



## **ISSUE# 11**     *Article 2 : Relieving pain in labour - Part 1*

Your body produces hormones called endorphines during labour which act as natural pain killers. As the contractions intensify, the level of endorphines your body produces rises to match the pain.

Focusing on the rhythm of your breathing, making sounds, changing positions and moving your body all help to enhance endorphine secretion.

Pain is a natural part of labour and is very different to pain you might experience at any other time. Unlike a bad headache or period pains which are persistent, labour pains come and go.

Usually intense pain is felt for about 30-40 seconds at the peak of each contraction. In the intervals between them the pain ebbs away and there is a blissful resting phase. This intermittent nature of natural pain in labour is what makes it bearable.

If you get into a rhythm with the contractions and find creative ways to work through the pain, you may very well discover your own strategies to cope with and manage the pain without any help at all, other than your own reserves and hormones. It is useful to remember that these pains are opening your body and guiding your baby to birth.

A positive attitude to the pain can transform your ability to cope and many women do manage to get through it without help.

When this is the case there is a feeling of pride and achievement rather like it must feel to have climbed a high mountain and reached the top, even though it was a tremendous struggle. This can be exhilarating and as soon as your baby is born, you do forget the pain almost immediately.

Labour pain is very deep and intense while it's happening and will take you to physical and emotional depths you have never experienced before. It also has some positive uses, in that as your body responds to the pain with movement and change of positions, you will also be helping your baby to rotate and descend through your pelvis.

You do also get used to the sensations as labour progresses. They become familiar. The nature of the pain remains very much the same throughout labour even though it certainly increases in intensity.

Some women feel that going through the pain is somehow an important journey, a rite of passage that is a meaningful part of your relationship to this child, as you enter into motherhood. Certainly the increasingly rich hormone levels that you and your baby share as contractions build, will facilitate 'bonding'.

Your mental attitude makes a big difference. If you can accept the pain as a natural part of having a baby and go into it and through the peak of each contraction one by one, without worrying about the next one or even thinking about it, you may find that you can perceive the pain as positive.

It's rather like facing a big wave in the ocean that's coming towards you. If you tense and fight it you are likely to get knocked over and overwhelmed.

But if you see the wave coming and dive into it or under it, you somehow get through the peak and come up on the other side -- or if you start swimming in good time as the wave approaches, you can swim along with it as it comes into shore. Images like this can help.

So will thinking about the pains as opening your body, or using your exhalations to 'breathe the pain away' into the ground. Think of the earth as a big sponge that is drawing the pain away from you as you breathe.

Going into your labour with positive strategies like this can help you to get through the moments of intense pain at the peak of each contraction. Attitude makes a huge difference.

A big component of severe pain is fear. If you can accept the pain and trust that it's OK and that your body knows what it's doing -- millions of women have been here before and survived -- you may find the way to turn 'I can't' into 'I can', 'no' into 'yes', 'close' into 'open'. It may even help to say positive words like these out loud as you go through each contraction.

In addition to this, touch can be a big help for some women. Very simple strokes such as a warm hand on the base of your spine; or slow rhythmic downward strokes from your lower back into your legs or from your shoulders down through your whole body to your feet, can help you to channel the pain away with your exhalations in harmony with your partner's touch. Practising the massage in the last issue will help you to get 'in touch'.

Using complementary therapies, getting into a birth pool, shower or bath and using a TENS machine can be effective natural ways to reduce or relieve pain in labour (see issues 8, 9 and 10).

Sometimes, however, the pain may become intolerable, especially when labour is prolonged and progress is slow. We are not used to physical endurance or tolerating pain these days.

For some women the pain may become more than they can bear. We also have the option of using medical pain relief. Many women feel that they prefer to take advantage of such modern options and this is a perfectly valid choice.

It is important to recognise when some form of medication is required and wise to keep an open mind about accepting help if you need to. Going through excessive pain can be traumatic, especially in a very long labour and with medical back-up this situation is avoidable.

If you do decide to opt for medical pain relief methods it's important that you understand how they work and how to use them appropriately to minimise any side effects.

All drugs used to relieve pain can potentially have adverse effects on mother and baby. Some are still inadequately researched, especially in the long-term or subtle effects.

