The Royal College of
Midwives

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

Suturing the Perineum

Practice Points

Midwives should be aware that suturing is a major and sometimes traumatic event for women (Green et al. 1998). The most common complaint being about the delay in waiting to be sutured that causes anxiety as well as physical discomfort.

Before assessing for genital trauma, healthcare professionals should:

- explain to the woman what they plan to do and why
- offer inhalational analgesia
- ensure good lighting
- position the woman so that she is comfortable and so that the genital structures can be seen clearly.

(NICE 2007)

The timing of the systematic assessment should not interfere with mother–infant bonding unless the woman has bleeding that requires urgent attention (NICE 2007).

The assessment and its results should be fully documented, possibly pictorially (NICE 2007).

The amount of pain experienced during perineal suturing is considerable amongst women who have not received regional analgesia (Sanders et al. 2002).

Absorbable synthetic suture material is associated with less perineal pain and less wound breakdown compared to non absorbable material. However, more women with standard synthetic sutures required removal of suture material (Kettle et al. 2010).

The continuous suturing technique when compared to interrupted sutures is associated with less short term pain (Kettle et al. 2007).

There is limited evidence comparing non-suturing to suturing of perineal tears sustained during childbirth regarding perineal pain and wound healing (Elharmeel et al. 2011; Lundquist et al. 2000; Fleming et al. 2003). Practitioners must be cautious about leaving trauma unsutured unless it is the explicit wish of the woman.

NSAID rectal suppositories are associated with less pain up to 24 hours after birth, and less additional analgesia (Hedayati et al. 2003).

Women have reported a preference for using a specially designed cooling gel pad for pain relief, when compared with ice packs or no treatment. (East et al. 2007; Steen and Marchant 2007).

Midwives should discuss with women the importance of good personal hygiene necessary to avoid genital tract infection (CMACE 2011).

Suturing the Perineum

The majority of women who have a vaginal birth will sustain perineal trauma, from a spontaneous perineal tear or episiotomy or both. An overall perineal trauma rate of 85% was reported by Albers et al.(2005). The severity of the trauma, skill of the operator, technique of repair and type of suture used for repair can all contribute to the levels of perineal pain (Kettle and O'Brien 2004).

The repair of the perineum is an important part of the continuing care of a woman during labour and delivery. The trust and support that is developed between the woman and the midwife can make the experience less traumatic. The permanent presence of midwives, trained and continually developing expertise in perineal repair, minimises the problems associated with the rotation of inexperienced junior medical staff (Draper and Newell 1996). There is also evidence to suggest that women prefer to be sutured by midwives. It can mean a reduction in waiting time and a more sympathetic approach (Hulme and Greenshields 1993; Ho 1985). However, it has been reported that there is a lack of general knowledge on the agreed classification of perineal trauma and that midwives feel inadequately prepared to assess or repair perineal trauma (Mutema 2007).

Perineal or genital trauma caused by either tearing or episiotomy should be defined as follows:

- first degree – injury to skin only
- second degree – injury to the perineal muscles but not the anal sphincter
- third degree – injury to the perineum involving the anal sphincter complex:
  - 3a – less than 50% of external anal sphincter thickness torn
  - 3b – more than 50% of external anal sphincter thickness torn
  - 3c – internal anal sphincter torn.
- fourth degree – injury to the perineum involving the anal sphincter complex (external and internal anal sphincter) and anal epithelium.

(Kettle and O'Brien 2004, RCOG Green-top Guideline)

The following two studies reflect women's experiences of perineal suturing. Green et al.'s (1998) large prospective study of women's experiences of childbirth found that suturing is a major and sometimes traumatic event for women. The process and the later consequences were identified by women as a matter of great concern. The pain of suturing was a particular issue for two thirds of the sample with 19% of women describing "a lot of pain" during stitching; this could suggest that pain relief methods were inadequate or that insufficient time was given for drugs to take effect. Twelve per cent of women found suturing the worst thing about their birth. Some women complained about the baby being taken away during this process and about the lack of information given about the degree of the tear or the number of stitches they had. The most common complaint, however, was the delay in being stitched: such delays were not just a cause of significant physical discomfort but also anxiety producing and meant that the woman could not relax. A more recent study by Saunders et al. (2002) offers further information. Women's experiences of pain during perineal suturing were examined using the McGill Pain Questionnaire (short form) and Present Pain Intensity Index in a study of three groups of women (total sixty-eight). Women were asked to complete a questionnaire at one of three times: shortly after suturing whilst still on the delivery suite, during their stay on the postnatal ward and at home six to eight days after giving birth. Women who had not received regional analgesia had experienced high levels of pain during suturing (Sanders et al. 2002). This study suggests that pain relief methods for suturing are inadequate and that further evaluation is required.

