Department of Anesthesiology and Perioperative Medicine
Acute Pain Service
Resident Goals and Objectives

GOAL: The Pain Medicine Resident will develop the knowledge and skills necessary to evaluate and treat patients with acute pain after injury, trauma, and surgery, as well as pain in the otherwise hospitalized patient with focus on utilization of neuraxial and peripheral nerve blocks and catheters.

SUPERVISION: All clinical activities by residents and fellows are directly supervised by faculty. It is appreciated by the faculty that all residents and fellows progress at different rates. These progressions are scrutinized and discussed among faculty members in an effort to identify any problems in the trainee's development that might warrant added attention. In summary, all activities that are conducted by the residents and fellows are overseen and directed by the Acute Pain Service faculty.

OBJECTIVES: The objectives of this rotation are oriented toward assuring proficiency in the six core competencies: patient care, professionalism, systems based practice, medical knowledge, practice-based learning and improvement, and interpersonal and communication skills. These can be found below.

During your rotation on the APS you are expected to focus learning on the anatomy, pharmacology, and procedural skills required to successfully perform basic regional anesthetic blocks. We will also discuss acute pain management and other modes of analgesia during the month. As we only have one month together, it will serve as an introduction to basic acute pain medicine. Adequate preparation before and during the month will be necessary to get the most out of our time together. Residents will be expected to have reviewed upper and lower extremity neuroanatomy, as well as neuraxial anatomy and the common blocks prior to beginning the rotation. If you need guidance on reference materials other than those below just ask us and we are happy to help.

RESOURCES: You will be electronically forwarded articles regarding peripheral nerve blocks, complications, local anesthetics and toxicity, anticoagulation and ultrasound basics. You are also encouraged to read Ch45-46 and 48 in Morgan and Mikhail's 5th Ed. The following websites are also good sources for some straight-forward reading on performance of some common nerve blocks:
http://www.arapmi.org/maraa-book-project.html
http://www.sonoguide.com/nerve_block.html
At the end of the month you should be able to demonstrate basic understanding and novice skill level of U/S-guided localization and placement of these common peripheral nerve blocks for single shots and catheters:

1. Brachial plexus- interscalene, supraclavicular, infraclavicular and terminal nerve branches
2. Femoral nerve
3. Sciatic nerve – subgluteal and popliteal approaches
4. Saphenous nerve and adductor canal blocks

It is also expected that the resident should be proficient in the placement of lumbar epidurals and become comfortable with thoracic epidurals.

More advanced residents may progress beyond these basic level blocks as decided by the covering attending when the need for more advanced blocks arises.

To achieve the above goals a thorough understanding of anatomy is required. Residents without a thorough understanding of the anatomy involved in block choice and placement will not be allowed to place blocks until this is achieved. A focus on upper and lower extremity neuroanatomy is essential. The resident should also understand truncal dermatomes for deciding epidural placement levels.

Other areas of learning during the rotation include:
1. The U/S machine: physics, probe selection, knobology, scanning technique and sonoanatomy, limitations, and care.
2. Multimodal analgesia
3. Neuraxial and paravertebral blocks (cervical, thoracic, and lumbar)
4. Continuous infusion management
5. Awareness and vigilance for complications (epidural hematoma/abscess, high spinal, local anesthetic toxicity).
6. Sterile technique
7. Procedural sedation
8. Nerve stimulation
10. Inpatient pain consults
11. Management of complications
12. Anticoagulation guidelines

And of course the resident is expected to actively participate on rounds and on call duties.
Day to Day Duties

1. The work day usually starts anywhere from 6:00-6:30 a.m. depending on how many first starts there are. Always check with the attending to see when you should arrive. You should allow enough time to get drugs from the pharmacy, set up for blocks, consent patients, check medications and labs, preops, etc. Attendings don't like being first here!). Getting these blocks done is important and delaying the OR makes nobody happy. So be ready to go, especially on your first day while you're learning the flow, but don't worry we are always here to help you.

2. The resident should review the patient's chart prior to the performance of a block. The review should include an up to date preop, vitals, labs (especially coags if necessary), all current medications, surgical consent and any other testing necessary before going to the OR. In other words the patient should be ready for the OR on all levels before placement of a block. Failure to do this check is inexcusable. If a patient is not ready for the OR, they are not ready for a block. Special attention should be given to anticoagulants, opioids and allergies when reviewing medications. The resident should be familiar with the most current ASRA Evidence Based Guidelines on Anticoagulation as well as our own divisional guidelines. Preparation for a block also includes a “time out” verifying all the above, surgical and block consent, laterality, and other readiness for the OR/block.

