

# Non-epidural strategies for pain relief during labour



Pain relief and coping measures that focus on preventing suffering rather than completely eliminating pain build a woman's self-confidence, help her to maintain a sense of control and well-being, and improve her perceptions of her birth experience<sup>1</sup>.

This leaflet is based on the best available research evidence

In fact, the element that best predicts a woman's experience of labour pain is her level of self-confidence in her ability to cope with labour<sup>2</sup>. Satisfaction, fulfilment, and a sense of accomplishment are often high, and disappointment is avoided when the woman copes well, even when the pain she is experiencing is great<sup>1</sup>.

No single method for coping with the pain of labour will meet the needs of every labouring woman. Women benefit most from having a range of options and strategies from which they may choose. Caregivers can help them with this by:

- providing unbiased current information on the advantages and disadvantages of the various possibilities
- making a wide variety of options available
- assisting and supporting women in their use.

This leaflet presents the available scientific evidence on the effectiveness, along with advantages and disadvantages, of the various forms of non-epidural pain relief. Topics discussed are:

- use of opioids
- nitrous oxide (Entonox (N<sub>2</sub>O) inhalation)
- intradermal water injections
- continuity of caregivers during pregnancy and childbirth
- continuous, one-to-one labour support from a midwife or doula
- comfort measures and cognitive strategies, including:
  - minimising noxious stimuli
  - maternal positioning/activity
  - massage/touch
  - use of water
  - acupuncture and acupressure
  - hypnosis
  - transcutaneous electrical nerve stimulation (TENS)

- aromatherapy
- application of heat or cold
- cognitive strategies.

## Use of opioids

### Effectiveness

The use of opioids (narcotics) in labour has generally been found to have limited effect on controlling women's pain<sup>3</sup>. A systematic review of 48 trials where opioids were used for women in labour identified a lack of evidence related to specific outcome measures, including safety<sup>3</sup>. Although no strong preference was demonstrated for the use of any one opioid over another, it is pethidine that is in most common use. In a large national survey, pethidine was rated much higher as a pain relief method by the midwife/caregiver than by the woman and her partner<sup>4</sup>. Opioids are much less effective than epidurals, although epidurals have other drawbacks that may outweigh their advantages (see also Informed Choice leaflet *The use of epidural analgesia for women in labour*).

### Advantages of using pethidine

- It has a short lag time between requesting analgesia and obtaining relief.
- It does not slow 'established' labour.
- It may allow women to postpone or avoid epidural analgesia.
- It is straightforward to administer.
- It may be prescribed and administered in the United Kingdom (UK) by a midwife.
- It is relatively inexpensive and familiar.

## Deficiencies in the research on pethidine

Pethidine has been the subject of most of the research on narcotics in labour, but overall there has been very little research regarding the safety and side-effects of any of the various narcotics. Information from research studies has lacked rigour and breadth as can be seen from the following.

- Few studies evaluate adverse outcomes in mother or baby.
- Virtually all studies compare one medication to another. Without an unmedicated comparison group, the true incidence of adverse outcomes cannot be determined.
- Women in both groups have usually been subjected to other procedures, restrictions, or medications that may have adverse effects on the mother, her labour or the baby.
- In the systematic review (48 trials)<sup>3</sup>, no studies report on outcomes of breastfeeding and parent-infant bonding/interaction. The few studies evaluating newborn behavioural effects have almost all used a relatively crude test that focuses on muscle tone and gives only a single, composite score<sup>5</sup>. Therefore, the impact opioids have on the newborn remain largely unresearched and unclear.
- Variations in the type, dosage, number of doses, medication given in conjunction with or subsequent to administration of the narcotic and the timing of administration could all have different effects on the baby, mother, or the labour. This means that data from one study cannot be extrapolated to the general case.
- Most studies are not large enough to make statistically valid comparisons.

## Disadvantages

### Maternal

- Pethidine causes sedation, and possibly euphoria, dysphoria, hallucinations, dizziness, all of which can impair a woman's ability to cope<sup>6</sup>.
- Digestion and gastric emptying is inhibited and incidence of nausea and vomiting appear to increase<sup>7</sup>.
- It depresses maternal respiration. While this is unlikely to be a problem for a healthy, term fetus, it could become one where there is fetal compromise<sup>8</sup>.
- It may slow labour progress if given before labour is established<sup>9</sup>.

