Obstetric Anesthesiology Guidelines
*Obstetric anesthesia is an art as well as a science; please consider each case's uniqueness when making decisions.*

Analgesia for Labor

Patient Preparation
Patient must have received IV. Check platelets and coags if indicated by history. Consider coagulopathy with 500-1000cc crystalloid prior to placement. Have labor nurse present for procedure. Monitor BP, FHR during procedure as per protocol. ALWAYS place patient in left (or right) uterine displacement when supine. Record baseline and pre-induction vitals on anesthetic record. (Remember: desire T10-L1 coverage for first stage labor, S2-S4 for second stage of labor.) **Attending should be present for placements. Family members should NOT be present unless there is a compelling reason why it is necessary for optimal care. (NB: Epidural carts must remain locked at all times. No drugs may be left on top of carts or in pt rooms. Combination: XXXXX)**

Technique: Epidural
Patient sitting or lateral, LOR to saline or air, avg. depth of epidural space is 3.3cm-6.5cm. Catheter threaded and kept at 3-5cm in the space. Number at skin = Depth to space + 3.5cm. Aspirate catheter, 3cc test dose of 1.5% lidocaine & 1:2000 epinephrine, confirm no intravascular placement (in 10sec, in 10mm), and no intrathecal placement (leg numbness or motor block at ~5 min). Consider giving rest of 2cc 1.5% lidocine w/ epi to speed onset of block. +/-Mastisol. Tegaderm catheter, tape. Reposition patient—LUD. Solution: 0.0625% bupivacaine with 2mcg epinephrine in 10cc bag. Consider giving 4cc solution as “clinician bolus” through PCEA pump (code: XXX), then start PIBB at “Epidural OB” settings. Complete labor anesthesia record in Epic, including OB Epidural orders. Check back with your patient for satisfactory analgesia.

—IF WET TAP: Don’t panic! Consider threading catheter into spinal space, leave at skin (in case), remove Weiss needle. Confirm backflow of CSF through catheter. Loop catheter, +/- mastisol, secure catheter. **ALERT TEAM caring for patient that catheter is CONTINUOUS SPINAL CATHETER, and CLEARLY mark catheter, tubing, patient record, and epidural pump with “CAUTION” stickers. Bolus catheter with local spinal dose (bupivacaine 1.25-2.5mcg +/- fentanyl 10-25mcg) in 1cc increments of the epidural mix. Set pump at 1-3cc/hr continuous infusion (no PCEA option). Once patient is comfortable, inform her of spinal catheter placement and potential PDPH. Check patient often and assess level. The patient can have an adequate sensory level, 3cc test dose, +/- 2cc lidocaine with epinephrine (with 1cc bicarb per 10cc lidocaine). Onset of block: 5-8min. If quick onset needed or fetal distress present: 10-12cc of 3% 2-chloroprocaine (+/- 1cc bicarb per 10cc 3% 2-chloroprocaine). If lacer repair, may use 5-10cc 2% lidocaine with epinephrine.**

2. No analgesia in place

Bolus 5cc increments of 1.5-2% lidocaine with epinephrine (with 1cc bicarb per 10cc lidocaine). Onset of block: 5-8min. If quick onset needed or fetal distress present: 10-12cc of 3% 2-chloroprocaine (+/- 1cc bicarb per 10cc 3% 2-chloroprocaine). If lacer repair, may use 5-10cc 2% lidocaine with epinephrine.

Analgesia for Assisted Vaginal Delivery

1. Epidural in place (NB: Forces during delivery requires more dense analgesia at a slightly higher level than does vacuum-assisted delivery—goal is to preserve the feel of pressure around baby to push.)

Desire dense S2-S4 level. Bolus 5cc increments of 1.5-2% lidocaine with epinephrine (with 1cc bicarb per 10cc lidocaine). Onset of block: 5-8min. If quick onset needed or fetal distress present: 10-12cc of 3% 2-chloroprocaine (+/- 1cc bicarb per 10cc 3% 2-chloroprocaine). If lacer repair, may use 5-10cc 2% lidocaine with epinephrine.

2. No analgesia in place

Bolus 5cc increments of 1.5-2% lidocaine with epinephrine (with 1cc bicarb per 10cc lidocaine). Onset of block: 5-8min. If quick onset needed or fetal distress present: 10-12cc of 3% 2-chloroprocaine (+/- 1cc bicarb per 10cc 3% 2-chloroprocaine). If lacer repair, may use 5-10cc 2% lidocaine with epinephrine.

Troubleshooting Epidurals

**If the patient complains of pain, first assume there is a problem with epidural delivery of epinephrine (not a problem with the patient).** **Potential factors include: areas of sparing “windows,” lack of sacral block (sometimes because catheter is placed high lumbal/low thoracic), catheter displacement, pump failure, etc.**

Inadequate Analgesia
1. Talk to patient, get more details
2. Test level bilaterally (specifically checking for “windows”), both AN and Floor (to test lowest sacral areas, ask patient how internal cervical checks have felt to her or how the Foley catheter feels, or test the posterior thigh); ice may be easier for patients to detect level differences. The patient can have an adequate sensory level but still have ineffective visceral coverage, rendering her overall neuraxial labor analgesia inadequate.
3. Check epidural catheter and tubing connections; check epidural insertion site for depth at the skin and compare to original record; make sure epidural pump is on and running

Troubleshooting Epidurals (continued)

