RESIDENT RESPONSIBILITIES

As an anesthesiologist, you have probably learned the importance of preparation for your cases. This is especially true for regional anesthesia. Proper preparation will undoubtedly assure better results and happier patients, nurses, and faculty. The resident’s responsibilities can be divided into the preoperative, intraoperative, and postoperative periods.

**Preoperative**

- Check the operating room schedule for main OR and outpatient surgery and discuss all cases the day before with your attending or regional fellow.
- Let the Main OR clerk (Madeline or Karen) know which patients will likely receive PNB for the following day.
- Review relevant literature and anatomy from the syllabus and a regional anesthesia atlas the night before. Specifically, review the indications, anatomy, performance, and complications of the blocks you will be performing.
- Get to the hospital early (at least by 6 am)! Early morning preparation is the key to getting the first cases of the day started on time. We usually start procedures by 6:30 am at the latest and then 45-60 minutes prior to surgical start time throughout the day so there is adequate time for teaching, block assessment, and supplementation.
- There is one regional cart in outpatient surgery and another dedicated to the main OR. Ensure that the cart in outpatient surgery has been restocked in the morning. If not, ask an anesthesia tech to help you restock it, or do it yourself. The regional anesthesia block area is located in outpatient surgery PACU (far left across from the isolation rooms).
- Print a main OR and same day surgery schedule for the day from ORSOS using one of the PACU computers. Go to START→Per Se Scheduling Products→ORSOS. The username, password, and domain are PRINT. Click on “Custom Report” and highlight the appropriate area and date. Select Print. Highlight the cases that will have blocks. Eliza will note which ones are eligible for studies.
- The pre-op nurses (Sue, Sharon, Ben, and Anna) will prepare your patients early and place them in pre-op rooms. Be available to answer their questions and get patients on track for on-time starts.
- Draw up your local anesthetics for at least the first case starts, more if you have time. For most blocks combined with MAC, this will be either 0.5% ropivacaine with 1:400k epi, 1.5% mepivacaine with 1:400k epi., or 2% lidocaine with 1:400k epi and HCO3 (1mEq/10cc local anesthetic). Lower concentrations of local anesthetics are adequate for blocks combined with general anesthesia or those performed postoperatively. Please discuss attending preferences with the fellow.
- Place an ultrasound machine in an ergonomic position with all of your needed supplies at the bedside.
- For a nerve stimulator block, draw up 40 cc of local anesthetic into two 20 cc syringes connected by a 3-way stopcock to the stimulating needle. For an US block, add K50 tubing and an 8cm Touhy.
- **Local anesthetics for ankle, wrist, or digital blocks should not contain epi.**
- Have ample sedation available for each patient. Start with: fentanyl 100 mcg and midazolam 2 mg, and titrate from there.
• Prepare your resuscitation drugs and equipment, and have them available in the block area in case of emergency. Make sure the intralipid is in the cart and has not expired.
• Ensure that oxygen, face masks, nasal cannulae, and an ambu-bag are available.
• Discuss the anesthetic plan and surgical approach for each patient with the surgeon to determine surgical dermatome, patient positioning, location of tourniquet, and any other special needs (i.e. skin or bone grafting).
• Greet the patient in the pre-op room. Discuss the anesthetic options including risks and benefits of each procedure. Offer a nerve catheter if moderate to severe postop pain is anticipated. *Determine if the patient meets the inclusion criteria for ongoing clinical research studies.*