### Fetal

- It decreases beat-to-beat variability and fetal respiratory movements<sup>10</sup>.
- There is a greater incidence of abnormal fetal heart rate (FHR) tracing patterns that are usually associated with nonreassuring patterns<sup>11</sup>.

### Neonatal

- It can cause neonatal respiratory depression<sup>10</sup>.
- Lower Apgar scores and respiratory acidosis are more common<sup>10</sup>.
- It has adverse neonatal neurobehavioural effects. These may last for days and include decreased alertness, rooting and sucking reflexes, and inhibition of breastfeeding initiation<sup>12-14</sup>.

- The time the injection is given relates directly to the narcotic's subsequent impact on the neonate<sup>3</sup>.
- There may be an association between fetal intrapartum exposure to narcotics and narcotic addiction in adulthood<sup>15,16</sup>.

Narcotic antagonists (naloxone) can be administered to the newborn to reverse narcotic effects on respiration and behaviour; however, the adverse effects of the narcotic last longer than the narcotic antagonist<sup>17</sup>. If the mother is a narcotics user, narcotic antagonists can cause severe withdrawal in the neonate<sup>18</sup>. Narcotic antagonists are also likely to interfere with the role of the neonate's endogenous opioids in neuroendocrine programming and affect behaviour<sup>19</sup>. Newer opioids (used in intravenous patient-controlled analgesia), such as fentanyl and remifentanyl, have the benefit of short elimination times but their effectiveness and safety have yet to be established<sup>3</sup>. Although opioids are a commonly used method of pain relief for many women, there is still very poor evidence about their safety and effectiveness.

## Nitrous oxide inhalation (Entonox)

### Effectiveness

Two randomised controlled trials (RCTs) comparing inhalation of nitrous oxide with compressed air or TENS found no difference in pain relief<sup>20,21</sup>. Despite this, most of the women in one study wanted to continue using the nitrous oxide, and a British survey found that women reported high satisfaction with its use<sup>20,22</sup>.

### Advantages

These are based on observation in clinical practice since research evidence is limited.

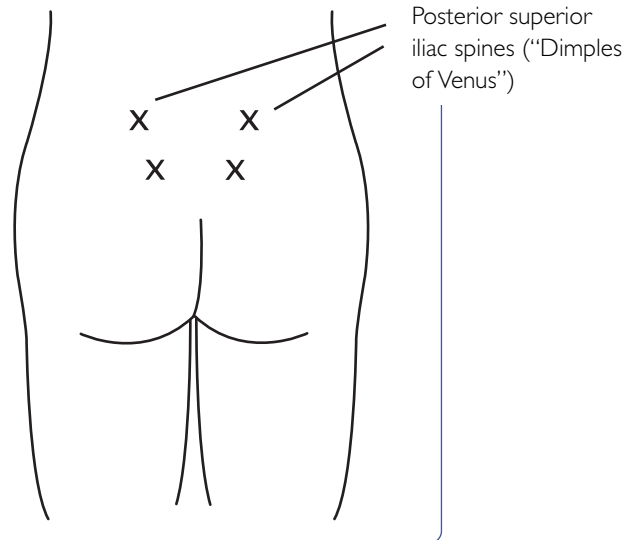
- Nitrous oxide has a short lag time between requesting analgesia and obtaining relief.
- It increases the woman's sense of personal control as it is self-administered.
- It can be used throughout labour without interfering with progress or ability to push.
- Its effect rapidly reverses when discontinued.
- It does not appear to have adverse effects on the baby's condition at birth.
- It may allow women to postpone or avoid epidural analgesia.
- It does not require an anaesthetist to administer and monitor.
- It is relatively inexpensive.