3. Examination of the patient is always done before a procedure. This may be as simple as feeling and marking the back for an epidural, or finding the landmarks on a patient for a peripheral block or a more extensive physical examination might be required. Inquire about pain location and levels, existing neuropathies, or weakness prior to block placement. This is obviously important information for post-block management, especially if complications arise.

4. The regional procedure should be discussed with the surgeon in advance. With some surgeons there is an understanding as to who gets blocked, with others it is on an individual basis. Ask your attending how to proceed.

5. Plan procedures so as not to delay cases. Being prepared (drugs, monitors, equipment, U/S) ahead of time is key to keeping things moving. If the attending is not yet available the resident can save time by consenting the patient, applying monitors, preparing medications, and positioning the patient. But also don't be wasteful, i.e. don't open supplies unless you know it will be used.

6. Monitoring and documentation are mandatory. Every patient will have at minimum: pulse oximeter with audible alarms, BP cuff, and EKG. Any patient receiving sedation will have oxygen applied and ETCO₂ if available. All pre-, intra-, and post-procedure vitals will be recorded in the electronic record by the nurse or on paper by us if no nurse is available. A procedure note is completed for each block as well. Ask your attending for help completing this. Other documentation for each block includes: consent, time out sheet, professional fees billing sheet, OR facility billing sheet. A regional anesthesia hand-off sheet
documenting what we did and medications given should also be given to the OR anesthesia team so that they understand what we have done. Ask your attending about how to complete these properly. Patients are monitored until they have completely recovered from any sedation and for signs of local anesthetic toxicity which can occur up to 45 minutes after block is done due to systemic absorption.

7. Inpatient rounds are done after first start blocks. The resident will check the vitals (for fevers, hypotension, pain, etc.), current medications (focusing on pain meds and any anticoagulants), and labs (especially coags, or leukocytosis) before rounds. The attending will be notified of any abnormalities or discrepancies so that these can be addressed. The attending should be notified of any patient receiving any anticoagulant other than SQ heparin or any patient with an epidural who is receiving other systemic narcotics. Catheters planned for D/C should be done early as to facilitate discharge. Notes are to be completed in PowerChart. There are precompleted templates for inpatient notes and procedure notes and these are to be used. Be sure all parts of the notes are accurate and complete. All procedure notes should be very specific as to what was done and inpatient progress notes should contain all pertinent and accurate information.

8. On rounds each patient will be assessed for pain control, sensory and motor exam in affected extremities, signs of local anesthetic toxicity, sedation, signs of infection at catheter site, or other side effects. Often a conversation with the nurse provider or physical therapist can help answer many of the questions.

9. The APS inpatient census is maintained on the first computer in the block room on the desktop. All patients should be added to this list immediately after block placement so as not to miss any. Consults are also kept here. This is incredibly important to facilitate sign out and rounds. Patients not added to this list run the risk of being forgotten and this is inexcusable.

10. Consults are currently managed by the Chronic Pain Service and any calls concerning these should be passed along to that team expeditiously. Consults are done as time permits during the day. Routine consults are not done until the next day if the Acute Pain Service is consulted after routine availability. Exceptions to this guideline are always made if the patient has severe pain that is not controlled by the treatments the primary service has to offer.

11. All billing paperwork will be delivered to Sheena Dorsey in the Anesthesiology offices. Ask the attendings how to correctly fill billing as this is obviously important and we are happy to help.

12. Residents are expected to help keep the block carts stocked with supplies and paperwork.

13. It is imperative that all sharps are disposed of in the appropriate containers and the block area is cleaned after every block. Do not leave trash lying around or on the floor. We want to keep the nurses as our friends. Also the U/S probe should be cleaned after each block with the special spray kept on the machine. Never use alcohol based cleaners on the probe as it destroys them with time.
14. It is well proven that hand washing is the best way to prevent cross-contamination and infection. It is mandatory that hands be washed before and after every procedure or examination.

15. Each patient with an infusion needs to be educated on PCEA use and function. The pumps should be checked for functionality, settings, and all attachments (PCEA button and power cord) at the infusion start and any visits after. Complaints of non-functioning block are often remedied by discovery of a non-functioning pump, a patient who wasn't given the PCEA button, or patient/nursing miseducation.

16. Communicate with the surgical and other consulting teams to achieve the best patient care. Know what their goals are for pain control, ambulation, therapy and discharge. If we know what they want and they know what we are capable of everybody’s day is much easier.