The preparation and assessment of perineal tear is the foundation of best practice in this area. In this context NICE (2007) has made the multiple recommendations below:

Before assessing for genital trauma, healthcare professionals should:

- explain to the woman what they plan to do and why
- offer inhalational analgesia
- ensure good lighting
- position the woman so that she is comfortable and so that the genital structures can be seen clearly.

The initial examination should be performed gently and with sensitivity and may be done in the immediate period following birth.

If genital trauma is identified following birth, further systematic assessment should be carried out, including a rectal examination.

Systematic assessment of genital trauma should include:

- further explanation of what the healthcare professional plans to do and why
- confirmation by the woman that tested effective local or regional analgesia is in place
- visual assessment of the extent of perineal trauma to include the structures involved, the apex of the injury and assessment of bleeding
- a rectal examination to assess whether there has been any damage to the external or internal anal sphincter if there is any suspicion that the perineal muscles are damaged.

The timing of this systematic assessment should not interfere with mother-infant bonding unless the woman has bleeding that requires urgent attention.

The woman should be in a position that allows adequate visual assessment of the degree of the trauma and for the repair. This position should only be maintained for as long as is necessary for the systematic assessment and repair.

The woman should be referred to a more experienced healthcare professional if uncertainty exists as to the nature or extent of trauma sustained.

The systematic assessment and its results should be fully documented, possibly pictorially.

All relevant healthcare professionals should attend training in perineal/genital assessment and repair, and ensure that they maintain these skills.
(NICE 2007)

There is some evidence that surgical skills laboratory teaching when compared to traditional teaching alone can improve the knowledge and performance of episiotomy repair (Banks et al. 2006).

A Cochrane review that compared: catgut with standard synthetic; rapidly absorbing synthetic; glycerol impregnated catgut sutures ; standard synthetic sutures with rapidly absorbing synthetic and monofilament sutures (Kettle et al. 2010), found that compared with catgut, standard synthetic sutures were associated with less pain up to three days after delivery and less analgesia up to ten days postpartum. More women with catgut sutures required resuturing compared to the women with synthetic sutures, however, more women with standard synthetic sutures required the removal of unabsorbed suture material.

When standard synthetic suture material was compared with rapidly absorbing sutures, short- and long-term pain was similar. One of the RCT's found fewer women with rapidly absorbing sutures reported using analgesics at 10 days (Kettle et al. 2002). However, there was no evidence of significant differences between groups for long-term pain (three months after delivery) or for dyspareunia at three, or at six to twelve months. The systematic review found that a significant amount of women in the standard synthetic suture group required suture removal compared with those in the rapidly absorbed group (Kettle et al. 2010). When catgut and glycerol impregnated catgut were compared, results were similar for most outcomes, although the latter was associated with more short-term pain. An absorbable synthetic suture material should be used to suture the perineum. Rapidly absorbable suture material (Vicryl Rapide) is associated with a reduction in the need for analgesia and suture removal.

The Cochrane review comparing continuous versus interrupted sutures for repair of episiotomy or second-degree tears (Kettle et al. 2007) concluded that women in the continuous suture group reported less pain at ten days following birth and less need for suture removal, however, there were no difference in superficial dyspareunia at three months. Moreover, if the continuous technique is used for all layers (vagina, perineal muscles and skin) compared to perineal skin only, the reduction in pain was even greater. Women's satisfaction with repair was greater at three and twelve months and more women felt back to normal within three months of the birth following use of the continuous technique (Kettle et al. 2002). The RCT by Kindberg et al. (2008) compared a continuous suture technique for all layers versus interrupted inverted stitches to close perineal muscles and skin (the inverted interrupted skin sutures were placed in the subcutaneous layer and not transcutaneously through the skin). This study found no significant difference in the number of women with pain at 10 days or dyspareunia at 6 months following birth. However, the authors reported that the continuous technique was quicker to perform and was more cost effective.

A second RCT by Valenzuela et al. (2009), compared a continuous non-locking suture for all layers versus continuous locking stitch to close the vagina, plus interrupted stitches to close the perineal muscles and skin (transcutaneously). Both groups were sutured using rapidly absorbing polyglactin. The authors reported that there were no significant differences between groups in the rate of women with pain at 2 days, 10 days or 3 months postpartum. Both studies reported that the continuous technique was quicker to perform, used less suture material and was more cost effective (Valenzuela et al. 2009; Kindberg 2008).

There is strong evidence of benefit when using a continuous subcuticular suture for perineal skin closure, and the benefit is increased if the continuous technique is used to repair all layers (vagina, perineal muscles, and skin) compared with methods using interrupted stitches to close perineal muscles with transcutaneous interrupted stitches inserted for skin closure.