## Disadvantages

- The timing for using nitrous oxide in labour is problematic. The lag time to achieving maximum effect is almost a minute, which means if the woman starts inhaling the gas when she feels the contraction, she gets little benefit. However, continuous use increases the incidence of adverse effects<sup>23</sup>.
- The woman's ability to cope is downplayed while her reliance on nitrous oxide and focusing on timing her inhalations is reinforced.
- It restricts mobility because of the mechanics of using it, which may indirectly impair labour progress<sup>23</sup>.
- It can cause drowsiness, dizziness, pins and needles or numbness and may also cause impaired memory of labour<sup>23</sup>.
- It can cause decreased maternal oxygen saturation, especially when combined with parenteral narcotics<sup>24</sup>.
- It can cause loss of consciousness. For this reason, it is vital that nitrous oxide is self-administered and that the mask is hand-held<sup>23</sup>.
- It may increase the incidence of nausea and vomiting<sup>23</sup>.
- It has unknown effects on the newborn's behavioural repertoire and alertness. Theoretically, however, nitrous oxide dissipates rapidly and should have little or no effect<sup>23</sup>.
- There may be a possible association between fetal intrapartum exposure to nitrous oxide and later addictions to amphetamines and opiates in adulthood<sup>25</sup>.
- It requires proper maintenance of equipment. A recent survey of 102 UK maternity units revealed that few units used anti-infective filters, and while mouthpieces were

either washed or replaced in virtually all units, most never, or infrequently, washed the breathing circuit tubing<sup>26</sup>.

### Placement of injections with intradermal water blocks



## Intradermal water injections

### Administration

Intradermal water injections, also called intracutaneous sterile water blocks, consist of four intracutaneous injections of 0.05-0.1 ml sterile water to form four small blebs, one over each posterior superior iliac spine and two others placed 3cm inferior and 1cm medial to each of the first sites (see diagram). Injections sting intensely for 20-30 seconds. As the stinging fades, the low back pain also fades. Nitrous oxide is used in some facilities to offset stinging at the time of administration.

## Effectiveness

All of the four RCTs completed on intradermal water injections have found they significantly decreased low back pain during labour and most women reported that they would use them in subsequent births<sup>27-30</sup>. Three RCTs found no difference in pain medication requests<sup>27-29</sup>. Possible explanations for this finding are that the injections decreased only back pain (not abdominal pain) and that pain relief lasted up to 120 minutes. In the trials, no subsequent injections were administered, so medications were the next choice. The largest trial<sup>29</sup> found significantly fewer caesarean births in the intradermal water injection group.

## Advantages

- Low back pain is relieved within minutes of administration and relief lasts up to 120 minutes<sup>31</sup>.
- Injections can be repeated without limitation<sup>32</sup>.
- This method of analgesia can be administered easily by a nurse, midwife or physician.
- There are no known adverse obstetric, maternal, fetal or neonatal side effects.
- It provides an option for women seeking to delay or avoid pain medications or for birth settings where other pain relief is unavailable.
- It is inexpensive.

## Disadvantages

- There is a transient, intense stinging sensation at the time of administration.
- It does not relieve abdominal pain (see *Effectiveness* above).

# Continuity of caregivers during pregnancy and childbirth

Continuity of care means receiving care in labour from midwives known to the woman during her pregnancy. This is a feature of care that places women in partnership with their care providers. However, women usually do not meet their primary healthcare professional before they go into labour<sup>33</sup>.

## Effectiveness

A Cochrane systematic review of two high quality RCTs comparing continuity of care with usual care reported several advantages of the former, including the fact that women who experienced continuity of care were half as likely to have pain relief medication<sup>34</sup>.

## Advantages

Women in the continuity of care group were:

- less likely to be admitted to hospital antenatally
- less likely to have newborns that required resuscitation
- less likely to have an episiotomy
- more likely to be pleased with their antenatal, intrapartum, and postnatal care

## Considerations

- found to be at a slightly increased risk of sustaining perineal trauma.

# Continuous one-to-one labour support by an experienced labour companion (See also Informed Choice leaflet *Support in labour*)

A labour support person provides:

- a continuous presence
- emotional support
- physical comforting
- assistance with non-pharmacological coping measures
- facilitation of communication
- non-medical information
- anticipatory guidance for both the mother and partner<sup>1</sup>.

## Effectiveness

A Cochrane systematic review of 15 RCTs comprising 12,791 women revealed that continuous labour support by an experienced female labour companion (doula) significantly reduced the likelihood of using any anaesthesia/analgesia<sup>35</sup>.

One RCT comparing the effectiveness of assigning a doula versus administering epidural analgesia reported that women in the two groups rated an equal decrease in pain levels<sup>36</sup>. Another RCT comparing women assigned a female labour companion to women labouring alone surveyed participants the day after the birth. Researchers found that women with a companion were 60% less likely to report that labour pain had been severe<sup>37</sup>.

