ANESTHESIOLOGY CRITICAL CARE MEDICINE CLERKSHIP

Overview:

Location:
UCSD Thornton Hospital Intensive Care Unit and in the Sulpizio Cardiovascular Center
Intensive Care Unit.

Purpose:
To introduce and train students in surgical critical care medicine and to put their medicine and
physiology knowledge base into patient centered critical care context in addition to training in
procedural skills.

This rotation will be a very unique elective experience for the medical student, in that it will
provide the opportunity for close mentoring by faculty physicians in anesthesiology critical care
medicine. Moreover, students will have the opportunity to participate in procedures daily. Students
will be integrated into the critical care team and will be exposed to a variety of complex patients,
including heart and lung transplant patients, patients with ventricular assist devices, total artificial
heart, ECMO, and patients who have undergone complex neurosurgical and general surgical
procedures. Students will select several patients to follow from induction of anesthesia until ICU
discharge. There is also the opportunity to participate in multidisciplinary rounds daily with
cardiology, cardiac surgery, pharmacy, and social work. This course will be especially helpful for
students interested in pursuing a career in anesthesiology, surgery, or critical care medicine.

General Information:

Course Title: Anesthesiology Critical Care Medicine
Course Director: Angela Meier M.D., Ph.D.
anmeier@ucsd.edu
617-595-3595

Course Admin: Julie Nguyen Office Location:
619-543-5720 (P) UCSD Medical Center Hillcrest
619-543-6476 (F) Main Hospital Room 3-306B

Participating Instructors:
Albert Nguyen, M.D., Angela Meier, M.D., Anushirvan Minokadeh, M.D., Beverly
Newhouse, M.D., Erik Kistler, M.D., M.D Kimberly Robbins, M.D., Kit Tainter, M.D.,
Orestes O’Brien, M.D., Ulrich Schmidt, M.D. and Zeb McMillan, M.D. At times there
will be a surgical critical care faculty member as the attending on service.

Clinical Site:
UCSD Thornton Hospital Intensive Care Unit (858-657-6700) and Sulpizio
Cardiovascular Center Intensive Care Unit (858-657-8330)
**Prerequisites:**
Fourth year medical students only, including visiting US Medical Students

**Maximum number of Students:** 3 per block

**Absence Policy:**
No unscheduled days off will be permitted unless granted by the course director. Days off for residency interviews must be arranged in advance.

**Drop Policy:** One month notice required

**Schedule of Required Student Activities:**
On the first day of the rotation, students will report to the Sulpizio Cardiovascular Center Intensive Care Unit on the third floor at 0700. Please report to the Anesthesiology Critical Care Medicine resident and fellow (pager 8888.) At this time, students will receive a brief orientation to the rotation and will not be assigned any patients to pre-round on the first morning.

Students are expected to report no later than 0700 Monday through Friday. Students will each be assigned an average of two patients per day to pre-round and write notes on. Rounds begin at 0830 in the Sulpizio Cardiovascular Center ICU. At this time, multidisciplinary rounds are conducted with Anesthesiology Critical Care Medicine, Cardiology, Cardiac Surgery, Pharmacy, and often Infectious Disease. After these rounds, formal rounds on Thornton ICU patients occur with the ACCM attending.

The average workday will end between 4 and 5pm. Students should check out with the ACCM attending prior to leaving for the day. One day per week, the medical student must stay until 7pm in order to participate in late surgical admissions from the OR. In addition, students must each work one weekend day; this day will typically be from 0700-1500. These dates will be assigned on the first day of the rotation.

**Didactics:** The Anesthesiology Critical Care Medicine faculty has developed a series of approximately 20 core lectures in critical care. Students will receive formal lectures from ACCM faculty on Mondays, Tuesdays, and Fridays. Students are expected to attend the Dept of Anesthesiology Morbidity and Mortality Conference on Wednesday mornings from 0630-0730 in the Triton Room on the second floor of Thornton Hospital. On Thursdays from 2-3pm in the Lycan Room on the first floor of Thornton Hospital, one of the ACCM fellows will present for discussion a current article in critical care. These talks will be assigned during the first few days of the rotation. In addition to these formal didactic opportunities, students will be instructed informally on rounds and in the ICU by the faculty and fellows.

