

ACGME Program Requirements for Graduate Medical Education in Anesthesiology

Common Program Requirements are in BOLD

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Introduction

Int.A. Definition and Scope of the Specialty

The Review Committee representing the medical specialty of anesthesiology exists in order to foster and maintain the highest standards of training and educational facilities in anesthesiology, which the Review Committee defines as the practice of medicine dealing with but not limited to the following:

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

Int.B. Duration and Scope of Education

Int.B.1. 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 must be in clinical anesthesia. The Review Committee for Anesthesiology and the Accreditation Council for Graduate Medical Education (ACGME) accredit programs only in those institutions that possess the educational resources to provide three years of clinical anesthesia training. The capability to provide the Clinical Base Year within the same institution is desirable but not required for accreditation.

Int.B.2. 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).

Int.B.2.a) Clinical Base Year

Int.B.2.a).(1) One year of the resident's total training must be the Clinical Base Year, which should provide the resident with 12 months of broad education in medical disciplines relevant to the practice of anesthesiology. The Clinical Base Year usually precedes training in clinical anesthesia. It is strongly recommended that the Clinical Base Year be completed before the resident begins the CA-2 year; the Clinical Base Year, however, must be completed before the resident begins the CA-3 year.

Int.B.2.a).(2) If an accredited anesthesiology program offers this year of training, the Review Committee will verify that the content and oversight for the year are acceptable. If the year is judged to be in substantial compliance with the requirements for the Clinical Base Year (as defined below), the Review Committee will accredit the residency as a four-year program. When the Clinical Base Year is approved as part of the accredited anesthesiology residency program, the program director must maintain oversight for all rotations on the services that are used for the Clinical Base Year and must approve the rotations for individual residents.

Int.B.2.a).(3) When the resident obtains the CBY in another accredited program (e.g., a Transitional Year program or a PGY-1 experience in another specialty), the anesthesiology program director must receive from the CBY program director the resident's written performance evaluation quarterly during the CBY. Acceptance into the CA-1 year depends on the resident demonstrating satisfactory abilities on these written evaluations. This requirement pertains to the resident who has been accepted into an anesthesiology program before starting the CBY. For information concerning residents who transfer from a residency in another specialty or from another anesthesiology residency, refer to Sec. III.C. Resident Transfers.

Int.B.2.a).(4) At least six months of the Clinical Base Year rotations must include experience in caring for inpatients in internal medicine, pediatrics, surgery, or any of the surgical specialties, obstetrics and gynecology, neurology, family medicine, or any combination of these. In addition, there should be rotations in critical care and emergency medicine, with at least one month, but no more than two months, devoted to each. Up to one month may be taken in anesthesiology. Rotations should ensure continuity of teaching and clinical experience. Each month of training may be counted only once. For example, a rotation in a pediatric intensive care unit

may count as either a month in pediatrics or a month in critical care medicine.

- Int.B.2.a).(5) The development of clinical skills and mature clinical judgment requires that residents be given responsibility, under proper supervision and commensurate with their ability, for decision-making and for direct patient care in all settings. The resident's patient care responsibilities should include the planning of care, and the writing of orders, progress notes and relevant records, subject to review and approval by senior residents and attending physicians.
- Int.B.2.a).(6) The resident should develop the following fundamental clinical skill competencies during the Clinical Base Year:
- Int.B.2.a).(6).(a) obtain a comprehensive medical history;
 - Int.B.2.a).(6).(b) perform a comprehensive physical examination;
 - Int.B.2.a).(6).(c) assess a patient's medical conditions;
 - Int.B.2.a).(6).(d) make appropriate use of diagnostic studies and tests;
 - Int.B.2.a).(6).(e) integrate information to develop a differential diagnosis; and,
 - Int.B.2.a).(6).(f) implement a treatment plan.
- Int.B.2.a).(7) Each clinical service on which the Clinical Base Year resident rotates must provide written evaluation of the resident's performance at the end of the rotation. The Anesthesiology program director is responsible for reviewing these written evaluations on a quarterly basis.
- Int.B.2.b) Clinical Anesthesia Training: CA-1 through CA-3 Years
- Int.B.2.b).(1) These three years consist of training in basic and advanced anesthesia. They must encompass all aspects of perioperative care to include evaluation and management during the preoperative, intraoperative, and postoperative periods. The clinical training must progressively challenge the resident's cognitive and technical skills, and must provide 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. The training must culminate 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.

