

CA-1 Curriculum Acute Pain Service and Regional Anesthesia West Virginia University Department of Anesthesiology

Description of Rotation or Educational Experience

The Regional/Acute Pain Services occurs during anesthesia training in the CA-1 year. The one-month rotation introduces the resident to regional and acute pain management techniques, including placement of epidural and peripheral nerve catheters and their subsequent care and involvement in a consultant service for the management of complex acute pain in the hospital setting. Placement of regional anesthesia blocks for surgical anesthesia and post-operative pain relief. The resident will take out of house acute pain call with specific designated attending backup, separate from the in-house call team. This call complies with all duty hour requirements.

Patient Care

Goal

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of pain. Residents are expected:

- To be able to insert thoracic and lumbar epidural placement and subsequent management for post operative pain relief.
- To become comfortable with peripheral catheter placement and management of post-operative pain.
- To be able to provide post-operative epidural management with various local anesthetic and varying concentrations, to include opioid, adjuncts and combinations of the above.
- To become an informed consultant in management options in the complex acute pain patient, including parenteral and noninvasive methods of delivery.
- To become familiar with pain management strategies from alternative medicine.

Competencies

- Placement of Lumbar and Thoracic Epidural
- Placement of Paravertebral Catheters
- Perform Axillary Nerve Blocks
- Perform Interscalene Nerve Blocks
- Perform Femoral Nerve Blocks
- Perform Sciatic Nerve Blocks
- Perform Ankle and Wrist Blocks
- Perform Popliteal Nerve Blocks
- Management of Peripheral Nerve Block Catheters
- Management of Epidural and Paravertebral Catheters
- Management of Complex Acute Pain with PCA

Objectives

- Place 20 epidurals including Thoracic
- Place 10 Axillary Blocks
- Place 20 Interscalene blocks including catheters
- Perform 10 Popliteal Nerve blocks
- Place 5 Paraveterbral Catheters
- Perform 3 wrists and 5 ankle blocks
- Order PCA and make adjustments as needed
- Order epidural infusions, to include local anesthetics, opioids and combinations
- Order peripheral catheter infusions

Medical Knowledge**Goal**

Residents must demonstrate knowledge of established and evolving biomedical, clinical, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents are expected:

- To learn the contraindications to regional anesthesia
- To be able to perform a history and physical as related to the acute pain patient
- To review spinal cord and peripheral neuroanatomy
- To study local anesthetic pharmacology
- To become comfortable with adjunctive drugs in epidural management
- To study local anesthetic pharmacology and toxicities
- To learn contraindications to regional anesthesia
- To understand anticoagulation and how it relates to epidural placement and management
- To calculate dosage for conversion from one opioid to another and conversion to another route of administration
- To become familiar with pain assessment scales

Competencies

- To perform acute pain consults
- To choose local anesthetic appropriate for regional block
- To choose agents and rates for epidural infusions
- To test epidural placement and rule out vascular and interthecal placement
- To initiate and bolus peripheral catheters
- To explain local anesthetic doses and toxicities
- To explain signs and symptoms of local anesthetic toxicity
- To demonstrate knowledge in treatment of local anesthetic toxicities
- To recognize contraindications to regional anesthesia
- To use pain assessment scores and specifically the Visual Analog Scale when documenting pain

Objectives

- To list complications to regional anesthesia
- To be able to explain treatment for local anesthetic toxicity
- To compare and contrast the signs and symptoms of different local anesthetic toxicity
- To make consultant level decisions if a patient is a candidate for regional anesthesia

Practice- Based Learning and Improvement**Goal**

Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation. Residents are expected to develop skills and habits to be able:

- To perform evaluation post-operatively on each patient that a procedure was performed
- To make daily rounds on patients with epidurals, peripheral catheters and PCA
- To follow-up on patients on consult service for pain management

Competencies

- Identify strengths, deficiencies and limits in one's knowledge and expertise based on follow up and evaluation of post-operative patient
- Set learning and improvement goals by evaluation of patients post block/surgery for pain relief
- Systematically analyze practice, using quality improvement methods, and implement changes with the goal of practice improvement
- Incorporate formative evaluation feedback into daily practice
- Locate, appraise, and assimilate evidence from scientific studies related to their patient's health problems
- Use information technology to optimize learning
- Participate in the education of patients, families, students, residents, and other health professionals, as documented by evaluations of a resident's teaching abilities by faculty and/or learners

Objectives

- For resident to review type of block performed and evaluate post-operatively, then decide if correct block and local anesthetics used to cover pain
- To become an expert on current guidelines (ASRA online statement on anticoagulation) by end of first week of rotation

Systems Based Practice

Goal

Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected:

- To function as a consultant in pain management and understand your role in the system/institution
- To compare risk and benefits of regional verses general anesthesia and how it impacts the patient and system
- To understand the role of the consultant in managing the acute pain patient

