Acute Pain Tips

Updated 2020

Preparing for the rotation:

- Create or "steal" the following dot phrases for consents
    - "Thoracic or lumbar epidural catheter placement"
    - "Caudal Epidural Injection With or Without Catheter Placement"
    - "Lower extremity peripheral nerve block with or without catheter placement"
    - "Upper extremity peripheral nerve block with or without catheter placement"
    - Complications of epidurals: "Failure to relieve pain, low blood pressure, back pain, breakage of needles or catheters possibly requiring surgery, infection or bleeding possibly requiring surgery, spinal headache which may require medical therapy or a blood patch, persistent area of numbness and/or weakness of the upper or lower extremities, rapid absorption of local anesthetics causing dizziness and seizures, temporary total spinal anesthesia requiring life support systems, respiratory and/or cardiac arrest requiring life support systems."
    - Complications of peripheral blocks: "Failure to relieve pain, breakage of needles or catheters possibly requiring surgery, infection or bleeding possibly requiring surgery, persistent area of numbness and/or weakness of the upper or lower extremities, rapid absorption of local anesthetics causing dizziness and seizures, respiratory and/or cardiac arrest requiring life support systems."
- Get the dot phrase for an acute pain consult note ("Acute Pain Team consulted by the *** team to manage postop *** pain for this patient. Acute Pain Team has examined and evaluated the patient and the plan for pain control is ***. This plan has been discussed with the consulting team and the patient. Please see the consent form and intraop procedure note for more details.")
- Make a dot phrase for your signature that includes your name, acute pain service, and the acute pain pager number (4878)
- Add the following order sets to your Favorites:
    - Epidural Analgesia Orders (PCEA) - Adult
    - Patient controlled analgesia (PCA) Orders - Adult
    - Patient controlled regional analgesia orders
    - Peds epidural analgesia orders (patients less than 40kg) (PCEA)
    - Spinal opioids postoperative orders
- Ask Dr. Boctor to give you access to the acute pain patient list
- Make sure you are assigned the Acute Pain Toolbox curriculum (ask Dr. Vandse if not)
- Find the stack of acute pain "checkoff" sheets in the left hand drawer in the PACU office. The original document is saved to the PACU office computer, so more copies can be printed there.
- Read the "Adult inpatient," "Peds inpatient," "Coagulation" "ERAS," and "TKA Protocol" documents on the Acute Pain page of lluanesthesia.com.
- Get signout from the resident on the rotation prior to you the day before you start.

Daily work flow:

- Each evening, review the next day's scheduled cases (CH, MC, SH, EC, and OSC) with the attending you will be working with, and decide which patients you plan to offer procedures to. The acute pain attending is listed on the daily OR schedule.
- If there are any first start cases you plan to do a block for in PDCU, call pre-op (x44021) the day before and ask them to "fast track" those patients in the morning. They will try to make those patients the first ones that they send over to PDCU.

- Arrive to the hospital early enough to get consent and do your procedures on first start cases without holding up the case start
- After any first start procedures, pick up the acute pain pager and get signout from the OB resident, and print out copies of the acute pain list for you and your attending.
- In between procedures, write notes and round on your inpatients.
    - When rounding, make sure to look at the catheter site. If it's an abdominal surgery pt, also find out if any nausea, gas, etc., because when bowel function returns you will start giving oral meds.
- When procedures, notes, and rounding are done for the day, print a new copy of the patient list and sign out to the on call OB resident. They will hold the pager overnight.
- On weekends, we typically do not do procedures, although if we are specifically requested to do something we will try to accommodate the request. Decide with your attending when to round, and sign out to the OB resident as usual once you've rounded and written notes.

Paperwork:

- For each procedure you perform, complete each of the tasks listed on the checkoff sheet that you got from the PACU office. These tasks are:
    - Confirm consult: you often need to remind the surgical resident to order an acute pain consult
    - Consult note (once the consult order is written)
    - Consent
    - Procedure note: this is in the "Intraop" section of LLEAP, in the same place that you would write an arterial line procedure note
    - Order med bag (for epidurals or adductor canal catheters)
    - PCEA/Regular orders: see below for which orders to place after different procedures
    - Problem list: add "acute postoperative [laterality, body part] pain" to problem list (can get there from "Rounding" tab)
    - Attach infusions: if applicable
    - Document catheters you left and meds you gave: also in the intraop record (sometimes will auto-populate from procedure note, but check). Meds are documented in intraop record.
    - Add to list: usually is automatic when an acute pain consult is ordered
- Patients with running epidurals need daily progress notes. The template for these is found by typing "APS" into the "smart text" box at the top of a blank progress note.
- If you are going to manage an epidural placed intraoperatively by spine surgery, you need to write an H&P note on the day of surgery, then progress notes on following days. You do not need to write H&Ps for any other patients. For an H&P, use the same template as for progress notes, but change the title to H&P.
- To remove a patient from the acute pain Epic list who you are no longer following, right click on the patient's name, select "Treatment Team", then "End assignment" next to "Management, Acute Pain". If this doesn't take the patient off the list, they probably still have an active acute pain consult order, which you will need to discontinue to get them off your list.