- Int.B.2.b).(2) The program should provide initial rotations in surgical anesthesia, critical care medicine, and pain medicine. Experience in these rotations must emphasize 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. Residents should receive training in the complex technology and equipment associated with these practices. There must be documented evidence of direct faculty involvement with tutorials, lectures, and clinical supervision.
- Int.B.2.b).(3) Clinical experience in surgical anesthesia, pain medicine, and critical care medicine should be distributed throughout the curriculum in order to provide progressive responsibility to trainees in the later stages of the curriculum.
- Int.B.2.b).(4) During the 36 months of clinical anesthesia training, there must be a minimum of two identifiable one month rotations in each of obstetric anesthesia, pediatric anesthesia, neuroanesthesia, and cardiothoracic anesthesia. If the program director judges that a resident has gained satisfactory skills and experience in clinical anesthesia in any of these subspecialties before completion of the second required month, the resident may pursue other experiences that augment learning of perioperative care in the subspecialty during the time remaining in the second month. For example, a resident who has gained sufficient experience in cardiac anesthesia (see IV.A.5.a) Patient Care) before completion of the second month of a cardiac anesthesia rotation may benefit from other perioperative experiences such as caring for patients in a cardiac angiographic suite or learning the basics of performance and interpretation of transthoracic or transesophageal echocardiograms.
- Int.B.2.b).(5) 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. Curricula specific to all subspecialty rotations must be on file in the department. Advanced subspecialty rotations, including those in critical care medicine and pain medicine, must reflect increased responsibility and learning opportunities. These assignments must not compromise the learning opportunities for residents participating in their initial subspecialty rotations.
- Int.B.2.b).(6) Experiences in perioperative care must include rotations in critical care medicine, acute perioperative and chronic pain management, preoperative evaluation, and postanesthesia care. These experiences must 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; and 0.5 month in a postanesthesia care unit. The Review Committee will allow two months of critical care medicine and one month of pain medicine experiences to occur during the Clinical Base Year. The Review Committee anticipates that rotations in preoperative evaluation clinics, acute perioperative pain management, and postoperative care units may occur in divided rotations. However, the rotation unit may not be less than one week. Successive experiences must reflect increased responsibility and learning opportunities.

- Int.B.2.b).(7) 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. For example, residents seeking broad exposure in critical care-related specialties may choose to take one or more rotations in echocardiography, nutrition, infectious diseases, or nephrology. Some may wish to gain experiences in pain medicine-related specialties such as physical medicine & rehabilitation, neurology, or psychiatry. Others may wish to choose advanced clinical anesthesiology subspecialty rotations or unique anesthesia-related experiences.
- Int.B.2.b).(8) The program director must determine the sequencing of the rotations.
- Int.B.2.b).(9) All residents must hold current certification as providers for advanced cardiac life support (ACLS).

Int.C. Program Objectives

- Int.C.1. An accredited program in anesthesiology must provide education, training, and experience in an atmosphere of mutual respect between instructor and residents so that residents will be stimulated and prepared to apply acquired knowledge and talents independently. The program must provide an environment that promotes the acquisition of the knowledge, skills, clinical judgment, and attitudes essential to the practice of anesthesiology.
- Int.C.2. In addition to clinical skills, the program should emphasize interpersonal skills, effective communication, and professionalism. The residency program must work toward ensuring that its residents, by the time they graduate, assume responsibility and act responsibly and with integrity; demonstrate a commitment to excellence and ethical principles of clinical care, including confidentiality of patient information, informed consent, and business practices; demonstrate respect and regard for the needs of patients and society that supersede self-interest; and work effectively as members of a health-care team or other professional group. Further, residents are expected to create and sustain a therapeutic relationship with patients, engage in active listening, provide

information using appropriate language, ask clear questions, provide an opportunity for comments and questions, and demonstrate sensitivity and responsiveness to cultural differences, including awareness of their own and their patients' cultural perspectives.

