Resident Orientation
July 1, 2010

GENERAL PROGRAM GOALS AND OBJECTIVES

The overall goal of UCSD Anesthesiology Training Program is to provide an environment for the acquisition of knowledge, skills, clinical judgment and attitudes necessary for our graduates to excel as consultant anesthesiologists. In addition, the training program strives to cultivate leadership in the fields of anesthesiology, pain medicine, critical care, and neuro-, pulmonary and cardiac physiology and molecular sciences.

Definition and Scope of the Specialty of Anesthesia

Practice of medicine dealing with but not limited to the following:

1. assessment of, consultation for, and preparation of patients for anesthesia;
2. relief and prevention of pain during and following surgical, obstetric, therapeutic, and diagnostic procedures;
3. monitoring and maintenance of normal physiology during the perioperative period;
4. management of critically ill patients;
5. diagnosis and treatment of acute, chronic, and cancer-related pain;
6. clinical management and teaching of cardiac and pulmonary resuscitation;
7. evaluation of respiratory function and application of respiratory therapy;
8. conducting of clinical and basic science research; and,
9. supervision, teaching, and evaluation of performance of personnel, both medical and paramedical, involved in perioperative care.
Duration and Scope of Education

Length of Program

A minimum of four years of graduate medical education is necessary to train a physician in the field of anesthesiology. Three years of the training are in clinical anesthesia.

Program Design

The continuum of education in anesthesiology consists of four years of training, the Clinical Base Year (CBY) and 36 months of clinical anesthesia training (CA-1, CA-2, and CA-3 years).

Clinical Anesthesia Training: CA-1 through CA-3 Years

(1) These three years consist of training in basic and advanced anesthesia. They encompass all aspects of perioperative care to include evaluation and management during the preoperative, intraoperative, and postoperative periods.

(2) The clinical training progressively challenges the resident's cognitive and technical skills, and provides the experience in direct and progressively responsible patient management. As the resident advances through training, she or he should have the opportunity to learn to plan and to administer anesthesia care for patients with more severe and complicated diseases, as well as patients who undergo more complex surgical procedures.

(3) The training culminates in sufficiently independent responsibility for clinical decision-making and patient care so that the graduating resident exhibits sound clinical judgment in a wide variety of clinical situations and can function as a leader of perioperative care teams.

The program provides initial rotations in surgical anesthesia, critical care medicine, and pain medicine. Experience in these rotations emphasizes the fundamental aspects of anesthesia, preoperative evaluation and immediate postoperative care of surgical patients, and assessment and treatment of critically ill patients and those with acute and chronic pain.

During the 36 months of clinical anesthesia training, there is a minimum of two identifiable one-month rotations in each of obstetric anesthesia, pediatric anesthesia, neuroanesthesia, and cardiothoracic anesthesia.

Additional subspecialty rotations are encouraged, but the cumulative time in any one subspecialty may not exceed six months during the CA-1 through CA-3 years.

Experiences in perioperative care include rotations in critical care medicine, acute perioperative and chronic pain management, preoperative evaluation, and postanesthesia care.
These experiences consist of:

- at least four months of distinct progressive rotations in critical care medicine;

- at least three months in pain medicine that may include one month in an acute perioperative pain management rotation, one month in a rotation for the assessment and treatment of inpatients and outpatients with chronic pain problems, and one month of regional analgesia experience in pain medicine;

- one month in a preoperative evaluation clinic;

- 0.5 month in a postanesthesia care unit.

During the 36 months of training residents may select additional focused educational experiences in advanced clinical anesthesiology subspecialties and/or related activities, remaining CBY required rotations, or research.

All residents must hold current certification as providers for advanced cardiac life support (ACLS).

**Competency-based Learning Goals**

**Patient Care**

Residents must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Residents must have a wide spectrum of disease processes and surgical procedures available within the program to provide each resident with a broad exposure to different types of anesthetic management within the anesthesiology residency program. The following list represents the minimum clinical experience that should be obtained by each resident in the program. Care should be provided for at least:

1) 40 patients undergoing vaginal delivery. There must be evidence of direct resident involvement in cases involving high-risk obstetrics;

2) 20 patients undergoing cesarean sections;

3) 100 patients less than 12 years of age undergoing surgery or other procedures requiring anesthetics. Within this patient group, 20 children must be less than three years of age, including five less than three months of age;

4) 20 patients undergoing cardiac surgery. The majority of these cardiac procedures must involve the use of cardiopulmonary bypass;

5) 20 patients undergoing open or endovascular procedures on major vessels, including carotid surgery, intrathoracic vascular surgery, intra-abdominal vascular surgery, or peripheral vascular surgery. Surgeries that involve vascular anastomosis, such as kidney or liver transplantation, are included in this category. Excluded from this category is surgery for vascular access or repair of vascular access;
6) 20 patients undergoing non-cardiac intrathoracic surgery, including pulmonary surgery and surgery of the great vessels, esophagus, and the mediastinum and its structures, including anesthesia for bronchoscopy;

