**OB Anesthesia Survival Guide**

**September 2014**

**Sign-out/Sign-in**

* Residents
	+ Receive report from outgoing resident
	+ Sign into labor epidurals on epic
	+ Ensure that epidural carts and operating rooms are in working order
	+ Operating rooms
		- Complete machine check once per day
		- Confirm working laryngoscope, oral airway, endotracheal tube, suction
		- Confirm presence of drug box in top cart
		- Confirm all monitors present
		- Confirm operating room cart fully stocked
* Senior Staff
	+ Receive report from outgoing staff member
	+ Sign into labor epidurals on epic
		- This task can be delegated to the resident covering labor and delivery

**Labor Epidurals**

* Preoperative evaluation
	+ Timing
		- See patient within 15 minutes of epidural request if possible
		- 2 simultaneous requests: do most urgent epidural first, then proceed with second
			* Consider calling for help if both requests are urgent
		- 3 simultaneous requests: call for help
	+ Platelet count
		- Healthy patient without comorbidities: no platelet count needed
		- Mild preeclampsia: provider judgment
		- Severe preeclampsia: platelet count within two hours
	+ Anticoagulants
		- Unfractionated heparin: no PTT needed if patient receiving 5000 units subcutaneous TID or less
		- Heparin infusion: turn off infusion for four hours, repeat PTT
		- Enoxaparin 40 mg daily: wait 12 hours from last dose
		- Enoxaparin 0.5 mg/kg BID: wait 24 hours from last dose
		- Other drugs: consult ASRA guidelines
	+ Febrile patient/increased white blood cell count
		- Obtain as much information as possible (site of infection, started antibiotics, etc.)
		- Consider differential diagnosis
		- Use clinical judgment (no clear guidelines)
	+ History of spinal instrumentation
		- Obtain history, review films if possible
		- Attempt to place epidural above or below scar
		- Manage patient expectations proactively
* Labor epidural management
	+ Test dose: 3 ml lidocaine 1.5% with epinephrine 1:200,000
	+ Bolus: 8 ml ropivicaine 0.2% with fentanyl 100 mcg in divided doses
	+ Maintenance: offer epidural PCEA
		- Basal rate: 10 ml/hour
		- Bolus: 5 ml
		- Lockout: 15 minutes
		- Max dose/hour: 30 ml
	+ Inadequate labor epidural
		- Focused history
		- Focused physical exam including pinprick test (or equivalent)
		- Check chart and administer fentanyl 100 mcg through epidural if it has been more than 3 hours since last dose
		- Bupivicaine 0.125% 15 cc in divided doses if level below T10
		- Offer to replace epidural if inadequate relief
* Unintentional dural puncture
	+ Thread epidural catheter into intrathecal space
	+ Bolus dose: 1 ml bupivacaine 0.125%, fentanyl 10 mcg
	+ Label intrathecal catheter appropriately
	+ Patient controlled intrathecal anesthesia (PCIA)
		- Basal rate: 1 ml/hour
		- Bolus: 0.5 ml
		- Lockout: 20 minutes
		- Max/hr: 2.5 ml
	+ Remove catheter after delivery
* Postdural puncture headache
	+ History: look for difficult epidural placement, documentation of dural puncture
	+ Physical exam: there must be a postural component to the headache (e.g. better when lying down, worse when assuming upright position)
	+ Conservative measures: rest, NSAID’s, fluid, opioids
	+ Ask patient if she can take care of her baby with current headache; if yes, consider discharging without epidural blood patch, if no, consider blood patch
	+ Epidural blood patch
		- Timing
			* Offer when 48 hours has elapsed from dural puncture
			* Ideally, patients coming from home will be told to report to triage between 0700-1500
			* Make an effort to perform epidural blood patches in a timely manner
		- Separate informed consent, anesthetic record (including preoperative evaluation)
		- If possible, enter epidural space at same level of dural puncture
		- Administer 20 ml of autologous blood drawn in sterile fashion from patient with fresh stick
		- Stop administration of blood after 20 ml or with persistent paresthesias
		- Patient should remain supine for 30 minutes and then be instructed to not lift anything heavier than her baby for 72 hours or engage in strenuous activity

