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## 605E ANESTHESIOLOGY PAIN MANAGEMENT

Students must obtain permission from the course coordinator who will obtain faculty approval based on availability prior to enrollment in this course

**This rotation is not accepting international students**

### **Course Description:**

Pain is the most common clinical condition encountered by a physician. Its prevalence exceeds that of diabetes, coronary artery disease and cancer put together. We encourage you all to take this opportunity to inculcate the skills of doing a thorough pain evaluation and developing a comprehensive treatment plan. Irrespective of the clinical specialty you chose to follow, this rotation will offer you tools to excel in your practice. The students will have the opportunity to be an integral part of the team that provides interventional and medical management of chronic and acute pain in both the outpatient continuity care setting and the inpatient consultation setting.

**Department:** Anesthesiology & Perioperative Care

**Prerequisites:** UCI students must have successfully completed core science and core internal medicine and surgery rotations. Priority is given to UCI students.

**Restrictions:** Priority is given to UC Irvine students. This rotation is not accepting international students.

**Elective Director:** Ariana Nelson, MD

**Instructing Faculty:** All faculty in the department of anesthesiology, pain management services

**Course Website:** None

**Site:** Gottschalk Medical Plaza, 1 Medical Plaza Drive, Irvine, CA.

**Site Coordinator:** Razan Duella, Medical Student Coordinator

Telephone: 714-456-5342, Fax: 714-456-7321, Email: [rduella@uci.edu](mailto:rduella@uci.edu) Email contact preferred

**Who to Report to on First Day:** Gina Peralta, Nurse Manager

**Location to Report on First Day:** Gottschalk Medical Plaza, 2<sup>nd</sup> floor, Center for Comprehensive Pain Management

**Time to Report on First Day:** 7:45 AM

**Periods Available:** August through June

**Duration:** 2-4 weeks

**Number of Students:** 1

**Scheduling Coordinator:**

**UC Irvine students** must officially enroll for the course by contacting the Scheduling Coordinator via email or phone (714) 456-8462 to make a scheduling appointment.

**Extramural students** enrolled at a U.S. LCME medical school must use VSAS to apply. To apply please refer to this website <https://students-residents.aamc.org/attending-medical-school/electives-andmake-courses/applyingaway-electives-vsas/>

### **Course Objectives:**

The course objectives are outlined in the 6 core ACGME clinical competencies, as follows:

#### **Patient Care:**

1. Provide compassionate, appropriate and effective patient care. Use appropriate empathy in patient care while screening for abuse and diversion related issues.
2. Take a thorough pain history, including pain location, radiation, intensity, quality, onset, duration, and exacerbating and alleviating factors.
3. Perform a musculoskeletal and neurologic physical examination.
4. Provide a comprehensive evaluation, in addition to those elements listed above; include laboratory and imaging study review and interpretation.
5. Interact effectively with patients and their families.
6. Demonstrate respect and care for individuals, recognizing the role of psychosocial factors in chronic pain.
7. Identify patients that may require urgent or emergent intervention.
8. Formulate a differential diagnosis.
9. Formulate a multimodal treatment plan based on the individual patient's history, expectations and expected course of his/her condition. In many cases, patient education on realistic pain goals will be necessary.
10. Work together with other members of our interdisciplinary healthcare team to optimize patient care and enhance quality of life.

#### **Medical Knowledge:**

1. Demonstrate knowledge about established and evolving biomedical, clinical and cognate sciences and the application of this knowledge to patient care.
2. Apply relevant scientific knowledge and reasoning to the practice of chronic pain management.
3. Demonstrate basic knowledge of the anatomy, physiology and pharmacology of pain medicine.
4. Demonstrate how specific physical and psychological states affect the management of chronic pain patients.
5. Demonstrate appropriate knowledge of opioid medication use and risk mitigation strategies

#### **Interpersonal and Communication Skills:**

1. Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.
2. Discuss the utility, advantages, and potential disadvantages of different treatment options (pharmacologic, interventional and behavioral).
3. Create and sustain a therapeutic and ethically sound relationship with patients.
4. Use effective listening skills to elicit appropriate clinical information.
5. Work effectively with others in an interdisciplinary health care team.
6. Identify challenging clinical interactions and recognize how to deal with them

#### **Professionalism:**

1. Demonstrate a commitment to carrying out professional responsibilities.
2. Demonstrate respect, compassion and integrity.
3. Respond to the needs of patients and those of society; understand that those supersede self-interest.
4. Demonstrate accountability to patients, society, colleagues, UCI, and our profession.
5. Demonstrate a commitment to excellence and on-going professional development.
6. Demonstrate a commitment to ethical principles pertaining to the provision or withholding of care, the confidentiality of patient information, informed consent and business practices.
7. Demonstrate responsiveness to patient's culture, age, gender and disabilities.

**Practice-Based Learning and Improvement:**

1. Investigate and evaluate one's own patient care practices, appraise and assimilate scientific evidence and improve patient care practices.
2. Locate, appraise and assimilate information and evidence from scientific studies related to patient's health care problem(s), pain condition or interventional procedure.
3. Assist in the teaching of other medical students.
4. Apply the knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
5. Use information technology to manage information, access online medical information and support one's own education.