- Int.C.3. These objectives can be achieved only when the program leadership, faculty, supporting staff, and administration demonstrate a commitment to the educational program and provide appropriate resources and facilities. Service commitments must not compromise the achievement of educational goals and objectives.

I. Institutions

I.A. Sponsoring Institution

One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to resident assignments at all participating sites.

The sponsoring institution and the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

- I.A.1. The institution sponsoring an accredited program in anesthesiology must also sponsor or be affiliated with ACGME-approved residencies in at least the specialties of general surgery and internal medicine.

I.B. Participating Sites

- I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.**

The PLA should:

- I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for residents;**
- I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of residents, as specified later in this document;**
- I.B.1.c) specify the duration and content of the educational experience; and,**
- I.B.1.d) state the policies and procedures that will govern resident education during the assignment.**

- I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or**

more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS).

I.B.3. A participating site may be either *integrated* or *non-integrated* with the parent institution:

I.B.3.a) An *integrated site* must formally acknowledge the authority of the core program director over the educational program in that hospital, including the appointments of all faculty and all residents. Integrated sites should be in geographic proximity to the parent institution to allow all residents to attend joint conferences. If a site is not in geographic proximity and joint conferences cannot be held, an equivalent educational program in the integrated site must be fully established and documented. Rotations to integrated sites are not limited in duration. It is expected, however, that the majority of the program will be provided in the parent institution. Prior approval of the Review Committee must be obtained for participation of a site on an integrated basis, regardless of the duration of the rotation.

I.B.3.b) A *non-integrated site* is one that is related to the core program for the purpose of providing limited rotations that complement the experience available in the parent institution. Assignments at non-integrated sites must be made for educational purposes and not to fulfill service needs. Rotations to non-integrated sites may be no more than a maximum of 12 months during the three years of clinical anesthesia. Prior approval of the Review Committee must be obtained if the duration of a rotation at a site will exceed six months.

II Program Personnel and Resources

II.A. Program Director

II.A.1. There must be a single program director with authority and accountability for the operation of the program. The sponsoring institution's GMEC must approve a change in program director. After approval, the program director must submit this change to the ACGME via the ADS.

II.A.1.a) When the program director is not the department chair, the department chair must be an anesthesiologist who also meets the qualification criteria found below in II.A.3.a)-e).

II.A.1.b) Frequent changes in leadership or long periods of temporary leadership may adversely affect an educational program and may present serious cause for concern. The Review Committee may initiate an inspection of the program in conjunction with this change when it deems it necessary to ensure continuing quality.

- II.A.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.**
- II.A.3. Qualifications of the program director must include:**
- II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;**
 - II.A.3.b) current certification in the specialty by the American Board of Anesthesiology, or specialty qualifications that are acceptable to the Review Committee; and,**
 - II.A.3.c) current medical licensure and appropriate medical staff appointment.**
 - II.A.3.d) licensure to practice medicine in the state where the institution that sponsors the program is located. (Certain federal programs are exempted.)
 - II.A.3.e) faculty experience, leadership, organizational and administrative qualifications, and the ability to function effectively within an institutional governance. The program director must have significant academic achievements in anesthesiology, such as publications, the development of educational programs, or the conduct of research.
- II.A.4. The program director must administer and maintain an educational environment conducive to educating the residents in each of the ACGME competency areas. The program director must:**
- II.A.4.a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program;**
 - II.A.4.b) approve a local director at each participating site who is accountable for resident education;**
 - II.A.4.c) approve the selection of program faculty as appropriate;**
 - II.A.4.d) evaluate program faculty and approve the continued participation of program faculty based on evaluation;**
 - II.A.4.e) monitor resident supervision at all participating sites;**
 - II.A.4.f) prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program resident updates to the ADS, and ensure that the information submitted is accurate and complete;**

