Regional Analgesia for Labour

2.1 Indications
Patient request
Maternal cardiac, cerebrovascular or respiratory disease
Pre-eclampsia
Trial of labour after previous LSCS or uterine surgery
Fetus “at risk” e.g. PET
Breech delivery or multiple pregnancy
Obese patient or other risk factors for GA.
Intra-uterine death or known congenital anomaly of fetus

Contraindications
Maternal refusal
Local or generalised sepsis
Anticoagulant therapy or bleeding diathesis
Uncontrolled haemorrhage or hypovolaemia
Severe spinal abnormality
Some neurological diseases
Lack of trained staff to provide safe care. If a mother does not have one to one midwifery care from a midwife with the epidural competency she should only be offered an epidural under exceptional circumstances. There is no numeric limit.

2.2 Consent
Usually inappropriate to obtain written consent.
Information should have been given and discussed in antenatal classes.
Where time permits mothers should be given the epidural information sheets and a laminated copy of the OAA pain relief in labour information booklet. Copies of this booklet in 25 different languages can be downloaded from the OAA website for women who do not speak English. (www.oaa-anaes.ac.uk)
Consent must be obtained in a manner appropriate to the clinical situation.
No one can give or withhold consent for the mother.

Ideally mothers should be told about some or all of:-
Post dural puncture headache 1%. If it occurs 80% likelihood of blood patch
Failure to site catheter or achieve perfect analgesia – usually 10% but higher if obese or any known back problems.
Possible need to resite catheter – about 5%
Hypotension
Leg weakness
Need for urinary catheter, continuous fetal monitoring
Localised backache for 48 hours due to bruising – long term backache not caused by regional analgesia
Neurological problems rare (1 in 10,000 for temporary or mild neuropathy)
Vertebral canal haematoma, abscess or spinal cord injury extremely rare
Use your discretion as to how much of the above discussion to include especially if the mother in severe pain, but as a minimum specific mention should be made of dural tap and headache and failure of block.
2.3 Aseptic technique
Aseptic insertion should include gloves, hat, facemask and gown.
Chlorhexidine solution must be used to clean the back.
Drugs must be drawn up directly from the ampoule and checked with another
member of staff.
An anaesthetist should attend to place an epidural within 1 hour of a request.
Ask for assistance early if you are likely to be busy.

2.4 Epidural
Continuous infusions / PCEA are the method of choice in mothers likely to
require more than 1 hour of analgesia prior to delivery.
Women under midwifery led care must be transferred to obstetric care prior to
establishment of regional analgesia.
IV access should be established and an infusion of saline commenced before
epidural insertion. No formal preload is necessary and rapid, large volumes of
crystalloid should be avoided.

Poor patient positioning is responsible for many failures to site
epidurals/spinals and it is worth spending time optimising this before your first
attempt.
If using the sitting position:
· Place the woman’s feet flat on a stool, try to prevent the knees falling
  laterally.
· Ensure the knees are higher than the hips (to reduce the lumbar
  lordosis)
  If sitting on the operating table, tilt the table 5° towards you (to reduce
  the lumbar lordosis)
If using the lateral position:
· Place a pillow under the woman’s shoulders
· Place another pillow between her knees to prevent the pelvis tilting
  away from you.

Bags containing 250 mls of bupivacaine 0.1% and 2 micrograms of fentanyl
per ml are pre-prepared by the hospital pharmacy and kept in the fridge in the
equipment room.
Standard programme for PCEA pump is 15 ml loading dose then 10 ml
per hour infusion with 10 ml patient initiated boluses with 30-minute
lockout (set 100 ml 4 hourly limit).

The anaesthetist must remain immediately available to attend the
mother until the block height is checked 20 minutes after initiation of the
block -aim for bilateral block to T10. It may be useful to ensure that the
midwife is confident in assessing block height by asking the midwife to check the block with you at this time.

The epidural should be reassessed at regular intervals by the anaesthetist – **do not wait to be called**. If the block height is higher than T7 the epidural infusion should be stopped.

All infusions are continued until after delivery.

If you are having difficulties siting an epidural do not stubbornly persist – consider calling for senior help after 15 minutes of needle attempts.

**Monitoring**

Blood pressure should be documented prior to the epidural and every 5 minutes for the first 20 minutes. After that every 30 minutes.

If the blood pressure falls by >30 mmHg or to < 90 mmHg

Turn the woman into the lateral position

Give oxygen 4 l/min via facemask

Increase i.v. fluids

Give ephedrine if appropriate

Block height should be documented

- At 20 minutes post insertion by anaesthetist
- Every 30 minutes by midwife

**Top ups**

Top-ups are available from the PCEA programme every 30 minutes. If there is still inadequate pain relief, the block should be checked carefully – it should be up to T10. Unblocked segments may be relieved with 50 micrograms of fentanyl diluted in bupivacaine or saline.

**It is important for an epidural to be fully effective so that it can be relied upon to provide rapid anaesthesia for a section if required. If there is any doubt an epidural should be resited early rather than multiple top ups being given.**

**2.5 Epidural trouble shooting guide**

1) Failure to thread the catheter. You are probably not in the epidural space. If you think you are try to open up the space with 5 to 10 mls of saline.

2) Blood in catheter. Can be avoided by not inserting the catheter during contractions and inserting a maximum of 4cms into the epidural space (5cm if obese). If you think you have sufficient length of catheter in the epidural space you can try withdrawing the catheter 1 cm and aspirating for blood again. If any doubt exists, it must be replaced.

3) Paraesthesia on insertion of catheter. You should always warn the patient of some paraesthesia during insertion of the catheter. This is usually transient. If the patient complains of persistent paraesthesia you
must stop inserting and withdraw both needle and catheter together. This must be documented.
Resite the epidural.

4) Inadequate analgesia
Although regional analgesia is the most effective form of pain relief in labour it is not always perfect – 10% of epidurals fail to work effectively. If asked to review the block in a labouring woman:
Check the catheter site and amount of catheter left in the space as catheters can work their way into or come out of the epidural space - especially important to check if epidural was previously working well.
Also consider intravascular placement if block stops working.
Assess the distribution of the block using ethyl chloride spray.
Observe the woman during several contractions and try to establish the site and nature of the painful sensations.
Establish progress of labour and position of baby.

Problems and solutions
• Missed segment - Try a further bolus from the pump while lying on affected side, give a epidural bolus of fentanyl 100 mcg , sometimes withdrawal of the catheter 1cm can help.
• Unilateral block - (a) Pull catheter back so that 2-3 cm remains in space and try further dose. (b) Resite catheter at different space.
• Patchy block - Consider possibility of subdural block. Characterised by a negative epidural test dose followed by an extensive sensory block with motor sparing. Manage hypotension as above. Reassure patient and advise patient of likely rapid regression of the high sensory block after 1 hour. Resite epidural.

Persistent backache – especially if baby in OP position late in labour – try one bolus of 0.25% marcain if block otherwise appears adequate on testing.
If abdominal pain increases and not just associated with contractions a ruptured uterus, although rare, should be considered.

If adequate analgesia hasn’t been established within 60 min of attending to troubleshoot persistent pain, the epidural should be resited.

If the above approaches fail and the woman is still unhappy, seek senior help. Persistent pain should be managed with sympathy and explanation.
Poor regional analgesia in labour predicts poor surgical anaesthesia. Have a low threshold for resiting a poor epidural in a woman at risk of Caesarean section.