Any pain-killing drugs you take in labour will cross the placenta and enter the baby's blood stream in the same concentration as in your blood.

To use pain relief most effectively, the potential adverse effects need to be understood and weighed up against the need for pain relief. Timing and dosage are also very important and will make a difference to the effectiveness and any side effects.

Always discuss the methods of medical pain relief on offer with your birth attendants in advance prior to the birth and let them know your preferences.

This issue and issue no.13 cover the potential benefits and proven risks of each method of medical pain relief .

My guidelines as to the best way to use each method are given at the end as a summary to help you to make the best use of your obstetric backup.

When there is normal progress and you are managing the pain well yourself, the risks of using medical pain relief probably outweigh the benefits.

However, if you feel exhausted or the pain is extreme then the benefits of accepting some pain relief will probably outweigh the risks. Moderate use at the right time, in the appropriate circumstances, will help to minimise any potential adverse effects.

It's wise to check how far dilated you are by asking for a vaginal examination immediately before you take any drug in labour. If full dilation is imminent (7-10cms), it may be better to avoid certain types of pain relief that could affect progress of the second stage or the baby's condition at birth.

### *Pethedine and meptazinol (may be called Meptid)*

These analgesic drugs are powerful narcotics derived from morphine. They act on the nerve cells in the brain and spinal cord to alter your perception of pain. The pain impulses are present but the sensations may be modified. They are given as an intramuscular injection into the thigh or buttocks.

## Potential effects on the mother

### Possible benefits:

- *Modification of pain. Some women find pethedine helpful for pain relief although studies have shown that approximately 70% of women find that it offers ineffectual or inadequate pain relief.*
- *Pethedine can lower blood pressure and this may be beneficial when the mother has abnormally raised blood pressure.*
- *A low dose can have a relaxant effect, which may help to improve cervical dilation in cases of very slow or ineffectual dilation due to anxiety and tension in reaction to the pain.*
- *This may be a preferable choice for mothers who do not want to use an epidural anaesthetic or inhalation analgesia (gas and air).*
- *Can be used at a home birth.*

### Possible risks:

- *The amount of pethedine you take (the dosage), as well as the time you take it, will affect the potential adverse effects. Higher or repeated doses will increase the risks (see below for guidelines).*
- *As well as altering pain perception, pethedine alters consciousness. Some women do find it helpful in coping with pain, but many feel that they lose control, courage and confidence and do not experience effective pain relief.*
- *Nausea is a common side effect, so pethedine is often given in combination with Promazine, a powerful tranquilliser used to quell the nausea.*
- *Promazine can cause drowsiness and prevent you from giving birth actively, increasing the likelihood of your needing other interventions.*
- *Pethedine may be taken without tranquillisers and an anti-emetic drug such as Metoclopramide (which may be called Maxolon), does not cause drowsiness and may be used, if needed.*
- *In very high or frequently repeated doses, Pethedine may depress the mother's breathing and artificial ventilation may be needed. This slowing down of the mother's breathing lowers the amount of oxygen and increases the levels of carbon dioxide in her blood. This in turn affects the oxygen supply to the baby and may be a cause of foetal distress.*
- *Pethedine can lower blood pressure which may result in faintness, dizziness or nausea.*
- *Drowsiness may interfere with your active participation in the birth and psychological interaction with your partner and family.*
- *Inappropriate use may increase the risk of postnatal depression.*
- *Pethedine can sometimes slow down the progress of labour and diminish your active control of the pain as well as the quality and significance of the birth experience.*

### Possible effects on the baby:

- *These drugs do cross the placenta and can have a depressive effect on the baby's central nervous system, the most dangerous of which are foetal distress in labour and the possible depression of the baby's breathing at birth. This is why some babies whose mothers have used large doses of Pethedine need to be resuscitated (given oxygen) at birth or may need to be given an antidote drug called Naloxone. The effect on the baby is greater if the baby is small or premature, if the mother receives high doses of Pethedine and if these are given near to the time of birth.*

- In early labour the mother's system helps to remove the Pethedine from the baby's blood via the placental circulation, whereas later the drug is more likely to remain in the baby's bloodstream after the birth and take longer to clear. The baby's system will then have the added burden of detoxification, while learning to adapt to life outside the womb.
- The above can lead to the baby being drowsy or sluggish, therefore having sucking difficulties after birth, which can disturb the start of breastfeeding and cause weight loss.
- In premature babies it can take days before the drug is excreted, increasing the need for support systems to help the baby breathe and feed.
- For many such reasons paediatricians generally prefer women to use other forms of pain relief.
- Narcotic drugs do affect consciousness and we cannot know how they make the baby feel in the uterus. There is also research evidence of a correlation between drug addiction in young adults and the use of narcotics in labour.