Evidence from North America suggests that labour support providers who are nurses or midwives are not as effective as trained, non-medical women (doulas) who are not affiliated with the hospital<sup>38</sup>. An RCT of nurse providers and another RCT using retired nurses as doulas reported no reduction in pain medication or medical interventions<sup>38,39</sup>. The authors speculated that the high rates of routine medical intervention in the participating institutions could have overpowered any effects of continuous labour support<sup>38</sup>. It is also possible that caregivers acculturated into the medical model of care, where their attentions are divided between applying technology, interventions, charting and helping the woman cope, do not achieve the same benefits as non-medical providers whose sole responsibility is to support the woman.

Benefits appear to be more pronounced when: the labour support is continuous (without interruption except for going to the toilet) rather than intermittent<sup>40</sup>; support was initiated before active labour<sup>35</sup>; and the labouring woman is otherwise unaccompanied by a loved one<sup>35</sup>.

## Advantages

- It may help the parturient delay/reduce/avoid the use of pain medication, thus reducing the likelihood of experiencing their adverse effects.

Further analysis<sup>41</sup> of the Cochrane review<sup>35</sup> revealed that women who had continuous labour support from a non-hospital staff doula:

- had 26% fewer caesarean births
- had 41% fewer instrumental vaginal deliveries
- were 28% less likely to use any analgesia or anaesthesia
- were 33% less likely to be dissatisfied or to rate their birth experience negatively
- had increased likelihood of satisfaction with the birth experience as measured by:
  - an overall satisfaction and feeling that one coped well
  - finding labour to be as expected or better than one expected
  - a feeling of personal control.

Postpartum benefits found in a review of 12 trials<sup>42</sup> show that women are:

- more likely to be fully breastfeeding at four to six weeks post birth
- more likely to display more positive mother-baby interaction at eight weeks post birth
- more likely to have good self-esteem

- more likely to find mothering easy and to feel they were managing well
- less likely to experience anxiety and postnatal depression.

## Considerations

- None.

## Comfort measures and cognitive strategies

There is little research on most comfort measures or cognitive strategies, and what studies exist tend to have serious flaws in design, execution or analysis. Nonetheless, comfort measures and cognitive strategies enjoy a long history of widespread use to ease pain, enhance relaxation, relieve anxiety and promote a sense of well-being with no or very little potential to do harm, especially when compared with the side-effects of pharmacologic remedies.

## Advantages

Comfort measures and cognitive strategies share the same advantages.

- They have a short or no lag time between deciding to use one and putting it into effect (water pools are a possible exception).
- They can be combined or sequenced with other pain relief options, which can increase effectiveness.
- They offer unparalleled flexibility and variety.
- They can be used in any birth setting; in combination with pain medication; while awaiting the administration of

epidural analgesia, which can sometimes amount to a substantial period of time; in circumstances where pain medication is not advisable or the birth is imminent; when an epidural fails to work.

- They have no effect on state of consciousness.
- They do not interfere with labour progress or ability to push. Maternal positioning and activity may correct fetal malposition and facilitate progress in cervical dilation and fetal descent.
- They foster a sense of accomplishment, control and capability. This is a key element for a satisfying experience while degree of pain relief is not<sup>43</sup>.
- They may allow labouring women to postpone, limit or avoid medication use. Medications are more likely to cause problems if there are multiple doses, if different medications are combined, or if they are used over many hours.
- They can be immediately discontinued if they fail to help or in the unlikely event that they cause a problem. This may avoid the need for other drugs and procedures to remedy unwanted effects.
- They do not require medical staff to administer and monitor, with the exception of water pools. That being said, the quality of the relationship and support from caregivers is a strong predictor of satisfaction with the birth experience<sup>43</sup>.
- They are inexpensive or cost nothing, with the exception of tub baths and showers which can require significant expenditure to hire or install.

## Minimising noxious stimuli

Many features of typical hospital care contribute to the woman's discomfort or stress without conferring counter-balancing benefits. Minimising, eliminating, or correcting these might help to increase comfort and decrease stress, potentially reducing the need for pharmacologic pain relief. There is anecdotal evidence that the following can have adverse effects on the birthing process<sup>44</sup> and lower women's satisfaction with their birth experiences<sup>45</sup>. Such stimuli include:

### Intrapartum management

- confinement to bed
- nil by mouth (NBM) policies, especially restricting fluids
- routine intravenous infusion
- continuous electronic fetal monitoring
- routine periodic cervical examinations
- active management of labour

### Hospital environment

- lack of privacy
- unnecessary intrusion of strangers
- bright lights
- noise
- room temperature too cold or hot
- uncomfortable room furnishings

## Policies

- limiting access to social support (policies limiting who and how many people the labouring woman may have with her as well as having policies regarding circumstances when she would be separated from them)
- restricting or discouraging freedom of movement throughout labour and birth
- a lack of cultural competency in caregivers.