**C-sections**

* Can use same anesthetic record/consent as labor epidural
* Premedication
	+ Sodium bicitrate 30 ml po (usually given by nursing staff)
	+ Ranitidine 50 mg IV (can be given as push)
	+ Metoclopramide 10 mg IV (should be given slow)
* Spinal anesthesia
	+ Consult dosage chart based on height/weight for dose of 0.75% hyperbaric bupivacaine
	+ Fentanyl 10 mcg unless contraindicated
	+ Preservative free morphine 0.2 mg unless contraindicated
	+ If a prolonged block is desired, aspirate epinephrine 200 mcg (0.2 ml) with a tuberculin syringe and filter needle, then inject the medication into spinal syringe with fresh needle
* Epidural anesthesia (use existing epidural)
	+ Confirm that epidural has been working for labor
	+ Check initial level with pinprick exam (or alternative) and then incrementally dose lidocaine 2% in divided doses
		- Sodium bicarbonate 2 ml may be added to 18 ml of lidocaine 2% to hasten onset of block, but should be added at time of administration
* When discontinuing labor epidural and performing spinal anesthesia
	+ If possible, turn labor epidural off for as long as possible prior to performing spinal
	+ Communicate possibility of high spinal and emergency C-section with obstetrical providers and confirm their proximity when performing spinal
	+ Consider using 2/3 of usual spinal dose
	+ Have induction agents drawn up in advance
	+ Consider having difficult airway equipment (video laryngoscope) in room
* General anesthesia (from Chestnut)
	+ Discuss operative plan with the multidisciplinary team
	+ Perform preanesthetic assessment and obtain informed consent
	+ Prepare necessary medications and equipment
	+ Place patient supine with left uterine displacement
	+ Secure 16 or 18 gauge intravenous access
	+ Administer premedications as described above
	+ Initiate monitoring
	+ Perform timeout
	+ Preoxygenate with 100% oxygen for 3 minutes or have patient take 4-8 vital capacity breaths
	+ After the abdomen has been prepared and operative drapes are in place, verify that the surgeon and assistant are ready to begin surgery
	+ Initiate rapid-sequence induction
		- Cricoid pressure to 10 N while awake, increase to 30 N after loss of consciousness
		- Propofol 1-2 mg/kg and succinylcholine 1-1.5 mg/kg; wait 30-40 seconds
	+ Perform endotracheal intubation. Confirm placement.
	+ Provide maintenance of anesthesia
		- Use isoflurane, sevoflurane or desflurane (approximately 1 MAC) in 100% oxygen OR oxygen nitrous oxide (up to 50%)
		- Treat hypotension (phenylephrine, ephedrine)
		- If additional muscle relaxant is necessary, use peripheral nerve stimulator to titrate
	+ Observe delivery of baby
	+ Begin a continuous infusion of oxytocin; consider other uterotonic agents (e.g. methylergonovine, 15-methyl prostaglandin F2 alpha, misoprostol) if uterine tone is inadequate. Monitor blood loss and respond as necessary.
	+ Adjust maintenance technique after delivery of the infant
		- Administer a reduced concentration of a volatile halogenated agent (0.5-0.75 MAC)
		- Supplement anesthesia with nitrous oxide and an intravenous opioid
		- Give attention to risk of awareness and recall. Consider administration of a benzodiazepine (e.g. midazolam)
	+ Perform extubation when neuromuscular blockade is fully reversed and the patient is awake and responds to commands
	+ Evaluate postoperative issues (e.g. pain, nausea)
* Failed regional technique
	+ Diagnosis/plan
		- Confirm sensation of pain with patient
		- Briefly explain options with patient and, if possible, let her decide on technique (including general anesthesia)
		- If pre-delivery, give consideration to general anesthesia
	+ Sedation
		- Only attempt moderate sedation (maintain meaningful contact with patient)
		- Consider use of nitrous oxide, ketamine if pain believed to be temporary (e.g. pressure from baby being delivered, uterus being placed back into abdomen, last few fascial sutures)
		- If moderate sedation unsuccessful, do not proceed to deep sedation. Instead, consider general endotracheal anesthesia
	+ If post-delivery, consider use of intravenous opioids
* Oxytocin administration
	+ Add 30 units to 1 L lactated ringers
	+ Consider using secondary infusion set
	+ Do not connect oxytocin infusion to patient until ready to use it

**Postpartum tubal ligations**

* Medicolegal: a separate preoperative evaluation/anesthetic record and consent are needed
* Anesthetic technique
	+ If less than 4 hours from time of delivery and labor epidural worked well, consider using labor epidural catheter
	+ If more than 4 hours from time of delivery or labor epidural did not work well, consider removing labor epidural catheter and performing spinal
		- Use clinical judgment to select reduced spinal dose if there is evidence of residual block from epidural
	+ Consider general anesthesia if the patient expresses a preference and is a reasonable candidate
* Postoperative pain control
	+ Consider giving fentanyl and preservative free morphine with neuraxial technique if the patient will stay for 24 additional hours or longer

**Antepartum Procedures**

* External cephalic version
	+ Confirm with obstetricians whether they simply want the anesthesia team to be aware that an external cephalic version is taking place (in case of need for emergency C-section) or if they want an anesthetic to be performed
	+ Anesthetic plan
		- Consider performing labor epidural and bolusing with lidocaine 2% that would facilitate an emergency C-section
		- Successful version
			* Can use epidural for labor analgesia
			* Will need to switch to ropivicaine for infusion
* Cerclage
	+ Consider spinal anesthetic in lateral position
* Dilatation and curettage
	+ Consider MAC for patients
		- In first trimester
		- No active nausea, vomiting
		- Adherence to NPO guidelines
	+ Consider GETA for patients
		- In second trimester
		- Active bleeding
		- Active nausea, vomiting

**Ethical Objections**

* Rarely, a provider may feel that he/she has an ethical conflict with providing care for an obstetrical patient
* If during week: notify hallrunner
* If on call: activate back up physician
	+ If back up physician not amenable, notify Director of Obstetrical Anesthesia
	+ If Director of Obstetrical Anesthesia not available, notify Memorial Anesthesia Chief
	+ If Memorial Anesthesia Chief not available, notify Chairman of the Department
	+ If Chairman of Department not available, consider notifying another senior staff colleague
	+ If no other senior staff colleagues available to assume care, you are obligated to care for the patient in accordance with hospital bylaws and Texas law

**Medical student participation in procedures**

* It is the discretion of the senior staff anesthesiologist on duty to decide whether or not a medical student will participate in a procedure (epidural, spinal, etc.)
* When a medical student is participating in a procedure involving sterile technique, the senior staff anesthesiologist will put on sterile gloves and be present throughout the entire procedure