**Systems-Based Practice:**

1. Demonstrate an awareness of and responsiveness to the larger context and system of healthcare and the ability to effectively call on system resources to provide care that is of optimal value.
2. Understand how one's own patient care and other professional practices affects other healthcare professionals, the healthcare organization, and our larger society. Understand which activities affect system performance.
3. Practice pain medicine within the context of this healthcare institution and in cooperation with other healthcare professionals.
4. Practice cost effect healthcare; prescribe medications that will be covered by insurance providers and avoid over-utilizing resources.
5. Advocate for quality patient care; assist patients in dealing with system complexities.
6. Know how to partner with healthcare managers and providers to assess, coordinate, and improve healthcare. Assume responsibility for interacting with healthcare services (social and home care services, physical therapy) and other providers (psychiatry, neurology, surgery...) for coordinating optimal patient care and authorization for coverage of appropriate pharmacologic and interventional therapeutics.

**Skill Objectives:**

Students are encouraged to learn the following skills:

1. Conduct an evaluation and summarize the Chief Complaint and HPI (pain history), including the pain location, radiation, duration, frequency, onset, quality and pain onset. Also include alleviating and exacerbating symptoms and associated symptoms.
2. Conduct a full medical, surgical history, social, psychological and pain treatment history. Incorporate an appropriate review of the systems (ROS) into the full historical examination.
3. Conduct an appropriate musculoskeletal and neurological physical examination, including, when appropriate, a cranial nerve examination, stance and gait inspection examination, cervical and lumbar range of motion, upper and lower extremity manual motor testing, sensory testing and reflex examination and appropriate provocative and nerve tension testing. Use manual motor testing grades and reflex scores appropriately.
4. Report on the type of pain: visceral, somatic, nociceptive, neuropathic, acute, chronic or mixed. Differentiate spinal pain as axial or radicular. Differentiate fibromyalgia and other central pain syndromes from myofascial pain. Provide a thoughtful differential diagnosis of the Chief Complaint. For radicular pain, provide a hypothesis for the level of nerve root irritation based on the history and physical examination.
5. Observe/ perform lumbar interlaminar, caudal and transforaminal ESI using fluoroscopy.
6. Observe/ perform lumbar medial branch blocks and/or intra-articular facet injections under fluoroscopic guidance.
7. Observe/ perform sacroiliac joint injections under fluoroscopy.
8. Observe /perform Greater Trochanter bursa (or other bursa) injections.
9. Observe/ perform trigger point injections (TPI).
10. Observe/ perform intra-articular injections (such as knee, shoulder).
11. Observe/ perform peripheral nerve blocks (such as pudendal, ilioinguinal).
12. Observe/assist advanced neuromodulation techniques (spinal cord stimulators, intrathecal pumps)

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**What Students Should do to Prepare for the Rotation:**

- Review pain pharmacology
- Review musculoskeletal and neurological examinations

**Clinical Responsibilities of the Student:** Students will participate with inpatient and outpatient clinical duties

**Procedures:**

Medical students are exposed to live fluoroscopy, during pain procedures. Although this radiation exposure is within safe limits, please inform the attending if you are pregnant or think you may be pregnant. Lead aprons and appropriate coverings are provided in the procedure suite. Students are expected to obtain a list of procedures for the next day in advance and prepare by reading about the procedure indication(s), technique and anatomy. Medical students that are prepared for procedures and demonstrate adequate knowledge will be able to help participate in many interventions. Pre-procedure preparation also may include: review of patient history and examination, confirmation of procedure appropriateness, informed consent process, and patient set-up in the procedure suite. Watches and hand jewelry should be removed for procedures and trainees may choose not to bring or wear valuables on procedure days.

**Percentage of Time in Ambulatory Setting:** 100%

**Content Theme Integration:**

- Death & dying
- Ethics
- Nutrition
- Pain Management
- Palliative Care
- Research Methods
- Substance Abuse

**Recommended Reading:**

Essentials of Pain Medicine and Regional Anesthesia, 2<sup>nd</sup> edition  
Authors: Benzon, Raja, Molloy, Liu, Fishman (copy available in Pain clinic)

**Week One:**

Chapter 4: Physical Examination of the Pain Patient  
Chapter 12: Minor and Short-Acting Opioids

**Week Two:**

Chapter 5 Pain Assessment  
Chapter 11 Major Opioids in Pain Management

**Week Three:**

Chapter 15: Membrane Stabilizer  
Chapter 17: Non Opioid Analgesics: NSAIDS, COX-2 inhibitors and acetaminophen

**Week Four:**

Chapter 29: Patient- controlled analgesia  
Chapter 43: Overview of low back pain disorders

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**Official Grading Policy:**

The student will receive a grade of: Honors, Pass or Fail.

Final grades will be based on the following:

- Evaluations by residents and attending's in the OR
- Attendance and participation in the lectures, grand rounds, and clinical case conferences
- Post-test score

*(The pre-test serves merely to gauge the knowledge base of our incoming medical students with regards to anesthesia and is not included in your rotation grade. You must score at least 80% on the post-test to be considered for honors.)*

Attending and resident evaluations of your performance will be factored in based on the following guidelines:

- Knowledge:** The student demonstrated appropriate knowledge of medicine and surgery for his/her educational level and was able to apply that knowledge clinically.
- Clinical Skills:** The student was able to learn and perform hands-on techniques (IV cannulation, mask ventilation, and airway management).
- Patient Care:** The student interacted well with his/her patients, performed interviews well, and conveyed information to the team appropriately.
- Motivation:** The student demonstrated a desire to learn and participate.
- Teachability:** The student demonstrated an ability to listen and assimilate new information and apply that information to the situation at hand.
- Professionalism:** The student was professional in his/her interactions with patients, residents, staff, and attendings.
- Self-Analysis:** The student has an awareness of his/her own limitations in knowledge and skills and makes efforts to improve on them.
- Desirability:** This medical student would make a good resident and we should seek to recruit him/her to our program.