Contents

research by randomised controlled trial. Women usually love aromatherapy, and the massage which accompanies it. Midwives must be adequately trained prior to administering it, and maintain continuing professional development; some oils are contraindicated in pregnancy (Tiran, 2000, 2016; NMC, 2013).
Continuous vaporisation of oils, however, may impede midwives' concentration and have adverse effects on anyone exposed, including headache, nausea or lethargy. Tiran (2016) therefore states: '… *it is completely unethical and unsafe fo*r aromatherapy oils to be vaporised in a maternity unit or birth centre'.

- **Hypnosis/hypnotherapy.** A decade ago a Cochrane review reported positive results from small studies: 'Current available evidence shows that hypnosis reduces the need for pharmacological pain relief, including epidural analgesia in labour. Maternal satisfaction with pain management in labour may be greater among women using hypnosis. Other promising benefits from hypnosis appear to be an increased incidence of vaginal birth, and a reduced use of oxytocin augmentation' (Smith *et al.*, 2006). More recently a large trial concluded that epidural use was unaffected but women reported increased postnatal confidence and reduced fear of future birth (Downe *et al.*, 2015). Research continues. Anecdotal accounts of hypnobirthing yield extraordinary stories (www.hypnobirthing.co.uk).
- **Other methods, e.g. acupuncture/pressure, reflexology, shiatsu, yoga, sterile water blocks, homeopathic and herbal remedies.** Normally only midwives trained in these specialist areas or qualified practitioners offer these therapies. Non-pharmacological methods are notoriously difficult to evaluate by standard research methods. Acupuncture, acupressure, relaxation and yoga have undergone Cochrane review and shown positive results, including reduced analgesia use and increased spontaneous births, although studies remain of variable quality (Smith *et al.*, 2011b,c).
  NICE (2014) mentions alternative therapies in the weakest way, stating: 'Do not offer acupuncture, acupressure or hypnosis, but do not prevent women who wish to use these techniques from doing so.' Midwives wishing to involve themselves in these methods need to look for more helpful and positive resources than NICE.
- **Water.** Deep-water immersion has unique benefits. The opportunity to labour in water should be part of routine labour care (see Chapter 7).

Pharmacological analgesia

- **Entonox (nitrous oxide).** This is the most commonly used labour analgesic in the UK; it appears to offer effective pain relief to significant numbers of women (Klomp *et al.*, 2012). There is little evidence on fetal/maternal effects; like all drugs it will cross the placenta to the baby, but there is no evidence of harm. Maternal side-effects are minor, e.g. dry mouth or nausea, but it is quickly excreted so effects wear off rapidly. Long-term exposure risks are well documented, including risk to pregnant staff with high labour ward workloads (Robertson, 2006).
- **Opioids, e.g. pethidine, diamorphine.** These are usually given intramuscularly (IM) but occasionally by patient-controlled analgesia (PCA). Anti-emetics should be given prophylactically with opioids (NICE, 2014). Opioids can 'take the edge off' the pain for some women, inducing a feeling of well-being and allowing some rest. Others dislike the feeling of being sedated, out of control and still able to feel considerable pain. There are considerable doubts about the effectiveness of opioids and concern about potential maternal, fetal and neonatal side-effects. Maternal side-effects

Figure 1.2 Hands on comfort: massage and touch.

Figure 1.3 Kneeling forwards onto a pillow.

include nausea, vomiting and hypertension (Ullman *et al.*, 2010). Some women feel disorientated and out of control. Neonatal side-effects include respiratory depression (NB naloxone is now not advised; see Chapter 18), subdued behaviour patterns, including a lack of responsiveness to sights and sounds, drowsiness and impaired early breastfeeding (NICE, 2014). It may be that babies of mothers

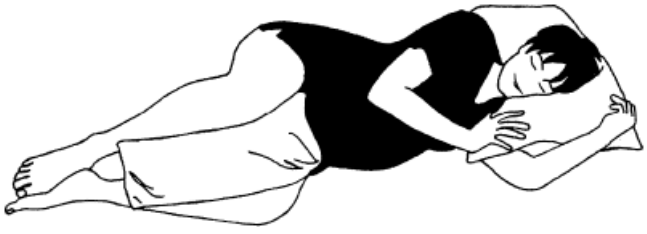


Figure 1.4 Side lying.

receiving opiates in labour become addicted to opiates/amphetamines in later life (Jacobsen *et al.*, 1988, 1990; Nyberg *et al.*, 2000). While recent studies have not confirmed this (Pereira *et al.*, 2012), all researchers believe that more work is needed, and concerns remain that some addiction and behavioural disorders may have their roots in fetal exposure to labour opiates and disordered fetal cortisol levels (Beech, 2004).