Procedures:

- Single shot peripheral nerve blocks: just like the ones you've done before
- Peripheral nerve block catheters
    - Usually done at the adductor canal for TKA patients. Equipment is in the block cart in EC PACU: nerve block catheter kit, Chloraprep, sterile US probe cover, Tegaderm, Mastisol, Dermabond, 10cc syringe and needles. Also get ropivacaine from PACU Pyxis.
    - Order the infusion before going to EC; RN will get the med bag and pump
    - Code for the pumps at EC is 111
    - Typically the infusion will be 0.2% ropivacaine at 2mL/hr basal rate, with a 15mL bolus delivered every 3 hours (use "Patient Controlled Regional Analgesia" order set). Confirm dosing with attending.
- Single shot spinal opioids
    - Typically use 20mcg fentanyl + 150-200mcg Duramorph (200-250mcg if opioid tolerant)
    - Place orders from "Spinal opioids postoperative orders" order set
    - Types of surgeries to consider for single shot spinals:
        - Hepatectomies (can't do epidural because possibility of post-op liver dysfunction), colorectal cases
        - Dr. Martin (gyn) likes single shots on all her laparoscopic hysterectomies. Other gyn attendings usually like them for open cases only. Verify with gyn resident.
        - Discuss heparin timing for gyn onc procedures prior to placing neuraxial block.
    - Regular purple spinal needle is 24g, 3.5"
- Epidural catheters
    - Examples of procedures that are good for epidurals: HIPECs, big abdominal cases (except hepatectomies), big lower extremity ortho cases in kids
    - Level to choose: T5 for thoracic cases, T7 for ex laps, T10 for low abdomen
    - We manage all pain meds when a pt has an epidural in place
    - Use appropriate order set (adult vs peds) for epidural infusion and associated orders
    - After placing epidural, get ropi (in the med cart in PDCU for adults, or in peds anesthesia workroom for peds), pump (see below), tubing, and med bag. Med bags are stocked in PACU Pyxis for adults, but for peds call 5th floor pharmacy (x15583). If the PACU Pyxis is out of the med bags, call the 2nd floor pharmacy to make you a bag. Program the pump and deliver it and the ropi to the OR, and make sure resident knows how much ropi to bolus and how to start the infusion. Pump code is 94629.
    - Epidural pumps are in central supply, which you can get to from the ORs by taking the elevator that's in the room with the glidescopes down to the basement. They will ask you for the pt's CSN, which is the other number on the patient's sticker that is not the MRN.
    - Test dose is 0.5mcg/kg of epinephrine, up to 15mcg (3cc of 1:200,000 epi)
    - Basal rate: 0.1-0.3mL/kg/hr in peds. Use your judgement or ask parents whether the child will be able to push the PCEA button when they have pain. For adults, typical starting rate is ~8mL/hr with 3mL demand bolus Q15min.
    - Loading dose of 0.2% ropi: 0.05mL/kg/# of levels you want to cover
    - Epidural needle is 17g 3.5" Tuohy, catheter is 19g
    - Peds needle is 18g 2" Tuohy, 21g catheter: usually used for kids <40kg

- Caudals: usually done for GU procedures on pts <2 yo. Dr. Chamberlain especially likes them.
    - Chiefed by the anesthesia attending for the OR (not the acute pain attending), as are any other blocks done on a child <2yo.
    - Supplies: sterile gloves, 10-20 drape (the circulator RN knows what this is and can get it), 22g Jelco angiocath, 10mL syringe, 18g needle, medication to inject
    - Usually use 0.25% bupivacaine with epi 1:200,000 (in med cart in peds workroom). 0.5mcg/kg epinephrine is test dose (epi 1:200,000 is 5mcg/mL). Give total of 1mL/kg 0.25% bupi with epi to block T10 and below.
    - Dr. Carter prefers ropi with epi. This is not stocked so has to be made by you.
    - If adding clonidine, dose is 1mcg/kg. Pt needs to stay the night.

Protocols:

- TKA: details of the protocol are on the lluanesthesia.com Acute Pain page. For TKA patients, you will order pre-op pain medications, place an adductor canal catheter in PACU, and manage post-op pain meds.
    - Ask the EC regional resident to consent TKA pts pre-op for lower extremity nerve block with or without catheter placement.
    - Check how much local was injected by surgeon prior to placing a block in PACU to make sure patient does not receive a toxic dose.
    - Adductor canal catheters are removed on POD1 in anticipation of discharge on POD2.
- ERAS: protocol is on lluanesthesia.com and the wiki
    - For colorectal cases, order pre-op meds from protocol, then usually do single shot spinal vs epidural.

Miscellaneous info

- Blocks at SH
    - Acute pain equipment is in the upper left cabinets in the anesthesia workroom. However it can be more efficient to bring equipment in a patient belongings bag over from the med center since you are more familiar with where to find everything there.
    - Epidural pump keys are in the PACU med cart - pull up the patient's name and search for "Key - PCA"
    - Epidural bags are in the med cart in pre-op. Ask the pre-op RNs to help you acquire epidural pumps/tubing.
    - Ropi, Duramorph, and fentanyl are in the med cart in PACU
- Phone number to call for VIP shuttle: x53020

Local anesthetic weight based dosing (Source: Cote and Lerman's A Practice of Anesthesia for Infants and Children, Elsevier 2019)

- Maximum dosages by lean body weight
    - Lidocaine: 7mg/kg
    - Bupivacaine: 2.5mg/kg
    - Ropivacaine: 3mg/kg
    - Decrease dose of amide local anesthetics by 30% for infants <6mo (due to decreased plasma protein binding)
- Suggested volumes of local anesthetic by type of block
    - Brachial plexus: 0.2-0.3mL/kg
    - Femoral/sciatic nerves: 0.2-0.3mL/kg
    - Rectus sheath: 0.1mL/kg