A recent Cochrane review has assessed the evidence for non-suturing versus suturing of first and second degree tears sustained during childbirth (Elharmeel et al. 2011). One of randomised controlled trials involving eighty women found no significant differences in the healing process or amount of perineal discomfort (Lundquist et al. 2000). The second RCT involving 74 women found no significant differences between the groups for pain at one and ten days after birth or for pain or depression at six weeks postpartum (Fleming et al. 2003). However, at six weeks, there were a significantly higher proportion of women with a closed perineal tear in the group that had been sutured compared to women who had not been sutured (Fleming et al. 2003). There is limited evidence regarding the benefits and harms of leaving perineal muscle and skin unsutured. Unfortunately neither of the two RCT's reported the long-term effects of non-suturing compared to suturing regarding pelvic floor muscle or sexual function. Practitioners must be cautious about leaving this type of trauma unsutured unless it is the explicit wish of the woman.

Two RCTs have compared leaving the perineal skin unsutured but apposed (the vagina and perineal muscle were sutured) versus the conventional repair in which all three layers were sutured (Oboro 2003; Gordon et al. 1998). The UK study found no significant difference in perineal pain at 10 days postpartum between groups. However, the Nigerian study reported a reduction in perineal pain at 48 hours, 14 days, 6 weeks, and 3 months following birth (Oboro et al. 2003; (Gordon et al. 1998). Both RCTs found that leaving the perineal skin unsutured significantly reduced superficial dyspareunia at 3 months after birth. However, the two RCTs found that leaving the perineal skin unsutured but apposed increased rates of wound gaping at 48 hours compared with suturing. This persisted up to 10 days in the UK study but the Nigerian study found no significant differences in wound gaping at 14 days after birth. There is some evidence of benefit associated with leaving the perineal skin unsutured compared with skin sutured in terms of reducing pain and dyspareunia. However, practitioners must be aware that there is an increased risk of wound gaping with non-suturing of perineal skin.

Addressing the issue of pain relief, one Cochrane review has compared analgesic rectal suppositories (non-steroidal anti-inflammatory drugs [NSAIDs]) with placebo or alternative treatment (Hedayati et al. 2003). Three RCT's involving 249 women met the inclusion criteria, however, only two of the RCTs had data that could be entered into the meta-analysis. Women were less likely to report pain within 24 hours of giving birth following administration of NSAIDs compared to placebo, and needed less additional pain relief within the first 48 hours postpartum. No information was available on pain experienced more than 72 hours after birth or other outcomes of importance to women such as the impact on daily activities, resumption of sexual intercourse and the impact on the mother-baby relationship. Further research should undertaken to assess the duration of the pain relief experienced and the effects of different timing of treatments, different dosages, different lengths of treatment and comparison of the different analgesic drugs available as suppositories or other modalities, as well as the impact these regimens have on the passage of the drug into breast milk (Hedayati et al. 2003).

Rectal nonsteroidal anti-inflammatory drugs should be offered routinely following perineal repair of first- and second-degree trauma provided these drugs are not contraindicated (NICE 2007).

Steen (2002) compared a cooling gel pad with ice packs (both applied within 30 minutes of suturing) and no treatment in an unblinded, randomised controlled trial that involved 450 women following vaginal birth. Women in the gel pad group reported less pain on days five, ten and fourteen compared to women allocated to the ice pack or no treatment groups. The author describes the difficulties of trying to achieve standardisation of perineal closure between different operators (midwives and obstetricians) but no adverse effects on healing were detected from use of localised cooling treatments (Steen 2002). Women appeared to find the cooling gel pad to be the more acceptable treatment and this may be due to its controlled cooling properties, shape and size enabling it to remain pseudo plastic at low temperatures giving it a cushioning and comforting effect (Steen and Marchant 2007). A Cochrane review comparing local cooling treatments with no treatment or other treatment for relieving pain from perineal trauma sustained during childbirth, reported that ice packs provided some pain relief 24 to 72 hours after birth when compared to no treatment (East et al. 2007). Women reported a preference for the cooling gel pad when compared with ice packs or no treatment. No differences in pain levels were detected between the treatments. No adverse effects on healing were reported.

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This updated guideline was authored by:

Dr Christine Kettle, Professor of Women's Health, Staffordshire University, Jane Munro, Quality and Audit Development Advisor, RCM, Mervi Jokinen, Practice and Standards Development Advisor, RCM

And peer reviewed by:

Dr Tracey Cooper, Consultant Midwife – Normal Midwifery, Lancashire Teaching Hospitals NHS Foundation Trust.

Dr Fiona Fairlie, Consultant Obstetrician and Gynaecologist, Sheffield Teaching Hospitals NHS Foundation Trust.

Anne-Marie Henshaw, Lecturer (Midwifery and Women's Health)/ Supervisor of Midwives, University of Leeds

Helen Shallow, Consultant Midwife & Head of Midwifery, Calderdale & Huddersfield NHS Foundation Trust.

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

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