Regional anaesthesia

Regional anaesthesia (RA) aims to remove all pain from the lower half of the body. It is used by around a third of women for labour in the UK. Local anaesthetic is injected into the lower region of the spine, close to the nerves that transmit pain. Adding an opiate to the anaesthetic drug means lower concentrations of the latter are needed.

- **Epidural anaesthesia.** A local anaesthetic and/or opiate is injected between the spinal column and the outer membrane of the spinal cord (i.e. into the 'epidural space') by bolus injection, continuous infusion or PCA.
- **Spinal anaesthesia.** A single dose of local anaesthetic and/or opiate is injected through the subarachnoid space into the cerebral spinal fluid; this is a faster and shorter acting form of RA than epidural anaesthesia.
- **Combined spinal–epidural anaesthesia (CSA).** This is a single spinal injection, following which an epidural catheter remains *in situ*. CSA is faster acting than epidural anaesthesia but gives no better pain relief than epidural alone (Simmons *et al.*, 2012).

NICE (2014) recommends low-dose bupivacaine and fentanyl for optimal labour outcomes and shows no preference for epidural (recommending either bolus or PCA) over CSA, unless rapid RA is required.

The concept of a so-called 'walking epidural' can be confusing. It is simply a low-dose epidural, which is what most epidurals are these days. All low-dose epidurals are intended to increase mobility to some degree, allowing a woman to adopt upright positions, or possibly a kneeling/all-fours position. Occasionally she may be able to stand or walk, although this is unlikely and many hospitals discourage the attempt fearing the risk of falling. Some women report disappointment when they find that their mobility is not as good as they had hoped, and electronic fetal monitoring still intrudes.

There are known and suspected risks from RA (Box 1.5).

The reasons for adverse neonatal outcomes may be more subtle than simply opiate effects. Many researchers have speculated that a slightly raised level of maternal stress hormones in labour has a beneficial effect on the fetus, preparing it for extrauterine life (Dahlen *et al.*, 2013). RA may make the woman in one sense 'too relaxed' and dissociated

Box 1.5 Possible risks/effects of regional anaesthesia.

Maternal effects

- Inadequate/patchy coverage that can be more distressing than no epidural at all.
- Poor mobility in labour, increased postnatal leg weakness.
- Hypotension, fever.
- Itchiness, drowsiness, shivering.
- Increased 'routine' interventions, e.g. IV access, catheter.
- Increased malposition, oxytocin augmentation.
- Urinary retention (reduced by low-dose epidural anaesthesia).
- Prolonged second stage, increased instrumental delivery and severe perineal trauma.
- Increased emergency CS for FH rate concerns but no overall increase in CS.
- No effect on long-term backache.
- Risk of accidental dural puncture following epidural resulting in severe short-term headache: this can seriously affect mother–baby interaction in the first few days. Treatment is by blood patch: 20–30 ml blood is injected into the epidural space.
- Conflicting research on maternal satisfaction; this is a complex area and difficult to research, as RA is often part of a package of interventions which women may or may not welcome, often including disappointment for women who wanted a normal labour.

Fetal/neonatal effects

- No difference in Apgar score (short-term outcome).
- Negative opiate effects: dose is lower than via the IM route, but maternofetal opiate transfer does occur. This can cause:
  - Decreased mother–baby interaction, and possibly poorer breastfeeding. These are again difficult to research and often rely on retrospective studies that cannot separate out variables. This subject is a source of intense debate, but is excellently reviewed by Smith (2010).
  - Increased FH irregularities leading to instrumental birth and CS.

(Smith, 2010; Anim-Somuah *et al.*, 2011; NICE, 2014)

from her labour, so her baby fails to get the stimulus it requires. Also, reduced oxytocin levels at birth may make the woman less responsive to her newborn. Conversely, however, a highly stressed woman in extreme pain may produce excessive stress hormones, and reduced oxytocin; this too may adversely affect a baby. Similar principles apply to babies born by elective and emergency CS.