- II.A.4.g) provide each resident with documented semiannual evaluation of performance with feedback;**
- II.A.4.h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;**
- II.A.4.i) provide verification of residency education for all residents, including those who leave the program prior to completion;**
- II.A.4.j) implement policies and procedures consistent with the institutional and program requirements for resident duty hours and the working environment, including moonlighting, and, to that end, must:**
 - II.A.4.j).(1) distribute these policies and procedures to the residents and faculty;**
 - II.A.4.j).(2) monitor resident duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;**
 - II.A.4.j).(3) adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,**
 - II.A.4.j).(4) if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.**
- II.A.4.k) monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;**
- II.A.4.l) comply with the sponsoring institution's written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of residents, disciplinary action, and supervision of residents;**
- II.A.4.m) be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;**
- II.A.4.n) obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:**
 - II.A.4.n).(1) all applications for ACGME accreditation of new programs;**
 - II.A.4.n).(2) changes in resident complement;**

- II.A.4.n).(3) **major changes in program structure or length of training;**
- II.A.4.n).(4) **progress reports requested by the Review Committee;**
- II.A.4.n).(5) **responses to all proposed adverse actions;**
- II.A.4.n).(6) **requests for increases or any change to resident duty hours;**
- II.A.4.n).(7) **voluntary withdrawals of ACGME-accredited programs;**
- II.A.4.n).(8) **requests for appeal of an adverse action;**
- II.A.4.n).(9) **appeal presentations to a Board of Appeal or the ACGME; and,**
- II.A.4.n).(10) **proposals to ACGME for approval of innovative educational approaches.**

- II.A.4.o) **obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:**
 - II.A.4.o).(1) **program citations, and/or**
 - II.A.4.o).(2) **request for changes in the program that would have significant impact, including financial, on the program or institution.**

- II.A.4.p) confirm that all residents completing the program have met the requirements of the 48-month continuum, i.e., the Clinical Base Year and the 36-month anesthesiology residency;
- II.A.4.q) regularly review the residents' clinical experience logs and verify their accuracy and completeness when they are transmitted to the Review Committee;
- II.A.4.r) ensure that the residency program has a written policy and an educational program regarding substance abuse as it relates to physician well-being that specifically address the needs of anesthesiology;
- II.A.4.s) require residents to maintain an electronic record of their clinical experience. The program director or faculty must review the record on a regular basis. It must be submitted annually to the Review Committee office in accordance with the format and the due date specified by the Review Committee. The logs must be reviewed for accuracy and completeness before they are submitted to the Review Committee; and,

II.A.4.t) have the means for monitoring the appropriate distribution of cases among the residents.

II.B. Faculty

II.B.1. At each participating site, there must be a sufficient number of faculty with documented qualifications to instruct and supervise all residents at that location.

The faculty must:

II.B.1.a) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of residents, and

II.B.1.b) administer and maintain an educational environment conducive to educating residents in each of the ACGME competency areas.

II.B.2. The physician faculty must have current certification in the specialty by the American Board of Anesthesiology, or possess qualifications acceptable to the Review Committee.

II.B.2.a) The number of faculty must be sufficient to provide each resident with adequate supervision, which shall not vary substantially with the time of day or the day of the week. In the clinical anesthesia setting, faculty members should not direct anesthesia at more than two anesthetizing locations simultaneously.

II.B.2.b) Faculty who are not ABA-certified should be in the process of obtaining certification.

II.B.3. The physician faculty must possess current medical licensure and appropriate medical staff appointment.

II.B.4. The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.

II.B.5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

II.B.5.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

II.B.5.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.5.b).(1) peer-reviewed funding;

- II.B.5.b).(2) **publication of original research or review articles in peer-reviewed journals, or chapters in textbooks;**
- II.B.5.b).(3) **publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,**
- II.B.5.b).(4) **participation in national committees or educational organizations.**
- II.B.5.b).(5) All above scholarship components must be present in the program.

II.B.5.c) Faculty should encourage and support residents in scholarly activities.

II.B.6. The faculty should have varying interests, capabilities, and backgrounds, and must include individuals who have specialized expertise in the subspecialties of anesthesiology, which includes but is not limited to critical care, obstetric anesthesia, pediatric anesthesia, neuroanesthesia, cardiothoracic anesthesia, and pain medicine. Didactic and clinical teaching must be provided by faculty with documented interests and expertise in the subspecialty involved. Fellowship training, several years of practice (primarily within a subspecialty), and membership and active participation in national organizations related to the subspecialty may signify expertise.

II.B.7. Teaching by residents of medical students and junior residents represents a valid learning experience. The use of a resident as an instructor of junior residents, however, must not substitute for experienced faculty.

