

TITLE	Epidural analgesia in labour
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Epidural Analgesia

Epidural analgesia in labour

Response Time

We offer a 24hr epidural service which is 'on demand' for pain relief in labour. The Obstetric Anaesthetic Association Guidelines are: -

“ The time from informing the anaesthetist of the mother’s request until attending the woman should ideally not exceed 30 minutes and, in any case, not exceed 60 minutes, other than in exceptional circumstances”.

If you anticipate that your response time will be longer than 30-60 minutes please attempt to find an alternative anaesthetist to attend the patient or ask the midwife to do so.

Indications

The most common reason for epidural analgesia in labour is maternal request for pain relief but there are some medical indications. These include: -

- Pre-eclampsia
- Multiple pregnancy
- Certain cardiovascular diseases
- Certain respiratory diseases
- Sickle cell disease
- Trial of Scar
- Anticipated Instrumental Delivery

Whilst there is no place for “selling” epidurals to labouring women the anaesthetist should be available to discuss the benefits and disadvantages to any woman on labour ward if requested to do so by the midwife or obstetrician.

Absolute Contraindications:

- Maternal Refusal
- Coagulopathy or anti coagulation (See separate protocol)
- Local sepsis at site of epidural insertion
- Septicaemia (This does not include chorioamnionitis)
- Raised ICP
- Uncorrected hypovolaemia
- Severe fetal distress unless obstetric confirmation given
- Inadequate staff to attend mother

Relative Contraindications: (Discuss with more senior anaesthetist)

- Neurological disorders
- Fixed cardiac output

Women who have complex medical conditions should have been seen in antenatal clinic and have a suggested plan in their notes. A regular memo which is found in the ITU junior's room and the obstetric anaesthetic O/C room flags such patients. If in doubt clarification should always be sought from more senior colleagues.

Consent

Consent for any procedure may be implied or expressed and may be oral or written.

Expectant mothers have often attended antenatal classes and have formed their own choices as regards pain relief and labour management.

Many women will have birth plans that should be regarded as an Advance Statement. These should be respected unless the situation falls outside the expected circumstances or there is evidence the woman has changed her mind.

Technique for Epidural Analgesia in Labour

Performing the block: -

- 1) When an epidural is requested ensure there are no contraindications to the procedure, explain it briefly to the woman and obtain verbal consent. The minimum information that should be imparted to the woman is
 - Risk of dural puncture headache
 - Risk of Neurological complications (1 in 13,000 for neuropathies, approx. 1 in 500,000 for permanent paralysis)
 - Possibility that it may not be fully effective (5 in 6 work very well)
 - Possibility that it increases the risk of instrumental delivery
- 2) Establish IV infusion through large bore cannula preferably in non-dominant forearm.
- 3) Position patient in Left lateral or Sitting position according to anaesthetic and maternal preference.
- 4) All epidurals should be performed using the lost of resistance to saline technique (unless there is a strong indication otherwise). This technique reduces the risk of dural taps and minimises the likelihood of patchy blocks, and missed segments. Some authorities also feel that use of air constitutes an infection risk and there are many reports of pneumoencephalograms.
- 5) All epidurals should be performed aseptically with the operator wearing a gown and gloves as minimum requirement.
- 6) A 14-16G cannula should be sited prior to instigation of the block and attached to a Hartman's infusion. Preload is not necessary under normal circumstances.

- 7) Epidurals should be performed at L4/5, L3/4, L2/3 or if necessary at L1/2. In normal adults the spinal cord ends at the level of L1. However because of anatomical variants and the occasional difficulty in determining level it is better to aim for a lower space. No CSE should be used at L1/2.
- 8) In early labour a standard epidural is performed.
- 9) Before inserting the catheter flush with N saline, there have been many cases of catheters without holes!
- 10) After inserting the epidural catheter look to see the meniscus of saline dropping, if it does not drop be especially vigilant for sub dural or intrathecal placement.
- 11) The catheter should be secured with 3-5cm in the epidural space. If possible maintain CTG monitoring during epidural insertion.
- 12) If you have difficulty siting the epidural DO NOT persist in fruitless attempts. Call for help.
- 13) After securing the epidural the test dose should be 10mls of the pre-prepared epidural mixture after careful aspiration. The pre-prepared epidural mixture is 0.1% bupivacaine with 2µg/ml fentanyl. If the catheter is inadvertently intra thecal this will give a block to approximately T4
- 14) After 5 minutes or sooner if indicated the BP should be measured (there should be minimal change) and the woman should be asked to wriggle her legs and asked about any abnormal sensation. If there is no motor loss, and no hypotension a further 5-10mls of the Low Dose mix should be given. The woman should be informed that the pain relief will begin in about 10 minutes but will not be fully effective for approximately 20 minutes.
- 15) Consent, epidural insertion technique and any problems (including any reason for delay in attending) should be documented in the notes. The epidural forms should also be completed and the obstetric intervention book filled in.
- 16) Ideally the woman should be reviewed at regular intervals to ensure adequate pain relief, and 'trouble-shoot'.

Intermittent Bolus Top-ups

- 1) Epidural bolus top-ups have been shown to decrease motor block, reduce drug utilisation and? increase maternal satisfaction over infusions. This is the standard method used in the St Mary's Labour ward.
- 2) Top-ups of the low dose mix should be prescribed. In the 1st stage of labour a dose of 10-15mls every 30minutes is usually sufficient. Occasionally 0.25% bupivacaine may be required towards the end of the 1st stage of labour and would be administered by an anaesthetist.
- 3) Escape analgesia should only be prescribed by a Consultant Anaesthetist.**
- 4) After topping up the BP should be recorded every 5minutes for 20 minutes.

- 5) For instrumental deliveries 10mls of 0.5% bupivacaine or 10mls of 2% lignocaine with adrenaline (1 in 200,000) is appropriate. The anaesthetist **MUST** perform such top-ups.
- 6) The total bupivacaine dose should not exceed 2mg/kg every 4 hours.

Combined spinal epidural

- 1) The standard low-dose epidural mixture epidurally is normally of sufficiently rapid onset and strength to provide adequate analgesia in the 1st stage of labour.
- 2) However in the very late stages of labour especially with frequent contractions it may be advantageous to perform a combined spinal epidural.
- 3) The standard spinal 'starter dose' is 1ml of 0.25% bupivacaine with 25µg fentanyl made up to 2mls with 0.9% Sodium Chloride.
- 4) The spinal can either be performed separately or as part of a needle through needle technique. In the poorly co-operative patient consideration should be given to separate procedures, continuing only with the epidural when the woman is pain free thus reducing the risk of inadvertent dural puncture.

Problematic Epidurals

Bloody Taps

- 1) The incidence of bloody tap in pregnancy is approximately 8%
- 2) The more catheter threaded into the epidural space the more likely a bloody tap is!
- 3) In the event of a bloody tap remove the Tuohy needle, withdraw the catheter a few cm, flush with saline and reaspirate. Do not withdraw the catheter through the Tuohy needle.
- 4) If blood continues to be aspirated then the epidural must be resited
- 5) If a bloody tap occurs twice at the same interspace use a different one.

Patchy, Missed segment, unilateral block

- 1) Alter position of patient
- 2) Give large volume top-up of the low dose mixture
- 3) Withdraw catheter a cm or 2
- 4) If these don't work, don't persist – resite it.

Bibliography and References

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