17. Apply dressings with care. Do not just throw a tegaderm over it and assume it will be OK. These catheters may be on the floor for several days. Careful attention to catheter dressing decreases infection, catheter dislodgement, and patient satisfaction. No one likes messy dressings. Make your work look good. You will be judged by it. It matters to the patients, it matters to the surgeons. A sloppy dressing gives the impression of a sloppy job and a disorganized service.

18. If you aren't confident in the block, say so. If you are unsure of good catheter placement then pull it and try again. We can't expect 100% success, but we'll try. Unscrew your screw ups. Don't leave it for someone else to deal with or for the patient to suffer. Follow up your blocks in the OR, PACU, and beyond. It is the only way to improve your technique and to get first hand feedback.

19. Review the following day's schedule with the attending for potential blocks and to make a block schedule. A copy of this schedule is given to 8W and the pharmacy.

For every procedure:
Check for proper preop, labs, meds, coagulation status
Check Surgical consent
Get block consent
Assure readiness for OR
Time out – verify correct patient, procedure and side, consents
Functioning IV in place
Monitors (BP, EKG, pulse ox, ETCO2) and O2 on
Procedure note, vitals recorded, billing sheets
OR handoff sheet
Core Competencies:

1. **Patient Care:**
   - Obtain experience with or exposure to a variety of peripheral nerve block and neuraxial approaches for anesthetic and analgesic purposes.
   - Utilization of current methods to measure pain
   - Utilize pharmacotherapy in an appropriate and safe fashion to treat acute pain.
   - Work with other health-care professionals to provide patient-focused care.
   - Become comfortable in talking to patients about their pain and develop approaches that are safe to control that pain.
   - Demonstrate the ability to gather essential and accurate information about patients with history taking, chart review, and physical examination.
   - Demonstrate the ability to make informed decisions about diagnostic and therapeutic interventions based on patient information and preferences, up-to-date scientific evidence, and clinical judgment.
   - Demonstrate the ability to develop and carry out patient management plans.
   - Understand the principles of pain management in special populations.
   - Gain experience in evaluation and management of patients with postoperative pain, post traumatic pain, cancer pain, pain related to current therapy, and other types of pain in hospitalized patients.
   - Develop experience with identifying patients with chemical substance abuse problems and how to manage pain in those patients.
   - Develop knowledge about the use of Patient Controlled Analgesia.

2. **Professionalism:**
   - Demonstrate caring and respectful behaviors when interacting with patients and their families.
   - Demonstrate sensitivity and responsiveness to patients’ culture, age, gender, and disabilities.
   - Learn about the role of Pain Medicine in patient care.
   - Learn how to interact productively with consulting physicians and nursing staff.

3. **Systems base practice:**
   - Request appropriate medical, surgical, psychological, psychiatric, and physical therapy consultations.
   - Practice cost-effective health care and resource allocation that does not compromise quality of care.
   - Advocate for quality patient care and assist patients in dealing with system complexities.
   - Interact with the primary care provider or referring physician to coordinate and improve health care.
   - Understand the epidemiology, economic impact, and sociology of pain disorders.
   - Plan regional anesthetic blocks in such a way to minimize delays in OR time and discharge time.
4. Medical knowledge:
   • Understand various models of pain.
   • Demonstrate adequate medical knowledge to practice pain medicine safely.
   • Demonstrate an investigatory and analytic-thinking approach to clinical situations.
   • Apply knowledge regarding anatomy and physiology of the pain projection system.
   • Understand physiology and pharmacology of pain transmission and neuro-modulation.
   • Understand the taxonomy of pain syndromes.
   • Learn and apply knowledge of the human nervous system.
   • Understand the pharmacology of narcotic and non-narcotic analgesics.
   • Learn human anatomy involved in nerve blocks and epidural procedures.
   • Understand the physical principles of ultrasound imaging.

5. Practice-based learning and improvement:
   • Facilitate the learning of students and other health-care professionals in Pain Medicine, utilizing effective and learner appropriate teaching strategies.
   • Utilize the medical literature and information technology to guide patient care.
   • Adhere to ethical standards in pain medicine, including confidentiality of patient information, informed consent, and business practices.
   • Participate in practice-based improvement activities and analyze practice experience.
   • Apply knowledge of study designs and statistical methods to the appraisal of clinical studies.

6. Interpersonal and communication skills:
   • Establish and sustain a therapeutic patient-provider relationship in full adherence to ethical standards and guidelines of GRU.
   • Use effective listening/communication skills to obtain and convey information pertinent to patient care (verbal, non-verbal, written, explanatory)
   • Work as effective member or leader in the patient care team.
   • Demonstrate the ability to facilitate effective information exchange and teaming with patient, family and other health care providers involved in the episode of care.