



The Royal College of
Midwives

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

Rupturing Membranes



Practice Points

Amniotomy is not part of normal physiological labour (Andrees and Rankin 2007; RCM 1997). It should be reserved for women with abnormal labour progress (NICE 2007).

The intervention can cause an increase in pain which makes labour unmanageable (Fraser 1993; NCT 1989; Inch 1985). Any intervention that interferes with a woman's ability to cope in labour can have long-term implications for her own well-being and her relationship with her baby (Robson and Kumar 1980; Oakley 1979).

Amniotomy is not an effective method of shortening spontaneous labour and increases the risk of caesarian section and more fetal heart abnormalities (Smyth et al. 2007).

When there is concern that labour is slowing down, benign measures to intensify contractions such as positional changes and movement may prevent the need for more invasive interventions (Simkin 2010).

The decision to rupture membranes should only be taken in direct consultation with the woman, when the evidence is discussed and the effect of the intervention is not minimised. This discussion should form part of the birth plan, and not take place just before or during a vaginal examination.

Rupturing Membranes

The rupturing of membranes in labour is a common practice (Smyth et al. 2007). Although an invasive procedure, many midwives and obstetricians regard it as straightforward and even insignificant (Henderson 1990). It is a component of the model of actively managed labour which has been so influential on labour ward practice since O' Driscoll's original work of the late 1960s. The theory on amniotomy here was that it was a means of 'improving the forces of labour' (Olah and Gee 1996), and that labour would be shortened. Other justifications of the intervention are the desire to see the colour of the liquor and to facilitate the application of a fetal scalp electrode.

Smyth et al.'s (2007) Cochrane review of the affect of amniotomy alone for the shortening of labour concluded that there was no evidence of any statistical difference in length of first stage of labour and that amniotomy was associated with possible increased risk of caesarean section. In the four trials that reported on CTG abnormalities, there was evidence that these may be increased with amniotomy. This is supported by the other studies looking at effect of early amniotomy or early rupture of membranes on the fetus (Lee et al. 2010; Fok 2005; Goffinet 1997).

As Simkin (2010) suggests, when there is concern that labour is slowing down, benign measures to intensify contractions such as positional changes and movement may prevent the need for more invasive interventions. The Cochrane review of maternal positions and mobility during first stage labour supports the positive impact mobility has in shortening labour (Lawrence et al. 2009).

The randomised controlled trials of this intervention seem to focus on early amniotomy and the largest have been conducted in the UK in 1990s. What stage of labour is implied by 'early' is not always clear. It is interesting, however, that in the UK Amniotomy Group's large multi-centre trial (1994), the mean dilatation that was described as 'early' was 5.1cm and the 'late' was 6.7cm. A distinction of 1.6 cm cervical dilatation might be considered unclear to many practitioners. This lack of good definition of 'early' is a problem to the collected body of research; Rosen and Peisner's trial (1987) concluded that cervical dilatation at the time of membrane rupture appeared to be the most important factor associated with the length of labour. There is little research comparing elective amniotomy with an intention to leave membranes intact until the second stage: only one study reports this intention (Barrett et al. 1992). In this trial 46% of the women allocated to non-intervention had their membranes ruptured at some stage. This reflects methodological problems, as commented on by Fraser (1993): "Once the treatment group is revealed, the preference of the obstetrician, midwife or mother for one of the other treatments may influence the probability of occurrence of the outcome of interest".

The increase in pain following rupture of membranes is widely discussed (Barrett et al. 1992; Lupton 1992; Inch 1985). A large study of 3000 women's opinions of the intervention was conducted by the National Childbirth Trust (1989). Two thirds of the women in this study reported an increase in rate, strength and pain of contractions following membrane rupture; they found these contractions more difficult to cope with, needed more analgesia and felt that the physiology of labour was disturbed. This survey questions whether women want shorter and more painful labour. The review by Smyth et al. (2007) did not find any significant difference on use of pain relief epidural or narcotics.

As Flint (1990) suggests, any intervention that interferes with women's ability to cope in labour has huge implications: it can destroy feelings of achievement and self-esteem. Women who feel they have coped have more confidence in their mothering abilities than women who feel traumatised by the birth process (Oakley 1979). Specifically disturbing to this aspect of common labour ward practice is the data of Robson and Kumar (1980) reporting an association between procedures in labour, such as artificial rupture of the membranes, and the delayed onset of maternal affection.

One of the most challenging issues to midwives' practice in this area comes from a small descriptive study by Henderson (1984), which found there was no discussion with the woman about the intervention before rupturing of membranes. This is a finding which echoes Kirkham's (1983) study of labour ward interaction where, in most instances, women were not consulted, but just told what was going to be done. Although it would appear that the quality of information given to women has improved within a working culture that considers informed consent and choice (Coulter 1998; Harrison 1997), the history of this frequently unconsented intervention must be remembered. The decision to rupture the membranes should only be taken in direct consultation with the woman, when the evidence is discussed and the effect of the intervention is not minimised. This discussion should not take place just before or during a vaginal examination.

Amniotomy is not part of normal physiological labour (Andrees and Rankin 2007; RCM 1997). It should be reserved for women with abnormal labour progress (NICE 2007). This may be appropriate for the first intervention considered i.e. in abnormally slow progress of labour after the benign interventions discussed above (Simkin 2010).

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The guidelines have been developed under the auspices of the RCM Guideline
Advisory Group with final approval by the Director of Learning Research and Practice
Development, Professional Midwifery Lead.

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