The use of episiotomy in obstetrical care: a systematic review

CRD summary
This review evaluated the effects of episiotomy (incision of the perineum at the time of vaginal childbirth). The authors concluded that the evidence does not support the routine use of episiotomy and that evidence about its long-term effects is limited. Despite the risk of language bias in the review, the conclusions appear likely to be generally reliable.

Authors’ objectives
To evaluate the maternal postpartum and longer term outcomes of episiotomy (incision of the perineum at the time of vaginal childbirth).

Searching
MEDLINE, the Cochrane Library and CINAHL were searched for articles in English only. The searches were conducted in late 2003 and updated in November 2004; the search terms were reported. The authors also checked reference lists of relevant articles and consulted experts for unpublished or ongoing studies.

Study selection
Study designs of evaluations included in the review
For KQs 1 and 3, only randomised controlled trials (RCTs) were eligible for inclusion. For the other KQs, prospective cohort studies were eligible and were included for all except KQ2. Studies with fewer than 40 participants were excluded.

Specific interventions included in the review
Studies of episiotomy were eligible for inclusion if they addressed at least one of five key questions (KQs) relating to:

1. effects of routine versus restricted use of episiotomy; 2. effects of episiotomy incision type;
3. effects of method of repair of the perineal defect;
4. long-term effects on urinary or faecal incontinence or pelvic floor defects;
5. effects on sexual function.

Participants included in the review
Studies of women giving birth in any setting (in-patient, out-patient or home) were eligible for inclusion. The characteristics of the participants (e.g. age, parity and who performed the delivery) were reported in tabular format.

Outcomes assessed in the review
Studies that assessed relevant postpartum and longer term outcomes were eligible for inclusion. Postpartum outcomes included pain, need for suturing, blood loss or transfusion, infection, wound breakdown, satisfaction with birth experience, incontinence and sexual concerns and/or dysfunction. Longer term outcomes included pelvic floor defects, incontinence and deficits in sexual function.

How were decisions on the relevance of primary studies made?
Two reviewers independently assessed abstracts for relevance; those accepted by at least one reviewer were obtained as full papers. One reviewer assessed the full papers for relevance.
Assessment of study quality
The validity of RCTs was assessed on the basis of the randomisation approach and implementation (including allocation concealment), blinding (for KQ3 only), description and measurement of outcomes, post-randomisation exclusions, loss to follow-up and appropriateness of the statistical analysis. The validity of cohort studies was assessed on the basis of representativeness of the study population, outcome measures, loss to follow-up and quality of the analysis. The studies were rated as good, fair or poor quality overall. For RCTs, two reviewers independently assessed studies for quality. A third reviewer identified studies with differences in scoring on individual components. Any disagreements were resolved by consensus. For cohort studies, the authors did not state how many reviewers performed the validity assessment.

Data extraction
One reviewer extracted the data and a second reviewer checked them. Any disagreements were resolved by consensus. Data on the participants, outcomes in each group and authors' conclusions were tabulated; other study data were included in the text or tabulated in appendices.

Methods of synthesis
How were the studies combined?
The studies were combined in a narrative based on the five KQs. For each question, the overall strength of the evidence base was rated on a scale of I (best) to III. The authors did not state that they investigated publication bias.

How were differences between studies investigated?
Differences between the studies, including differences in the participants, details of the intervention, outcomes and study quality, were discussed in the text.

Results of the review
Thirty RCTs and 15 prospective cohort studies were included. There were 7 RCTs (n=4,991) for KQ1; 1 RCT (n=407) for KQ2; 17 RCTs (n=9,757) for KQ3; 3 RCTs (n=2,377) and 12 cohort studies (n=5,260) for KQ4; and 2 RCTs (n=1,703) and 7 cohort studies (n=4,657) for KQ5.

Routine versus restricted use of episiotomy (KQ1).
The use of episiotomy ranged from 7.6 to 53% in the restricted use groups and from 44.9 to 83% in the routine use groups. Overall, women in the restricted use groups had less severe posterior perineal trauma, more frequent but not more severe anterior vaginal trauma, less need for suturing, and a higher probability of having an intact perineum compared with those in the routine use groups. Women in the restricted use group also had less short-term pain and were more likely to resume intercourse earlier than those in the routine use group.

Episiotomy type (KQ2).
One poor-quality RCT found that women who had a midline episiotomy had a significantly higher rate of anal sphincter injuries compared with those who had a mediolateral episiotomy.

Method of repair and materials used (KQ3).
Heterogeneity was high for both methods and materials. Evidence from 8 studies indicated that polyglycolic acid sutures were associated with less perineal pain, less requirement for analgesia, and better short-term healing compared with chromic catgut sutures.

Incontinence and pelvic floor defects (KQ4).
All but 2 studies reported results for mediolateral rather than midline episiotomy. Only 5 studies reported follow-up data at 1 year or longer after childbirth. Overall, the studies did not identify improvements in continence or pelvic floor muscle function among women who had had an episiotomy compared with those who had not.
Sexual function (KQ5).

No substantive differences in sexual function at follow-up were found between women who had had an episiotomy and those who had not.

Authors' conclusions
Short-term maternal outcomes from routine episiotomy were not better than those from restricted use. Evidence regarding longer term outcomes was fair or poor. The available evidence indicated that episiotomy did not reduce rates of faecal and urinary incontinence, pelvic floor relaxation or impaired sexual function within months to years after childbirth.

CRD commentary
This was a complex review that addressed a number of separate though related questions. The inclusion criteria were broad but generally clear. The authors searched a range of relevant databases but the limitation to studies published in English meant that relevant studies could have been missed. Publication bias was not assessed. Decisions about the inclusion of studies in the review, the assessment of validity and data extraction were carried out by more than one reviewer, thus reducing the risk of bias and errors during the review process. The authors used standard methods to assess validity and made use of the results in their synthesis.

Full details of the included studies were tabulated in the report and its appendices. The authors synthesised the data narratively based on pre-specified key questions, which seems appropriate in view of the heterogeneity of the included studies. The authors' conclusion that the benefits of episiotomy have not been demonstrated reflects the evidence presented and appears likely to be reliable.

Implications of the review for practice and research
Practice: The authors stated that current evidence does not support the routine use of episiotomy.

Research: The authors stated that further research to identify situations in which episiotomy may be indicated, and to compare overall approaches to the repair of perineal defects rather than individual components, is required.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.