### *Guidelines for using pethedine*

Dosage and timing are crucial factors in the successful use of Pethedine. The dose usually varies depending on the woman's weight and may be repeated after four hours. The maximum dose usually recommended in hospitals is 150-200mg and 100-150mg for every repeat dose. However, due to the possible adverse effects on both mother and baby, it is now thought best to use very low doses, e.g. 12-25mg, with a maximum dose of 50mg. Pethedine is best taken neat in these doses without the addition of a tranquilliser and before 7cm cervical dilation.

### **Summary**

It may be best to:

- *Think of the primary benefit of Pethedine being to relax the cervix in a very slow and painful labour to make dilation progress, rather than for pain relief*
- *Discuss the use of Pethedine/Meptazinol with your birth partner and midwives prior to the birth.*
- *Always have an internal to check dilation prior to using Pethedine. It is generally advisable to avoid using pethedine after 7cm dilation.*
- *Take a minimum dose of 12mg, 25mg or 50mg.*
- *Avoid combination with tranquillisers - request neat Pethedine. If you feel nauseous, request an anti-emetic such as Metoclopramide (Maxolon), which will not cause drowsiness.*
- *Avoid taking several repeat doses. Consider another method if pain relief is inadequate.*

### *Gas and air (Entonox)*

This combination of 50% nitrous oxide and 50% oxygen (laughing gas) is inhaled through a rubber mask or mouthpiece which you hold yourself. This has a valve that opens when you inhale and closes when you exhale. You begin to inhale just as you anticipate the start of a contraction. The anaesthetic effect builds up and lasts for 60 seconds, taking the edge off the pain.

Each breath of gas and air may leave you feeling a little 'high'. Once the contraction reaches its peak, or if you have had enough, you can put the mask down and the effects soon wear off. It is thought to have a minimal effect on the baby if used in moderation although not a great deal of research has been done.

Gas and air is best used late in the first stage, during transition. It is only useful for a relatively short time because the anaesthetic effect wears off.

Used throughout labour, gas and air can make a woman feel very disconnected from her labour and dependent on the entonox and it may alter her normal state of consciousness in an unpleasant way.

Prolonged use is also very dehydrating. At home births the midwives carry one or two canisters only, each of which may last about 30 minutes.

Many women do find a little gas and air very helpful for the final very strong contractions approaching full dilation, but it can sometimes cause confusion and delay the onset of the expulsive reflex in the second stage. However, as the effect is of limited duration, if you do not like it, you can stop using it and the effects will soon wear off.

### *Potential benefits*

- *Gas and air is self-administered so you can have total control of when and how much you take.*
- *Minimal use with good timing can be very effective for temporary pain relief.*
- *Entonox does not appear to inhibit uterine activity.*
- *Can be used at home, in hospital and in an ambulance.*
- *There are fewer known clinical side effects than for Pethedine and these are not noticeable when used moderately.*

### *Potential risks*

- *Extensive use throughout the first stage may result in loss of power and control, or and reduce your ability to actively manage the pain.*
- *The "high" may leave you feeling confused, dizzy or out of control.*
- *If pain is very intense, the pain relief from entonox may be inadequate.*
- *Can cause nausea and vomiting.*
- *May affect the hormonal changes during transition and delay the onset of the expulsive reflex.*
- *Women sometimes tend to shift their focus on inhaling the gas and air in second stage rather than on pushing, and this may slow down the second stage or cause feelings of confusion. It is generally best to avoid the use of entonox in second stage or to use it very minimally.*
- *The immediate effect on the baby appears less significant than with pethedine but is still under researched. We cannot not know how entonox makes the baby feel or if there are long term effects.*

Issue 13 will cover the use of epidurals and general guidelines for reducing and relieving pain in labour.

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