## Maternal positioning/activity

(see also the Informed Choice leaflet

*Positions in labour*)

### Effectiveness

First stage: A systematic review found that upright positions (vs supine) may speed labour and increase maternal comfort<sup>31</sup>. One trial found sitting was significantly less painful than the supine position, especially to women with low back pain<sup>46</sup>. Maternal movement and positioning are thought to facilitate fetal rotation and descent<sup>1</sup>. An American survey of women's childbearing experiences revealed that 60% of women changed positions to relieve pain, but the majority reported that, after admission to the hospital, their movement options were restricted because they were "connected to things" (67%), were "unable to support self due to pain medication" (32%) or they were "told not to walk around" (28%)<sup>45</sup>.

Second stage: Another review reported that the use of any upright or lateral position, compared with supine or lithotomy positions, was associated with reduced duration of second stage and fewer reports of severe pain<sup>47</sup>. When compared to a supine position, squatting and kneeling while leaning forward increase

mid-pelvic and pelvic outlet dimensions, suggesting facilitation of labour and delivery<sup>48</sup>.

No adverse outcomes due to upright positioning for healthy women in the first or second stage have been found, so health professionals should encourage women to labour and birth in the position that they find most comfortable<sup>47</sup>.

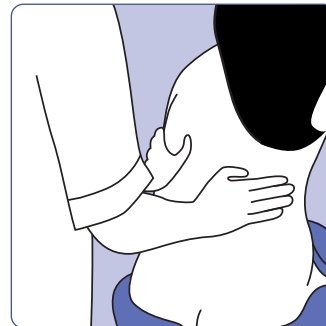
## Massage/touch

### Effectiveness

Three RCTs comparing intermittent massage or touch to usual care found that women in the massage/touch group reported less severe pain and anxiety<sup>1</sup>. Frequent massage may also reduce labour duration, improve parturients' mood, as well as improve postnatal outcomes<sup>31</sup>. Women found both massage and touch helpful for not only pain relief but also for psychological support and enhancing feelings of overall wellbeing<sup>1</sup>. Non-clinical touch by nurses (hand holding, stroking of the brow, patting) has also been shown to improve comfort level and coping ability<sup>49</sup>.

### Considerations

Partners and caregivers may benefit from training from a skilled massage therapist.



## Use of water (see also the Informed Choice leaflet *The use of water during childbirth*)

### Effectiveness

Recent systematic reviews have found baths in labour to be safe as well as effective in decreasing maternal pain and utilisation of pharmacological analgesia<sup>31,50</sup>. The warmth and buoyancy is associated with the release of muscle tension and the sense of wellbeing women experience may be in part because of a decrease in catecholamine production<sup>31</sup>. A recent survey reported the most common words women used to describe their feelings when entering the pool were “relaxation,” “relief” or “pain relief,” “warmth” and many of them said they felt more in control<sup>51</sup>. Guidelines for the use of water are available<sup>52</sup>.

### Advantages

The use of water:

- reduces maternal pain<sup>50,53</sup>
- reduces use of pharmacological analgesia/anaesthesia<sup>50,53</sup>
- improves maternal satisfaction<sup>53</sup>
- has no adverse effects on labour duration, operative deliveries, or neonatal outcomes<sup>50</sup>
- is associated with shorter labours when baths are initiated later in labour (5cm or more) compared to early in labour<sup>54</sup>.

### Considerations

- requires special equipment in the form of a bathtub as well as hourly monitoring of maternal temperature and fetal heart rate (water should be body temperature: 36-37 degrees)<sup>31</sup>
- can slow labour progress if a woman enters the bath before active labour or stays in for more than one or two hours<sup>31</sup>.

## Acupuncture and acupressure

### Effectiveness

Three RCTs of the use of acupuncture in labour identified a significantly reduced need for pethidine<sup>55,56</sup> and epidurals<sup>55,57</sup> in those women in the acupuncture group. One study of acupressure suggested that women found acupressure effective as a means of pain relief<sup>58</sup>.

