Post-operative Analgesia for Caesarean Section

**Introduction**
Good quality analgesia after any surgery leads to earlier mobilisation, fewer pulmonary and cardiac complications, a reduced risk of DVT and earlier return of gastrointestinal function. In new mothers, good analgesia can improve the ability to look after the newborn and facilitate breastfeeding. Post-operative analgesia starts at the time of Caesarean section (CS).

**Best Practice Points:**
At Frimley Park Hospital the Modified Early Obstetric Warning System suggests pain scores should be assessed ideally with the woman resting using a verbal descriptor scale (VDS) which is then transposed to a score from 0 to 4. A score of 2 or more requires action.
- Drugs should be used that do not have significant effects on the fetus, particularly in breast-feeding women.
- NICE Guidelines for CS recommend:¹
  - Women should be offered perioperative subarachnoid diamorphine (0.3-0.4mg) or epidural diamorphine (2.5-5mg) if CS performed by regional anaesthesia.
  - If there are no contraindications, regular NSAIDs should be used as an adjunct to opioid therapy.
  - Women who have received opioids should be monitored for respiratory rate, sedation and pain scores and prescribed an anti-emetic and laxatives.

**CS under neuraxial blockade**

**Intraoperative**
- All women receiving neuraxial blockade should be given intrathecal or epidural opioids including a long-acting opioid:
  - Intrathecal
    - 300-400mcg diamorphine¹ ² OR
    - 15mcg fentanyl + 100mcg preservative free morphine¹
  - Epidural
    - At the time of epidural top-up 50-100mcg fentanyl AND
    - At the end of surgery prior to removal of the epidural catheter:
      - 3mg diamorphine¹ OR
      - 3mg preservative-free morphine¹

There is strong evidence to suggest that no additional analgesic benefit is conferred by doses of intrathecal morphine above 100mcg. If using larger doses an increased incidence of side-effects (e.g. pruritis, nausea and vomiting) should be anticipated.
There is strong evidence that NSAIDs reduce opioid consumption after CS, and are even more effective in combination with paracetamol. Unless contraindicated all women should receive:
- IV paracetamol 1g
- Rectal diclofenac 100mg at the end of CS

**Contraindications to NSAIDs include:**
- Pre-eclampsia (up to 24 hours after delivery)
- Significant haemorrhage (review, may be appropriate once stable)
- Renal impairment
- Thrombocytopenia
- Asthmatics sensitive to NSAIDs

**Completion of drug chart after CS under neuraxial blockade**

**Once-only**
- Record intraoperative antibiotics given (usually cefuroxime 1.5g and metronidazole 500mg iv).
- Record diclofenac suppository 100mg given at the end of surgery.
- Any oxytocics given in theatre (e.g. syntocinon, hemabate, carbetocin, ergometrine etc).

**Regular medication**
- Oral paracetamol 1g QDS regularly (please insert IV intraoperative dose on both PICIS and the drug chart) at 08:00, 12:00, 18:00 and 22:00.
- Oral ibuprofen 600mg QDS started 12 hours after rectal diclofenac to coincide with paracetamol dosing. To be given for 48 hours or until discharge home.
- Oral ibuprofen 400mg tds to be prescribed as TTOs.
- Thromboprophylaxis as directed by protocol after discussion with obstetrician.

**PRN medication**
- Morphine 10mg im 2hrly OR Oramorph 20-30mg 2hrly
- 4mg ondansetron iv/im 8 hrly
- 50mg cyclizine 8 hrly IM/IV
- Lactulose 15mls b.d.

**NB:**
- Codeine phosphate should NOT be prescribed on the drug chart unless in exceptional circumstances to women who choose not to breast-feed.
- PCA morphine should be avoided after spinal opioids.
- Continuation of the low-dose epidural infusion may be appropriate in women who remain on CDS after delivery (e.g. severe pre-eclampsia with epidural in situ).
CS under general anaesthesia (GA)

Intraoperative
- Avoid systemic opioids until delivery of the baby and the cord has been clamped except in justified circumstances (e.g. pre-eclampsia).
- Morphine iv (up to 20-30mg) will be required intraoperatively.
- Ondansetron 4mg iv.
- Consider a Transversus abdominis plane (TAP) block for post-operative analgesia (see below).

Completion of drug chart (in addition to above)
- Rescue iv morphine in recovery
- Morphine PCA as per protocol

Transversus abdominis plane (TAP) blocks for analgesia after GA CS

The TAP block is performed by introducing local anaesthetic into the plane between the fascia of the transversus abdominis muscle and the internal oblique muscle. A recent systematic review and meta-analysis looked at a number of studies and found TAP blocks to be effective as part of a multimodal analgesia regime that excludes intrathecal morphine. The technique should be performed under ultrasound guidance as “blind” TAP blocks have been shown to have a high incidence of intraperitoneal placement.

Contraindications
- Patient refusal
- Sensitivity to local anaesthetics
- Local infection
- Large doses of local anaesthesia in the last four hours (e.g. epidural dosing, small patients). You should calculate the dose received by each patient and determine whether TAP blocks are feasible.

Method
- Obtain informed consent for regional blockade.
- The block is carried out at the end of the CS once the wound dressing has been applied and prior to waking up the mother.
- Aseptic technique
- Draw up and label 2 sets of local anaesthetic (suggest 20mls of 0.35% bupivacaine for each side).
- Assemble equipment (suggested 5 or 10cm stimuplex needle depending on the size of the patient).
- With an in-plane technique pass your needle until it reaches the correct plane, aspirate and inject a few mls of local anaesthetic – you should see the planes separating. Continue to inject the rest of the solution.
- Remember intraoperative analgesic requirements are the same and immediate postoperative analgesia requirements are often significant.
Ultrasonic view of Location of Transverse Abdominis Plane Block


Figure 1. Line drawing of a transverse section through the abdominal wall at the level of the lumbotomy of Petit (TOP).
Monitoring
This guideline will be monitored by the anaesthetic department

Equality and diversity assessment
This guideline has been subject to an equality impact assessment.

Communication
If there are communication issues (e.g. English as a second language, learning difficulties, blindness/partial sightedness, deafness) staff will take appropriate measures to ensure the patient (and her partner if appropriate) understands the actions and rationale behind them.

References:

| Originator: |          |
| Ratified by: | Labour Ward Forum |
| Ratification date: | 10th April 2014 |
| Implementation date: | 5th June 2014 |
| Date for next review: | April 2017 |