



The Royal College of
Midwives

Evidence Based Guidelines *for* *Midwifery-Led Care in Labour*

Understanding
Pharmacological
Pain Relief



Practice Points

Midwives need to be aware of the possibility of underestimating the intensity of pain experienced by women in labour and/or of overestimating the relief offered by analgesic drugs (Baker et al. 2001; Niven 1994; Rajan 1993).

Pharmacological methods of pain relief all have side effects (NMC 2010; NICE 2007; Enkin et al. 2000). If women have not had access to good information antenatally, the midwife must take responsibility for offering it in labour (NMC 2010).

Women should be informed that pethidine, diamorphine and other opioids will provide limited pain relief during labour and may have significant side effects for herself (drowsiness, nausea and vomiting), and her baby (short term respiratory depression and drowsiness) (Ullman et al. 2010 ; NICE 2007).

Nitrous oxide (Entonox) seems to relieve some pain but can make women feel nauseous and light headed. There is no evidence of harm to the baby (Talebi et al. 2009; NICE 2007).

Epidural analgesia is a commonly-used method of pain relief in labour in the UK. For many women it is the most effective, though for some women total relief from pain is not achieved (MIDIRS 2008). There are, however, a number of possible unwanted consequences and side-effects (Anin-Somuah et al. 2011; O'Hana et al. 2008; Tracy et al. 2007; NICE 2007; Lieberman and O'Donoghue 2002; Leighton and Halpern 2002; Thorp and Breedlove 1996). Women should be counselled about these risks before labour begins.

Epidural analgesia is associated with a longer second stage of labour, an increased incidence of fetal malposition, an increased use of oxytocin and instrumental delivery (Anin-Somuah et al. 2011; O'Hana et al. 2008; Tracy et al. 2007; Lieberman et al. 2005). Other associated risks are intrapartum fever and retention of urine (Anin-Somuah et al. 2011; Lieberman et al. 2000).

Understanding Pharmacological Pain Relief

It has been demonstrated that midwives sometimes underestimate the intensity of the pain experienced by women in labour (Niven 1994) and overestimate the efficacy of pharmacological pain relief (Baker et al. 2001; Rajan 1993). Labour pain can only be partially relieved by the use of analgesic drugs such as pethidine and entonox (Mander 1997; Niven 1994). It is clearly important that midwives acknowledge this with labouring women. The value of women's own coping resources should be recognised and maximised, rather than placing an over-emphasis on pharmacology (Hally et al. 1999).

Pharmacological methods of pain relief all have side-effects (NMC 2010; NICE 2007; Enkin et al. 2000). Women need access to good information in order to be able to make informed choice and this should ideally take place in the antenatal period. However, if this has not happened and been recorded, the midwife on the labour ward must take responsibility for this discussion.

Pethidine is the most commonly used opiate in labour. Its popularity is ascribed to its being until recently the only drug for pain relief included in labour ward patient group directives for midwives, and the fact that it is low cost. However, there are considerable doubts about its effectiveness and concerns about its potential maternal, fetal and neonatal side-effects (Ullman et al. 2010; NICE 2007). The small randomised controlled trial undertaken by Tsui et al. (2004), found that the pethidine was more effective than placebo, but the effect was modest. The side-effects for the baby include the depression of neonatal respiration, often leading to one of more injections of the antagonist, naloxone. Other neonatal effects are reported as different behavioural patterns, including a lack of responsiveness to sights and sounds, lassitude and drowsiness (Priest and Rosser 1991), depression of reflexes, including impaired suckling reflex, for up to 48 hours (Wiener et al. 1977; Brackbill et al. 1974). Rajan's (1994) secondary analysis of the National Birthday Trust Fund Survey data on pain relief found that pethidine had a serious inhibiting effect on breastfeeding. In addition, side-effects to the mother include nausea and vomiting (Chamberlain et al. 1993), dizziness, dysphoria and drowsiness (Mander 1998). These side-effects can be seen to have unwelcome outcomes for women in feeling confused and losing control (Kitzinger 1987). Few studies offer statistics about how common these adverse effects are, but almost all comment on their high frequency when compared to the low efficacy of the drug (Priest and Rosser 1991). Fairlie et al.'s (1999) small randomised controlled trial (133 women) which compared the effects of pethidine with those of diamorphine, found that there appear to be benefits to the use of diamorphine as the opiate in labour: they found a higher level of pain relief, less maternal vomiting and a lower incidence of low one minute Apgar scores. Torrance et al.'s (2003) retrospective case controlled study (268 women) comparing the effect of pethidine and diamorphine had different findings. There was no significant difference between the two groups in the incidence of one-minute Apgar scores below 7; there was less maternal vomiting and less women requiring further pain relief with pethidine. It is clear that more research needs to be done to evaluate the comparative efficacy and safety of the various opioids (Ullman et al. 2010; Bricker and Lavendar 2002). Women should be informed that these will provide limited pain relief during labour and may have significant side effects for the woman (drowsiness, nausea and vomiting) and her baby (short term respiratory depression and drowsiness) (NICE 2007). Nitrous oxide seems to relieve some pain but can make women feel nauseous and light headed. There is no evidence of harm to the baby (Talebi et al. 2009; NICE 2007).

Epidural analgesia offers the most effective but most invasive and potentially hazardous method of pain relief in labour (Thorp and Breedlove 1996; Bogod 1995). The data is clear on two side-effects: epidural analgesia increases the duration of labour and the frequency of operative delivery (Thorp and Breedlove 1996; Enkin et al. 2000). Epidural analgesia is associated with longer first and second stages of labour, an increased incidence of fetal mal-position (Leiberman et al. 2005), and an increased use of oxytocin and instrumental delivery (O'Hana et al. 2010; Anim-Somuah et al. 2005). Other associated risks are intrapartum fever, which can lead to the baby being investigated for infection (Hawkins 2010; Lieberman and O'Donoghue 2002), and significant perineal trauma because of the more frequent use of operative vaginal delivery (Robinson et al. 1999; Donnelly et al. 1998) and retention of urine during labour and the early post-natal period (Anim-Somuah et al. 2011).

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The guidelines have been developed under the auspices of the RCM Guideline
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The guideline review process will commence in 2016 unless evidence requires
earlier review.

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Appendix A

Sources

The following electronic databases were searched: The Cochrane Database of Systematic Reviews, MEDLINE, Embase and MIDIRS. As this document is an update of research previously carried out, the publication time period was restricted to 2008 to March 2011. The search was undertaken by Mary Dharmachandran, Project Librarian (RCM Collection), The Royal College of Obstetricians and Gynaecologists.

Search Terms

Separate search strategies were developed for each section of the review. Initial search terms for each discrete area were identified by the authors. For each search, a combination of MeSH and keyword (free text) terms was used.

Journals hand-searched by the authors were as follows:

- Birth
- British Journal of Midwifery
- Midwifery
- Practising Midwife
- Evidence-based Midwifery