What happens during an epidural?**

- *Preparations and checks*  
Firstly you are given extra fluids through a drip. This is necessary to keep your blood pressure at the right level. Your pulse and blood pressure are checked regularly, sometimes with the aid of automatic monitoring equipment. The baby's heart sounds are monitored by means of CTG (cardiotocograph).
- *The administration itself*  
You will first receive a local anaesthetic: a small prick in the skin of your back so that the skin becomes insensitive. This happens while you sit hunched over. Then, the anaesthesiologist inserts a thin tube into your body through a needle in your lower back. This is the epidural. Thanks to the local anaesthetic, the epidural is not very painful. It often happens that, during the prick and insertion of the catheter, you feel a tingling sensation in the lower body.

Via the tube, you get the analgesic liquid in your back during the entire delivery. The pain does not disappear immediately after the epidural, it takes about fifteen minutes.

- *Further checks*  
During the birth your blood pressure, pulse, urine production and sometimes the oxygen level in your blood are regularly checked, as is the adequacy of pain control. The baby's condition is also monitored.

### **What are the effects of epidural pain control?**

It is possible that you will not have any pain during the first or second stage. Your legs may become limp or you get a tingling numb feeling in the skin of your abdomen and/or in your legs. These effects disappear when the medication is stopped. For approximately 5% of women the epidural pain control gives insufficient results.

### **How the birth progresses with epidural pain control**

By the time you are fully dilated, the amount of medicine administered is often reduced. This way you will be able to feel the contractions better so you can start pushing. It may take a while before the urge to push starts. The second phase may therefore take a bit longer.

With epidural pain relief, the likelihood of an assisted delivery is higher: a birth with vacuum extraction, forceps or caesarean section (see the leaflet 'A vaginal delivery'). It is also likely that administration of oxytocin (hormone) is required. If a Caesarean Section is required, it may be possible to use the epidural catheter, but the anaesthetist may opt for a different type of pain control: spinal anaesthetic or general anaesthetic.

### **Is epidural pain control always possible?**

In certain situations epidural pain control is not possible, such as in the case of blood clotting problems, infections, certain neurological conditions, and any abnormalities or previous operations involving the spinal column.

## Side effects and possible complications with epidural anaesthetics

- *Drop in blood pressure*  
The epidural anaesthetic cause the vessels in the lower body to become wider, making the blood pressure drop. In order to prevent this you will be given extra fluids via a drip when the catheter is inserted. Low blood pressure may make you feel uncomfortable or dizzy; by lying on your side these symptoms become less and this prevents a further drop in blood pressure. A drop in blood pressure may also affect your baby's heartbeat. This will show on the electrocardiogram(CTG-monitoring).
- *Bladder function*  
Due to the anaesthetic in your lower body for epidural pain control, it is difficult to feel whether your bladder is full. Urinating may also be difficult. For this reason you are provided with a bladder catheter.
- *Itching*  
A slight itch may occur as a reaction to the anaesthetic fluids that are used. Treatment is rarely necessary.
- *Shivering*  
After the epidural has been applied, you may start shivering without you feeling cold. This is harmless and usually does not last long. The shivering is caused by changes in your temperature sensation. You may develop a fever during the epidural, the reasons for this are as yet unclear. The gynaecologist may decide to start antibiotics as the fever could be an indication of an infection. The baby may also need antibiotics after the birth, which means that a short stay in the incubator room is required.

## Complications

- *Headache*  
In 1% of all patients using epidural pain control the area around the spinal cord (the spinal cavity) is also punctured. This leads to headache that usually occurs the following day. It is an unpleasant but innocent complication. In half of the cases simple measures such a rest (lie

down), medication and intake of plenty of fluids, are sufficient to resolve this. If the headache should persist longer, the anaesthetist will find another solution.

- *Other complications*  
The risk that large quantities of anaesthetic fluids unintentionally end up in the blood stream or brain fluids is extremely small. Should this however be the case breathing difficulties may occur, but this can be treated. For this and other reasons you are intensively monitored during and after the application of the epidural.
- *Back problems*  
5-30% of women experience back problems during the pregnancy and at the time of the birth. Back problems after a birth with epidural pain control are not directly caused by the epidural catheter, but are probably caused by a lengthy unusual position during the birth when there is tension on nerves and ligaments around the pelvis and spinal cord. The epidural catheter may cause you to feel sore at the puncture site.