II.C. Other Program Personnel

The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for resident education, as defined in the specialty program requirements.

II.D.1. Space and Equipment

There must be adequate space and equipment for the educational program, including meeting rooms, classrooms with visual and other educational aids, study areas for residents, office space for teaching staff, diagnostic and therapeutic facilities, laboratory facilities, and computer support. The institution must provide appropriate on-call facilities for male and female residents and faculty.

II.E. Medical Information Access

Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.

III Resident Appointments

III.A. Eligibility Criteria

The program director must comply with the criteria for resident eligibility as specified in the Institutional Requirements.

III.B. Number of Residents

The program director may not appoint more residents than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program's educational resources must be adequate to support the number of residents appointed to the program.

III.B.1. General issues considered by the Review Committee include the adequacy of resources for resident education such as volume and variety of patients and related clinical material available for education, faculty-resident ratio, institutional funding and support of education, the quality of faculty teaching, and scholarship. Specific criteria evaluated when establishing numbers of residents for programs include:

III.B.1.a) ABA certification rate of program graduates during the most recent applicable five-year period;

III.B.1.b) Current accreditation status and duration of review cycle;

III.B.1.c) Most recent accreditation citations, especially any relating to adequacy of clinical experience and/or faculty coverage; and,

III.B.1.d) Clinical volumes demonstrating that there will be sufficient experience for all residents.

III.B.2. Appointment of a minimum of nine residents with, on average, three appointed in each of the CA-1, CA-2 and CA-3 years is required. Any proposed increase in the number of residents must receive prior approval by the Review Committee.

III.C. Resident Transfers

III.C.1. Before accepting a resident who is transferring from another program, the program director must obtain written or electronic verification of previous educational experiences and a summative competency-based performance evaluation of the transferring resident.

III.C.2. A program director must provide timely verification of residency education and summative performance evaluations for residents who leave the program prior to completion.

III.D. Appointment of Fellows and Other Learners

The presence of other learners (including, but not limited to, residents from other specialties, subspecialty fellows, PhD students, and nurse practitioners) in the program must not interfere with the appointed residents' education. The program director must report the presence of other learners to the DIO and GMEC in accordance with sponsoring institution guidelines.

III.D.1. The integration of nonphysician personnel into a department with an accredited program in anesthesiology will not influence the accreditation of such a program unless it becomes evident that such personnel interfere with the training of resident physicians. Interference may result from dilution of faculty effort, dilution of the available teaching experience, or downgrading of didactic material. Clinical instruction of residents by nonphysician personnel is inappropriate, as is excessive supervision of such personnel by resident staff. Additional necessary professional, technical, and clerical personnel must be provided to support the program.

IV Educational Program

IV.A. The curriculum must contain the following educational components:

IV.A.1. Overall educational goals for the program, which the program must distribute to residents and faculty annually;

IV.A.2. Competency-based goals and objectives for each assignment at each educational level, which the program must distribute to residents and faculty annually, in either written or electronic form. These should be reviewed by the resident at the start of each rotation;

IV.A.3. Regularly scheduled didactic sessions;

IV.A.4. Delineation of resident responsibilities for patient care, progressive responsibility for patient management, and supervision of residents over the continuum of the program; and,

IV.A.5. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum:

IV.A.5.a)

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:

- IV.A.5.a).(1) 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:
- IV.A.5.a).(1).(a) 40 patients undergoing vaginal delivery. There must be evidence of direct resident involvement in cases involving high-risk obstetrics;
- IV.A.5.a).(1).(b) 20 patients undergoing cesarean sections;
- IV.A.5.a).(1).(c) 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;
- IV.A.5.a).(1).(d) 20 patients undergoing cardiac surgery. The majority of these cardiac procedures must involve the use of cardiopulmonary bypass;
- IV.A.5.a).(1).(e) 20 patients undergoing open or endovascular procedures on major vessels, including carotid surgery, intrathoracic vascular surgery, intra-abdominal vascular surgery, or peripheral vascular surgery. Excluded from this category is surgery for vascular access or repair of vascular access;
- IV.A.5.a).(1).(f) 20 patients undergoing non-cardiac intrathoracic surgery, including pulmonary surgery and surgery of the great vessels, esophagus, and the mediastinum and its structures;
- IV.A.5.a).(1).(g) 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;
- IV.A.5.a).(1).(h) 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;