### Acupuncture:

#### Advantages

- has high maternal satisfaction<sup>55,56</sup>
- decreases pain<sup>55</sup> and increases relaxation<sup>57</sup>
- has no adverse effect on state of consciousness.

## Considerations

- requires an acupuncturist
- is invasive
- interferes with mobility during treatment.

## Acupressure:

### Advantages

- is non-invasive
- can be administered by a labour companion.

### Considerations

- None known.

## Hypnosis

Hypnosis is “a state of deep physical relaxation with an alert mind [where] critical faculties are suspended and the subconscious mind can be more readily accessed”<sup>59</sup>. This hypnotic state is thought to inhibit the stress response and promote a positive perception of contractions. Hypnosis is used in two ways to control pain perception in childbirth: self-hypnosis, in which women place themselves in a trance during labour; and post-hypnotic suggestions that replace fears with confidence<sup>59</sup>.

### Effectiveness

A Cochrane review of three RCTs found that women who utilised hypnosis were more satisfied with their pain management in labour than controls<sup>60</sup>. Two RCTs found women used less pain

medication than the control group<sup>61,62</sup>. Hypnosis is also associated with increased numbers of vaginal deliveries and reduced use of oxytocin<sup>60</sup>.

### Advantages

#### Hypnosis:

- increases maternal satisfaction<sup>60</sup>
- promotes a sense of accomplishment and capability – this, more than degree of pain relief, is a key requirement for a satisfying experience
- may allow labouring women to postpone, limit or avoid medication use.

### Considerations

- requires that the woman be trained by a qualified hypnotherapist
- may require high hypnotic susceptibility for success<sup>63</sup>
- makes people more vulnerable to suggestion, so care should be taken to focus on the positive wherever possible<sup>1</sup>.



# Transcutaneous electrical nerve stimulation (TENS)

## Administration

A TENS unit is a hand-held battery-powered device that transmits electrical impulses to the lower back via four topically applied surface electrodes. The woman sets the intensity at a level appropriate to reduce her awareness of labour contractions.

## Effectiveness

A review of eight RCTs reported that TENS had little effect on reducing labour pain or the use of analgesics<sup>64</sup>. Nonetheless, most women assess TENS favourably and would use it again in a subsequent labour<sup>64</sup>. TENS appears to work better when initiated in early labour<sup>4</sup>. It may be more effective with back pain than abdominal pain<sup>1</sup>.

## Advantages

- TENS may offer immediate relief, especially initiated in early labour.
- It increases the woman's sense of personal control as it is self-administered.
- It may allow a woman experiencing back pain to postpone or avoid the use of epidural analgesia.
- It does not limit mobility.
- It has no known adverse effects on the mother or fetus.
- It does not require an anaesthetist to administer and monitor.

## Considerations

- TENS requires the woman to be trained in its use.
- It requires special equipment.
- It may interfere with electronic fetal monitor tracings, though newer equipment seems unaffected.
- It cannot be used while utilising water for pain relief.

# Aromatherapy

## Effectiveness

There are no RCTs specifically examining the use of aromatherapy in labour. However, an uncontrolled prospective study found the majority of women (8058 women) who received aromatherapy during labour found it helpful in relieving pain, anxiety and fear. It also appeared to reduce the need for additional pain relief<sup>65</sup>.

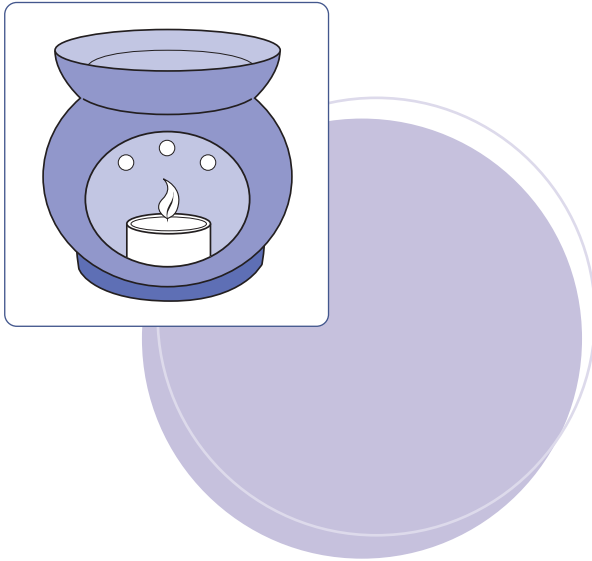
## Considerations

Potential drawbacks include<sup>1</sup>:

- possible adverse effects, such as headache, nausea, rash or allergic reaction
- oils used for the labouring woman affect everyone in proximity to her, because the oils are volatile and produce vapours that everyone present inhales.