7) 20 patients undergoing intracerebral procedures. These patients include those undergoing intracerebral endovascular procedures. However, the majority of these twenty procedures must involve an open cranium;

8) 40 patients undergoing surgical procedures, including cesarean sections, in whom epidural anesthetics are used as part of the anesthetic technique or epidural catheters are placed for perioperative analgesia. Use of a combined spinal/epidural technique may be counted as both a spinal and an epidural procedure;

9) 20 patients undergoing procedures for complex, or life-threatening injuries. Examples of these injuries include trauma associated with car crashes, falls from high places, penetrating wounds, industrial and farm accidents, and assaults. Burns covering more than 20% of body surface area also are included in this category;

10) 40 patients undergoing surgical procedures, including cesarean sections, with spinal anesthetics. Use of a combined spinal/epidural technique may be counted as both a spinal and an epidural procedure;

11) 40 patients undergoing surgical procedures in whom peripheral nerve blocks are used as part of the anesthetic technique or perioperative analgesic management;

12) 20 new patients who are evaluated for management of acute, chronic, or cancer-related pain disorders. Residents should have familiarity with the breadth of pain management including clinical experience with interventional pain procedures;

Medical Knowledge

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

Rotation-specific education objectives in Medical Knowledge are within following general categories:

1) Basic Sciences
   a. Anatomy
   b. Physics, monitoring, and anesthesia delivery devices
   c. Mathematics
   d. Pharmacology

2) Clinical Sciences
   a. Anesthesia procedures, methods, and techniques
3) Organ-based basic and clinical sciences
   a. Cardiovascular system
   b. Respiratory system
   c. Gastrointestinal and hepatic system
   d. Renal and urinary systems/ Electrolyte balance
   e. Endocrine and metabolic system
   f. Hematologic system
   g. Neuromuscular diseases and disorders

4) Clinical Subspecialties
   a. Painful disease states
   b. Pediatric anesthesia
   c. Obstetric anesthesia
   d. Otolaryngology anesthesia
   e. Anesthesia for plastic surgery
   f. Anesthesia for laparoscopic surgery
   g. Ophthalmologic anesthesia
   h. Orthopedic anesthesia
   i. Trauma, burn management, mass casualty, biological warfare
   j. Ambulatory surgery
   k. Geriatric anesthesia / Aging
   l. Critical care

5) Special Problems or Issues in Anesthesiology
   a. Electroconvulsive therapy
   b. Organ donors: Pathophysiology and clinical management
   c. Radiologic procedures; Anesthesia in locations outside the operating room
   d. Physician impairment and disability
   e. Ethics, practice management, and medicolegal issues

Medical Knowledge educational objectives are rotation-specific

Practice-based Learning and Improvement

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 and life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:

1) identify strengths, deficiencies, and limits in one’s knowledge and expertise;
2) set learning and improvement goals;
3) identify and perform appropriate learning activities;
4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;
5) incorporate formative evaluation feedback into daily practice;
6) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems;

7) use information technology to optimize learning; and,

8) participate in the education of patients, families, students, residents and other health professionals.

9) complete an academic assignment. This assignment usually occurs during the final 24 months of training, but it may, at the program director’s discretion, occur earlier. Academic projects may include grand rounds presentations, preparation and publication of review articles, book chapters, manuals for teaching or clinical practice, or similar academic activities. Alternatively, a resident may elect to develop and perform or participate in one or more clinical or laboratory investigations. It is expected that the outcomes of resident investigations will be suitable for presentation at local, regional, or national scientific meetings and that many will result in peer-reviewed abstracts or manuscripts. A faculty supervisor must be in charge of each project and investigation.

**Interpersonal and Communication Skills**

Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:

1) communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;

2) communicate effectively with physicians, other health professionals, and health related agencies;

3) work effectively as a member or leader of a health care team or other professional group;

4) act in a consultative role to other physicians and health professionals; and,

5) maintain comprehensive, timely, and legible medical records, if applicable.

**Professionalism**

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

1) compassion, integrity, and respect for others;

2) responsiveness to patient needs that supersedes self-interest;

3) respect for patient privacy and autonomy;

4) accountability to patients, society and the profession; and,

5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.
Systems-based Practice

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:

1) work effectively in various health care delivery settings and systems relevant to their clinical specialty;
2) coordinate patient care within the health care system relevant to their clinical specialty;
3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;
4) advocate for quality patient care and optimal patient care systems;
5) work in inter-professional teams to enhance patient safety and improve patient care quality;
6) and, participate in identifying system errors and implementing potential systems solutions.