4. Consider stage and progression of labor (pain relief requirements increase as labor progresses), whether bladder may be full or recently emptied, where the station of the baby is and the fetal head position (Occiput Posterior, Transverse, etc., all may have different pain sensation in labor than Occiput Anterior)

**If epidural does not appear to be functioning, CONSIDER EARLY REPLACEMENT in lieu of multiple boluses! Remember: labor pain only progresses, and you need to confirm early whether your epidural will be reliable for a Cesarean delivery if need be!**

Common agents used in bolusing (vol: 5-10cc, avg. 8cc):
- Bupivacaine 0.125%-0.25% (Note: 0.25% is the most common—0.125% is still very strong but higher than our mix; onset is ~10-20min, lasts 60-120min)
- Bupivacaine 0.25%: Strongest bupivacaine used on labor floor, onset/duration same as 0.125%. Usually use smaller boluses (4-6cc instead of 7-10cc)
- Lidocaine 0.8%-1% +/ epis, +/- bicarb (made by diluting 2% with PF NS): Slightly stronger than our mix; onset is between 5-10min, lasts 45-90min.
- Lidocaine 2% +/- epis, +/- bicarb: What we use for surgery! Usually limited to forces cord. Onset 5-10min, lasts 45-90min.
- Lidocaine 1.5% + epis, +/- bicarb, +/- PF NS (~0.75% lidocaine)
- Fentanyl 50-100 mcg (can be diluted in 4-6 cc PF Farrow. If in one of the other local anesthetics): SHOULD ONLY BE GIVEN THROUGH PROPERLY PLACED AND WORKING EPIDURAL! Helps with pressure sensation in perineum/rectum during pushing efforts. Remember this goes systemically, so repeat doses should be LIMITED. DO NOT GIVE IF FETAL DISTRESS IS PRESENT (will go to baby!)

Common scenarios:
1. Bilateral sensory level below T10 during first stage: consider that you need more volume, +/- stronger solution
2. Inadequate analgesia despite bilateral T10 levels: consider that the patient needs a higher concentration of local analgesics
3. “Window” of inadequate analgesia: consider placing patient with “window” side down and giving a bolus; higher concentrations often help to “patch up” windows. Also consider replacing epidural
4. Unilateral block: many practitioners will pull catheter back 1-2cm (after checking to ensure at least 3cm space but no more than 5cm in space) prior to giving a bolus (though this is not clearly supported in the literature). These catheters especially need to be followed up; consider early replacement if no improvement
5. Persistent complaints of epidural boluses: consider confounders (full bladder, advanced stage of labor), consider possibility of sacral sparing, consider early replacement
6. Inadequate sacral coverage: consider sitting patient up and giving bolus of stronger solution, consider replacing epidural if time; for “rectal pressure” and assess only, consider giving fentanyl 50mcg (note: above in remember, some fentanyl goes systemically when given in the epidural space, so do not give if fetal distress is present or likely)

Hypotension
Definition: systolic BP less than 100 mmHg or less than 20% of patient’s baseline BP.

A. If maternal symptoms present: place in LUD, give IV boluses of phenylephrine 80mcg or ephedrine 10-15mg (notify nurse if giving pressor) (May give an additional 20-40mcg Sachet Phenylephrine 8-10min after initial bolus if hypotension could still occur/uterine blood flow not autoregulated, aggressive LUD placement, check maternal sensory level, increase IV fluids

C. If persistent problems or unstable situation—call attending and get help!
(NB: Epidural carts must remain locked at all times. No drugs may be left on top of carts or in pt rooms. Combination: XXXXX)
Anesthesia for PPTL (aka PPS, aka BTL)

This is an urgent procedure, and can be done at the time of Cesarean delivery. If pts choose PPTL after vaginal birth, must be NPO as per ASA guidelines (e.g. light meal 6h, fatty meal 8h) and have waited 2 hours PP to ensure PPH is unlikely.

Existing epidural: Goal for total dosing and level is the same as for C/S. After inspecting epidural site, test epidural with 3cc of 1.5% lidocaine w/ epi. Then give additional 5-8ccs of 2% lidocaine w/ epi to confirm that block is not unilateral. Will likely need a total of 15-25cc of lidocaine w/ epi or bicarb or 3% chloroprocaine + bicarb (1cc bicarb per 10cc 2-chloroprocaine) to T4 level. Consider ketorolac 30mg IV. Consider epidural PM morphine if pt admitted =24hrs.

Spinal: Hyperbaric 0.75% bupivacaine 2cc (15mg) + 10mg fentanyl. Desire T4 level. +/- Ketorolac 30mg IV. Consider IT PM morphine if pt admitted =24 hrs.

Anesthesia for Cerecage Placement or Removal

Spinal: Cervix and perineum must be anesthetized (saddle block to T10 level). 1.2-2cc of 0.75% hyperbaric bupivacaine (more in early pregnancy or less in later) + 10-25mg fentanyl vs. 45-60mg of 3% chloroprocaine. +/- ketorolac 30mg (ask attg/ OBS, they may give indomethacin).

GA (rarely done): RSI with cricoid pressure if pregnancy >18wks EGA; Propofol 1.5-2mg/kg IV, succinylcholine 1mg/kg IV. 1-2% sevoflurane in N2O/O2 or air/O2. LMA if early pregnancy. Usually quick procedure. +/- Ketorolac 30mg (OBS may give indomethacin instead). +/- Onandsetron 4mg.