**MAKE SURE CONSENT, BLOOD CONSENT, AND SURGEON H&P HAVE BEEN COMPLETED PRIOR TO BRINGING THE PATIENT TO THE BLOCK AREA.** Check that the consent matches the laterality of the surgical site according to the patient, and mark the site. 24-hr update can be done after the patient has been brought to the block area.
• If the anesthesia pre-op has not been done, call the primary anesthesia team to do it, or do it yourself.
• Bring the patient to the block area.
• Position the patient, place monitors (SpO2, NIBP, EKG) and oxygen via facemask.
• Provide adequate patient sedation.
• Identify surface landmarks, and have them checked by attending or fellow prior to performing block.
• Perform the block using sterile technique.
• Allow time for the block to set up. Remember that lower extremity blocks with ropivacaine can take up to 30 minutes to set up.
• Assess upper extremity blocks using the “5 P’s.” To do this, you must have good functional neuroanatomy knowledge. You should review the brachial plexus, lumbar plexus, lumbosacral plexus, and dermatomes. This should include the origin and termination of the involved nerves as well as muscles innervated and sensory distributions.
• Communicate with the primary anesthesia team whether the block is to be used for surgical anesthesia or post-op analgesia.
• Be prepared to supplement the block prior to surgery. This may involve repeating the block or supplementing individual nerves of the plexus to be blocked, or infiltration of local anesthetic by the surgeon. Remember than regional anesthesia is not an “all-or-nothing” concept. Placing a neuraxial block for lower extremity surgery or performing GA should be last-resort in case a peripheral nerve block is inadequate for surgery.

**Intraoperative**
• Before you bring the patient to the OR, you should be convinced it will provide surgical anesthesia.
• If the block is established, let the OR staff know that they can start the prep. If you are not absolutely convinced that the block is working but believe that it is something that can be handled by the surgeon placing local anesthetic, let the surgeon know this.
• If the patient prefers to be “asleep” during surgery, make sure you adequately sedate the patient prior to the start of surgery. Propofol with or without ketamine will produce an acceptable level of sedation and still allow rapid recovery.
• Vigilance is crucial. Be prepared to take rapid action in the event that the block is not providing adequate surgical anesthesia.

• Think about the timing of the block and the pharmacokinetics of the local anesthetic used and consider whether the patient will need a bolus of local anesthetic through their catheter during or after the surgical procedure.

• Begin thinking about and preparing for the next case. Ideally, you should place the block for the next patient 45-60 min before the anticipated surgical start. This will require you to prepare up to 1.5 hours in advance. This includes communicating with the front desk to make sure the patient is brought back in a timely manner. The patient should be ready for you at least one hour before the surgical start.

• Consult with the surgeon about the next case and any special needs they have.

• Titrate sedation so the patient is only slightly sedated at the end of the case. This may require discontinuing intravenous sedation prior to placement of the dressing and splint. This will facilitate a timely discharge from the PACU.

• Complete post-op orders. If the patient had a lower extremity peripheral nerve block, remember to include: “Patient to be non-weight bearing on operated limb for 24 hours.” You may also need to order a sling for upper extremity cases or a knee immobilizer for lower extremity cases. PCIS order set should be entered in the computer prior to patient’s discharge from PACU. Please mark pump “start” and “refill.”

Postoperative/Follow-up

• For patients who have continuous peripheral nerve block catheters, pick up the infusion pump (Stryker Pain Pump 2) from outpatient anesthesia workroom refrigerator (usually filled with ropivacaine 0.2% unless patient is on a study protocol). Attach the pump tubing to the catheter in the PACU and start the infusion. Confirm that there are no problems with the delivery system before discharging the patient home or to the floor. Provide the patient with an instruction sheet with emergency contact information on it.

• Procedure Notes and Tracking Sheets and are available in the regional anesthesia office or on the wall in the isolation room. Ideally, these should be started pre-op with a description of the block performed, local anesthetic used, time of block placement, and timeout documentation. Make a copy of the procedure note, staple it to the pink portion of the triplicate and place it in the billing box. The yellow portion of the triplicate is for our department’s records. The original goes in the patient’s chart.

• Each patient should receive a phone call the next day (or daily for continuous catheters) to assess the perioperative experience, the time the block wore off, the time of first required analgesic, and any problems or complications. You can make any notes on the Regional department’s copy of the Procedure Note. Any complications should be reported to the attending of the day, and should be followed up on appropriately until complication has resolved. The completed forms should be placed in the box under Eliza’s desk. This is an essential element of regional anesthesia. Performing a procedure that has a long duration extends your care of that patient. It is vital that you follow-up each patient who undergoes a regional anesthetic. The information gained from this experience will give you a better understanding of the risks and benefits of regional anesthesia and allow you to provide your future patients with more accurate information.