**Patient Write-ups:** Students will choose two patient progress notes or history and physicals per week to be discussed and critiqued with the ACCM attending. There is a check off sheet to be completed and submitted at the end of the rotation.
Course Materials/Resources:

- J.M. Ehrenfeld et al., Anesthesia Student Survival Guide: A Case Based Approach, Chapter 28: Introduction to Critical Care by Beverly J. Newhouse, M.D. (A pdf file will be given to students on the first day of the rotation)
- Pocket Medicine by Mark S. Sabatine
- In addition, students will be given pdf files of relevant peer-reviewed publications in critical care medicine

Learning Objectives:

- Students will be able to perform a comprehensive evaluation of a critically ill patient and formulate a plan of care, based on organ systems.
- Students will demonstrate understanding of basic cardiovascular and respiratory physiology and specific applications in the intensive care unit.
- Students will learn the fundamentals of invasive hemodynamic monitoring
- Students will participate in procedures under direct supervision including: mask ventilation, airway evaluation and endotracheal intubation, transthoracic and transesophageal echocardiography, central and arterial line placement
- Students will understand basic arterial blood gas interpretation
- Students will demonstrate understanding of the fundamentals of mechanical ventilation and criteria for intubation and extubation
- Students will demonstrate understanding of pharmacology and indications for use of vasopressors, inotropic agents, sedatives, analgesics, and neuromuscular blocking agents
- Students will understand the fundamentals of evidenced based management of sepsis and ARDS
- Students will understand the assessment and management of delirium and other acute neurologic syndromes
- Students will understand rational use of blood products in the ICU
- Students will understand infectious disease issues in the ICU, specifically prevention and treatment of nosocomial infections
- Students will understand the assessment and management of electrolyte disorders
- Students will understand prevention of stress ulceration and thromboembolism in the critically ill patient
- Students will understand the assessment and management of acute kidney injury including the use of renal replacement therapy
- Students will understand the use of nutritional therapy in the ICU
- Students will understand issues pertaining to end of life care including advance directives, codes, withdrawal of life-sustaining therapies, and family conferences
Grading/Assessment of Student Performance:

Students are evaluated by faculty using the UCSD SOM Student Evaluation Form for Clinical Clerkships. This grading method addresses each student’s skills, medical knowledge, communication skills, and professionalism.

The student will meet with the course director 2 weeks into the rotation for a mid-course evaluation and also at the end of the rotation to allow for feedback on their performances. The clerkship director is also interested in medical student feedback on the course as well. These sessions are of course confidential.

For unethical or unprofessional discretions that could result in “failure,” please see the Policy on the Evaluation of Professionalism in the Advisor and Student Handbook.

Criteria for Pass:
- Attendance at all required lectures/conferences
- Completion of required reading
- Active participation in patient care/rounds
- Completion of required calls (4 weekday and one weekend day)
- Completion of at least 4 full H&Ps
- Submission of at least 2 progress notes or H&Ps to the attending each week
- Submission of 1 Admission and 1 Progress Note to the Clerkship Director
- Completion of multiple choice examination with at least 50% of questions answered correctly
- Satisfactory performance/demonstration of learning objectives
- Students must receive overall “satisfactory” scores on their faculty evaluations (greater than 75%)

Criteria for Honors:
- In addition to the criteria for “pass” listed above, student must receive a grade of “outstanding” on the majority of their faculty evaluations
- Student must score 75% or higher on the final written examination

Student Evaluation of Course and Faculty:

Medical Students must complete course and faculty evaluations of this and all School of Medicine courses in order to receive a grade. The identity of individual students will not be shared with the course instructors.