For many women RA provides welcome relief from pain; if labour is complicated and/or slow, the risks may be of little consequence at the time. While researchers may argue about the pros and cons, if a woman really wants RA she should be able to have it if at all possible. Ongoing publicity about midwives denying women epidurals in the belief that all women should give birth naturally reflects a breakdown in communication between mother and midwife (www.birthtraumaassociation.org.uk).

Some epidurals provide only partial pain relief or none at all (Agaram *et al.*, 2009). A woman in this situation needs particular support. She may feel panicky and out of control. A midwife may have to be a very strong advocate for her, recalling the anaesthetist, possibly a more senior one. Sometimes little can be done, and the midwife will need to give great emotional support to a disappointed distressed woman.

Care for a woman with regional analgesia (NICE, 2014; RCOG, 2015a)

This includes:

- IV access (fluid preloading is unnecessary), hourly sensory block check and continual pain assessment

- blood pressure monitoring at 5 minute intervals for 15 minutes, following establishment of the block and following a top-up; recall the anaesthetist if the woman is not pain-free 30 minutes after a top-up
- cardiotocography (CTG) for ≥30 minutes following establishment of the block/top-up
- avoiding routine oxytocin augmentation
- regular position changes, including side lying and other non-supine positions to avoid aortocaval compression and to protect pressure areas (this is particularly important if the woman has a raised body mass index (BMI), is sitting in liquor or has a long labour)
- bladder care; NICE indicates either an intermittent or indwelling catheter, but other studies suggest that intermittent ('in and out') catheterisation is safer: indwelling catheters are linked to second stage delay and tripled risk of CS (Evron *et al.*, 2008; Wilson *et al.*, 2015)
- women on antenatal heparin should ideally not have regional analgesia until 12 hours after the previous prophylactic dose (24 hours if the dose is therapeutic); heparin should not be given for 4 hours after spinal anaesthesia or epidural catheter removal; the catheter should not be removed within 12 hours of the most recent injection (RCOG, 2015a).

Mobility and positions

Get her off the bed. (RCM, 2017b)

Midwives are the major influence on whether a woman is free to mobilise. Actively encouraging mobilisation during labour is a fundamental component of good midwifery practice and is a safe, cost-effective way of reducing complications caused by restricted mobility and semi-recumbent postures, as well as enriching the woman's birth experience. A Cochrane review found that upright positions shorten the first stage by around an hour, and reduce epidural use (Lawrence *et al.*, 2013).

Women's expectations of how to behave in labour, unfamiliar surroundings, the labour room bed, lack of privacy and medicalised care models all inhibit mobility in labour. However, only 58% of women (89% of whom were in birth centres) were happy with their ability to choose their labour position (Birthrights, 2013).

Think about how you can help the woman to adopt other positions in labour – observe what works and what doesn't, and review when and why these positions were most successful. Your knowledge of anatomy can also help you to understand how different positions aid the physiological processes (e.g., the curve of Carus). (RCM, 2017b)

- Have you discussed with the woman in labour why it is important to mobilise in labour? By pointing out that labour is more likely to be shorter and less painful, you will give her 'permission' to move around freely and do what she feels is best for her.
- Women often get stuck on the bed following VE or during electronic fetal monitoring. Suggest that she changes position, tries a birthing ball or walks to the toilet.
- Mind your back. Avoid twisting: try to stay square to the woman, perhaps temporarily kneeling or squatting.

Transition

Towards the end of the first stage contractions may become almost continuous or, conversely, space out a little. Many women may have a bearing down sensation at the peak of the contraction as the cervix approaches full dilatation. This stage may be the most painful and distressing. It can last a few contractions, but may last much longer. Labour stress hormones peak; this has a positive effect in producing the surge of energy shortly needed to push (Odent, 1999; Buckley, 2004a).

