Epidural analgesia during labour

Please check with your local ethics service or governing body about the process requirements for auditing your own practice.

| Background | Epidural analgesia (EA) is the gold standard for labour analgesia. The success or failure should be considered in terms of the procedural aspects of insertion, the quality of analgesia during labour or a retrospective satisfaction score of the overall experience. The complication of accidental dural puncture (ADP) should form part of an audit. A composite ‘failure’ end point has been defined and includes several of the above individual factors. |
| Aim and objectives | The aim is to ensure individual practice outcomes are consistent with best practice outcomes. |
| Research evidence/ best practice | There is known higher failure rate for epidural analgesia among maternity patients compared with general surgical patients. The use of low concentration local anaesthetic, anxiety and anatomical differences are considered contributing factors. Cervical dilatation >7cm, history of opioid tolerance, previous failed epidural and trainee anaesthetist increase the risk of inadequate pain relief. Definitions of failure include: failure to site, high pain scores 30 minutes after initiation of epidural, re-site of ineffective epidural, a patchy or unilateral block, accidental dural puncture and failure to provide effective anaesthesia if topped up for caesarean section or a combination of these factors. The incidence of accidental dural puncture is 1.0 to 1.2 per cent and re-siting because of no analgesia or unilateral block is 13.1 per cent. A patient satisfaction score of 98 per cent was found even with repeated re-siting, although inadequate pain relief 45 minutes after starting to insert the epidural has been shown to correlate to dissatisfaction. A definition of failure, which includes a composite end point (any of inadequate pain relief 45 minutes after placement, accidental dural puncture, re-siting, abandonment, dissatisfaction at follow up), has been assessed. The failure rate using this was 20 per cent. |
| Suggested indicators | • Percentage of epidurals providing adequate pain relief 45 minutes after placement (from start of epidural insertion). • Percentage of epidurals re-sited at any time during labour. • Percentage of accidental dural puncture. • Percentage of patients satisfied with epidural at follow-up visit. • Percentage of epidurals successful using a composite end point (none of inadequate pain relief 45 minutes after placement, accidental dural puncture, re-siting, abandonment, dissatisfaction at follow up). |
| Standards and criteria for best practice | • Adequate pain relief 45 minutes after placement (from start of epidural insertion) ≥88 per cent. • Epidurals replaced at any point during labour <15 per cent. • Accidental dural puncture rate <1 per cent. • Satisfaction at follow-up visit ≥98 per cent. • Success using composite end point ≥85 per cent. |
### Method

Data for series of 30-50 consecutive patients.  
Suggested data collection (refer to Epidural Analgesia Data Collection Form):  
- Date and time of procedure.  
- Position (lateral versus sitting).  
- BMI; parity; cervical dilation; anatomical factors, for example, scoliosis, previous surgery.  
- Following insertion:  
  - Analgesia within 45 minutes of starting epidural needle insertion, using a definition “Are you happy with the pain relief?”  
  - Accidental dural puncture.  
  - Insertion abandoned or sited by another anaesthetist.  
- At follow-up visit:  
  - Epidural re-sited during labour.  
  - Patient satisfaction (excellent, satisfactory, unsatisfactory, no benefit).  
  - Headache typical of post-dural puncture headache.  
  - Other complications (for example, high block, CVS instability).

### References


### Acknowledgement

This audit guide is adapted from Purva, M. and Kinsella, M. “Epidural analgesia during labour” in: Royal College of Anaesthetists. Raising the Standard: a compendium of audit recipes, 2012; p.218-219. The Royal College has kindly granted ANZCA permission to use this material.  
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Associated documents:  
- Epidural Analgesia Data Collection Form  
- Epidural Analgesia Results Summary and Conclusions Form