Competencies

- Work effectively in various health care delivery settings and systems relevant to their clinical specialty, to include, but not limited to Holding area, Operating Room environment, PACU, and floor.
- Coordinate patient care and clinical area for procedures, with emphasis on patient safety, privacy, comfort, and timeliness
- Incorporate considerations of cost awareness and risk-benefit analysis in patient care as impacted by time in PACU and length of hospital stay
- Advocate for quality patient care and optimal patient care systems as related to the acute pain service and regional anesthesia procedures
- Work in interprofessional teams to enhance patient safety and improve patient perception of pain in conjunction with surgeons, fellow anesthesiologist, physician assistant, and nurses
- Participate in identifying system errors and in implementing potential systems solutions

Objectives

- For the resident to review with attending pain management physician, the daily schedule the evening before to coordinate timing of moving duties.
- For resident and covering physician to directly contact the attending surgeon or surgeons on heavy block days to organize start times and sequence of surgery to optimize the process
- To identify with the charge and holding room nurses the morning of surgery as to what time patient is to be called to the pre-op holding room and confirm space for procedures to be performed in block room or PACU

Professionalism

Goal

Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected:

- To be a patient advocate
- To discuss ethical challenges in the care of a patient in pain

Competencies

- Compassion, integrity, and respect for others, and respect their right in pain relief
- Responsiveness to patient needs for pain relief that supersedes self-interest
- Respect the pain patients right for patient privacy and autonomy
- Accountability to patients and the profession in the role as a pain management physician
- Sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation and how pain is perceived and reported differently

Objectives

- To provide a role model for other specialty residents, students, and related practitioners as an advocate for pain management
- Resident interacts with patient in an empathic manner providing a role model for other healthcare providers

Interpersonal and Communication Skills**Goal**

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and teaming with patients, their families, and professional associates. Residents are expected:

- To provide informed consent for regional anesthesia, including peripheral nerve blocks, and catheters
- To elicit a pain history
- To describe treatment options
- To be able to provide recommendations as a consultant for post operative pain management
- To describe multimodal pain treatment plans

Competencies

- Communicate effectively with patients and families across a broad range of socioeconomic and cultural backgrounds
- Communicate effectively with physicians, other health professionals, and health related agencies
- Work effectively as a member of leader of a health care team or other professional group
- Act in a consultative role to other physicians and health professionals

Objectives

- To round daily and write notes on all patients in a timely and legible fashion, as part of the acute pain team
- Perform at least 3 consults a week on complex post operative patients, and communicate salient information back to consulting service in less than a 24 hour turnaround

- To review informed consent for regional anesthesia by day 3 of rotation, be able to consult a patient considering regional anesthesia

Teaching Methods

What teaching methods are you using on this rotation or educational experience?

- Clinical hands on teaching during initial part of month
- Training with supervision as skill progress
- Didactic schedule for entire curriculum contains lectures on acute pain management and regional anesthesia
- Computer based videos on regional anesthesia
- Review with residents online teaching site for regional anesthesia
- Discussion of recent articles in Regional Anesthesia and pain management
- Mini-lectures as part of daily rounds

Assessment Method (residents)

- Global Rating Scale
- Chart Stimulated Recall (proposed)
- Case Logs

	Patient Care	Med Knowledge	Practice Based Learning	System Based Practice	Professionalism	Communication
Global Rating Scale	Weekly	Weekly	Weekly	Weekly	Weekly	Weekly
Chart Stimulated Recall (proposed)	Monthly	Monthly	Monthly	Monthly	Monthly	Monthly
Case Log	Monthly	Monthly				

Assessment Method (Program Evaluation)

How do you evaluate whether this educational experience is effective?

- Residents to complete weekly evaluations as consistent with residency structure

Level of Supervision

How is the resident supervised on this rotation?

- One on one with gradual increments of responsibility based on level of performance

Educational Resources

List the educational resources

- ASA Statement of Regional Anesthesia- <http://asahq.org/publicationsAndServices/standards/26.pdf>
- Consensus Conference on Regional Anesthesia and the Anticoagulated Patient- http://www.asra.com/Consensus_Conferences/Horlocker33.pdf

Available in the library:

- American Society of Regional Anesthesia – <http://www.asra.com/>
- Brown, David, L., MD – “Atlas of Regional Anesthesia”, Second Edition, W.B. Saunders Company
- Raj, Prithvi, P. -“Pain Medicine A Comprehensive Review”, 1996 Mosby-Year Book, Inc.
- Raj, Prithvi, P. “Current Review of PAIN”, 1994, Current Medicine
- Bonica, John, J., Loeser, John, D., Chapman, Richard, C., Fordyce, Wilbert, E. – “The Management of Pain”, Volume I, Second Edition

Social Justice

West Virginia University is committed to social justice. We concur with that commitment and expect to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. Our University does not discriminate on the basis of race, sex, age, disability, veteran status, religion, sexual orientation, color, or national group. Any suggestions as to how to further such a positive and open environment in this rotation will be appreciated and given serious consideration.

Curriculum Timeline

Written by Mario Serafini, M.D., Melanie McMurry, M.D., and James Colson, M.D.,
February 23, 2007

Approved by the Anesthesiology Education Committee on 2-26-2007