## Summary of advantages/disadvantages of epidural pain control

- The most effective form of pain control during birth. In principle it can be administered at any time, both during dilation and during the pushing stage. The amount of anaesthetic may be reduced during the pushing stage so you can be more actively involved in the pushing. You therefore may feel pain again during pushing.
- Extensive monitoring is required for you and the baby. You will have a drip, blood pressure sleeve, a catheter in your back usually also connected to an infusion pump, almost always CTG-monitoring by means of an electrode on your baby's head, a pressure catheter in the womb to register contractions and sometimes a bladder catheter.
- The risk of serious complications such as nerve damage, meningitis and epidural haematoma (blood clot) is

very low. A very rare complication is unforeseen unconsciousness (1:100,000). An extremely rare complication is paralysis (1:250,000).

- It is hardly ever possible that you can continue to walk around before the birth, you must remain in bed.
- In approximately 5% of women the pain control is not sufficient.

With epidural analgesia, there is a greater chance that oxytocin (hormone) administration will be necessary, that the second stage will take longer, and that an assisted delivery is required.

### **Remifentanyl**

Remifentanyl is a morphine-type painkiller. It is commonly used during operations, but its use during births is relatively new. This medicine is therefore not officially registered. Research shows that, during proper procedures and careful monitoring of mother and baby, it can be used safely.

For whom is this pain control suitable?

- Your birth must be well progressed.
- You know what the pain control entails and you have given permission for its use.
- You are not allergic to Remifentanyl.
- You have not been administered with any medication beforehand that may intensify the effects of Remifentanyl.

Remifentanyl is administered into your blood by a drip (a tube attached to a needle). This drip is connected to a pump that regulates the amount of Remifentanyl.

If you have pain, you can give yourself some Remifentanyl. This is simply done by pressing a button. Please be aware that it takes about two minutes after pressing the button for the extra pain control to start working. It is therefore recommended to do this in between contractions, giving you the most benefit of the pain control for the following contraction.

It is not possible that you can give yourself too much Remifentanyl. The pump is carefully set with regards to

quantity and time. In addition you are carefully monitored, whereby your blood pressure and oxygen level in your blood is automatically checked every fifteen minutes. If the oxygen level becomes too low, you will be given extra oxygen via the nose. The baby's heartbeat is also registered continuously.

On full dilation pain control is stopped and the effects of the pain killer soon disappear, both in the mother and the baby.

### **Side effects**

The following side effects for mother and baby are known:

- nausea;
- itching;
- some drowsiness;
- possibly some restricted breathing.

These side effects usually reduce or disappear when the dosage is reduced.

### **Laughing gas**

Laughing gas (Relivopan®) is a mixture of (di)nitrous (oxide)(N<sub>2</sub>O) and oxygen (O<sub>2</sub>). During a contraction, you give yourself laughing gas through a nose-and-mouth mask. You place the cap over your mouth and nose, strap on the chin mask and then breathe in the gas. After the contraction passes, you remove the cap and the laughing gas stops automatically. The midwife keeps an eye on whether you are using the laughing gas correctly.

Laughing gas may only be used in environments that have adequate administration and ventilation facilities. In other words, in birthing centres and hospitals and, therefore, not at home.

### *Advantages of laughing gas*

- Laughing gas works quickly, taking effect after just one minute.
- Laughing gas helps you relax, and it increases your ability to tolerate pain.

- The use of laughing gas does not require any additional monitoring of your condition or that of your baby.
- You are conscious for the childbirth.
- You may use laughing gas when delivering in a birthing pool, provided there are no medical restrictions.
- Once you stop inhaling the laughing gas, it quickly dissipates from your body.
- Laughing gas does not have any side effects for your baby.

#### *Disadvantages of laughing gas*

- Laughing gas may cause you to feel nauseous, dizzy or drowsy. These side effects quickly disappear once you remove the cap.
- Due to the equipment, however, you will not be able to walk around.
- You cannot use laughing gas when pushing.
- Laughing gas has a moderate analgesic effect (pain relief).
- Laughing gas can only be used during the active phase of the delivery.

#### **Questions?**

If you still have questions after reading this leaflet, you can contact the Gynaecology Outpatient Clinic on 020 - 755 7019.

#### **Opmerkingen over deze folder**

Ontbreekt er informatie in deze folder of is iets onduidelijk beschreven, dan horen wij dat graag. U kunt uw opmerkingen doorgeven via [voorlichting@zha.nl](mailto:voorlichting@zha.nl)