> *The diagnosis of the transitional stage … is a far more women-centred and subjective skill … essentially a midwifery observation and as such is dependent on knowing the woman … and recognising any changes in her behaviour. Progress can thus be diagnosed without the need to resort to a VE.* (Mander, 2002)

The woman experiencing the 'extreme pain' of transition has a decreased ability to listen or concentrate on anything but giving birth. She becomes honest in vocalising her needs and dislikes – 'unfettered by politeness' (Leap, 2000)! This should not be misinterpreted by the midwife or birth partner as rejection or rudeness.

Typical behaviour may include:

- distressed/panicky statements: 'I want to go home!', 'Get me a caesarean/epidural!', 'I've changed my mind!'
- non-verbal sounds: groaning/shouting, involuntary pushing sounds
- body language: agitated, restless, toes curling, closed eyes due to intense concentration and pain
- withdrawing from activities/conversation of people around.

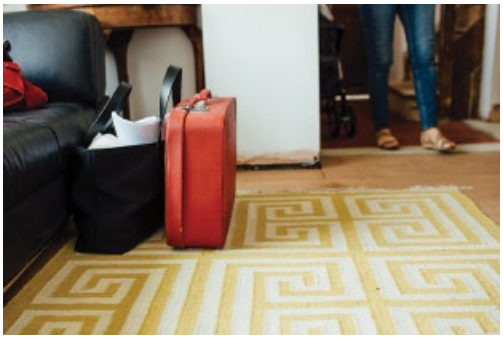
Midwifery care in transition

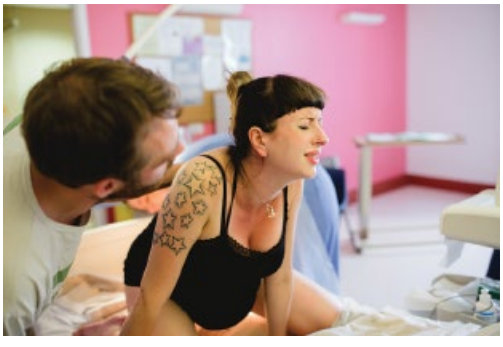
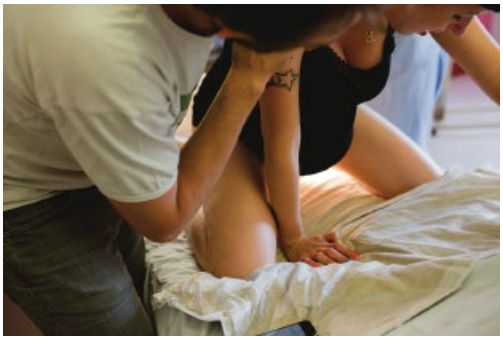
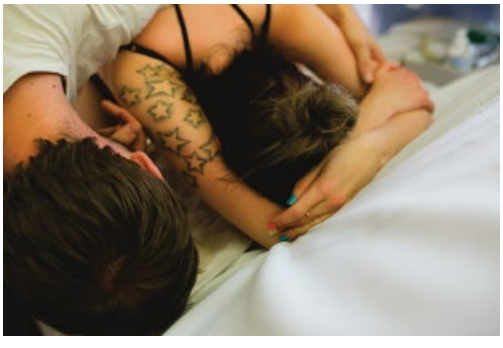
Support birth partners. They can become tired, be stressed and want something done to help the woman. This common reaction sometimes leads to inappropriately timed analgesia, e.g. epidural, with subsequent discovery of a fully dilated cervix. It can be a difficult judgement call for the midwife.

Keep it calm. Change the dynamics if the woman panics, e.g. suggest a walk to the toilet, a position change or help her to focus on her breathing.

A**void the temptation of VE.** Unless the woman really wants it, VE is likely to yield disappointment: at this stage it is painful and the cervix is often 8–9 cm dilated (Lemay, 2000).

T**o push or not to push?** Telling women that they must not push when they cannot stop themselves at the end of the first stage is unnecessary and distressing for the woman. There is no evidence to support the traditional belief that pushing on an undilated cervix will cause an oedematous cervix (Downe and Schmid, 2010); see Chapter 9. Indeed it is possible that it has a physiological purpose in labour, in dilating the last part of the cervix and enabling head flexion and rotation. At least 20% of women, irrespective of parity, experience an early pushing urge. Downe *et al.* (2008) found that those with the urge had a better chance of a spontaneous normal birth than those who did not.


Courtesy of Lucy Pryor.