# Application of heat or cold

Examples: Hot compresses on the back, lower abdomen, groin, or perineum; a warm blanket over the entire body; warm shower; ice packs on the lower back, anus, or perineum; or ice massage to Hoku point (see *Effectiveness*) on the hand.



## Effectiveness

Application of superficial heat or cold has long been widely accepted as useful for relaxing tense muscles. Cold works particularly well for musculo-skeletal and joint pain and thus has proved particularly useful for low back pain in labour. Ice massage to the hand, specifically to acupuncture point large intestine four (also known as the Hoku point) during contractions has been found to reduce pain significantly<sup>66</sup>.

## Considerations

- Precautions need to be taken to avoid burns or frost injury.
- Heat or cold is contraindicated on anaesthetised regions.

# Cognitive strategies

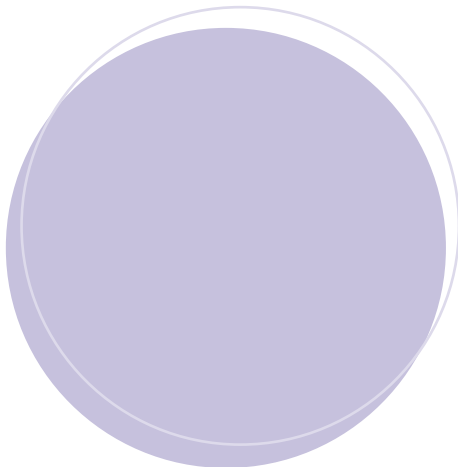
## Effectiveness

While there are limited formal data on the use of cognitive strategies, many women report them as being helpful, probably because they foster a sense of accomplishment, capability and control. Cognitive strategies include:

- visualisation, meditation
- affirmations, e.g. “My body is strong and is working well for me”
- conscious relaxation of tense muscles
- breathing techniques
- non-focused awareness: notice what you see, hear, feel, smell without holding on to any of them
- vocalising, sounding, or repeating a mantra, e.g. “open open open”
- music, environmental sounds or audio-analgesia
- prayer.

## Considerations

- Some techniques require pre-labour preparation and practice.



## Is effective pain management the key to satisfaction in childbirth?<sup>43</sup>

A 1990 survey in the UK found that women who were most satisfied with their experience used no pain medications during labour<sup>4</sup>. Studies consistently show that the degree of pain relief has little effect on ratings of women's satisfaction unless their expectations go unmet. There are several primary factors that determine satisfaction in childbirth.

- **Women's involvement in decision making.** Fourteen studies<sup>43</sup> found that having an active say in decision making was a pre-eminent issue in childbirth satisfaction. In one US study, it explained nearly half the variance in satisfaction scores<sup>67</sup>.
- **The amount and quality of support received from caregivers.** Women valued such qualities as a sense of rapport, a caregiver who communicated well and kept them informed, and the freedom to express their feelings during labour.
- **Personal expectations.** Women were satisfied when high expectations were met or the experience was better than expected.

## Implications for practice

The information presented in this leaflet should enable practitioners to explore a range of pain relief measures with women prior to the start of their labour. Where a woman shows an interest in a particular form of pain relief, more specific information, discussion and rehearsal might be required in order

to help increase her self-confidence in her ability to cope with labour. Informing her about resources, such as antenatal classes, literature, websites, videotapes, and complementary therapists, can help a woman to decide what she needs to prepare for her birth experience. Other strategies that might be helpful and should be the subject of further research are:

- to offer pregnant women and their partners evidence-based information about comfort measures and cognitive strategies antenatally
- to increase awareness among midwives about women's preferences for support in labour and the use of comfort measures and cognitive strategies by women
- to consider nonpharmacological comfort measures a valid form of pain relief and coping<sup>4</sup>
- to reduce suffering by empowering the woman to utilise her own coping strategies<sup>1</sup>
- wherever possible, to provide labouring women with one-to-one labour support by a skilled person.

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