IV.A.5.a).(1).(i)

20 patients undergoing procedures for complex, 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;

IV.A.5.a).(1).(j)

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;

IV.A.5.a).(1).(k)

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

IV.A.5.a).(1).(l)

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;

IV.A.5.a).(1).(m)

Patients with acute postoperative pain. There must be documented involvement in the management of acute postoperative pain, including familiarity with patient-controlled intravenous techniques, neuraxial blockade, and other pain-control modalities;

IV.A.5.a).(1).(n)

Patients scheduled for evaluation prior to elective surgical procedures. There must be documented involvement for at least four weeks in preoperative medicine;

IV.A.5.a).(1).(o)

Patients who require specialized techniques for their perioperative care. There must be significant experience with a broad spectrum of airway management techniques (e.g., performance of fiberoptic intubation and lung isolation techniques such as double lumen endotracheal tube placement and endobronchial blockers). Residents also should have significant experience with central vein and pulmonary artery catheter placement and the use of

transesophageal echocardiography and evoked potentials. The resident must either personally participate in cases in which EEG or processed EEG monitoring is actively used as part of the procedure or have adequate didactic instruction to ensure familiarity with EEG use and interpretation. Bispectral index use and other similar interpolated modalities are not sufficient to satisfy this requirement;

IV.A.5.a).(1).(p)

Patients immediately after anesthesia. There must be a postanesthesia care experience of 0.5 month involving direct care of patients in the postanesthesia-care unit and responsibilities for management of pain, hemodynamic changes, and emergencies related to the postanesthesia-care unit. The Review Committee expects resident clinical responsibilities in the postoperative care unit to be limited to the care of postoperative patients, with the exception of providing emergency response capability for cardiac arrests and rapid response situations within the facility. Designated faculty must be readily and consistently available for consultation and teaching.

IV.A.5.a).(1).(q)

Critically ill patients. There must be a minimum of four months of critical care medicine distributed throughout the curriculum in order to provide progressive responsibility to trainees in the later stages of the curriculum. No more than two months of critical care medicine will be credited for training that occurs before the CA-1 year. Each critical care medicine rotation should be at least one month in duration, with progressive patient care responsibility in advanced rotations. Overall, this training must take place in units providing care for both men and women in which the majority of patients have multisystem disease. The postanesthesia-care unit experience does not satisfy this requirement. Anesthesia residents must actively participate in all patient care activities and as a fully integrated member of the critical care team. During at least two of the required four months of critical care medicine, faculty anesthesiologists experienced in the practice and teaching of critical care must be actively involved in the care of the critically ill patients and the educational activities of the residents.

IV.A.5.a).(1).(r) Patients undergoing diagnostic or therapeutic procedures outside of the surgical suites. There must be appropriate didactic instruction and sufficient clinical experience in managing the specific needs of patients undergoing these procedures.

IV.A.5.a).(2) must maintain a comprehensive anesthesia record for each patient as an ongoing reflection of the drugs administered, the monitoring employed, the techniques used, the physiologic variations observed, the therapy provided as required, and the fluids administered. The patient's medical record should contain evidence of preoperative and postoperative anesthesia assessment.

IV.A.5.b) 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. Residents:

IV.A.5.b).(1) should have didactic instruction that encompasses clinical anesthesiology and related areas of basic science, as well as pertinent topics from other medical and surgical disciplines. Didactic presentations related to the specific issues noted in section IV.A.5.b) (Medical Knowledge) are required. Practice management should be included in the curriculum, and should address issues such as operating room management, types of practice, job acquisition, financial planning, contract negotiations, billing arrangements, professional liability, and legislative and regulatory issues. The material covered in the didactic program should demonstrate appropriate continuity and sequencing to ensure that residents are ultimately exposed to all subjects at regularly held teaching conferences. The number and types of such conferences may vary among programs, but there must be evidence of regular faculty participation. The program director should also seek to enrich the program by providing lectures and contact with faculty from other disciplines and other institutions;

IV.A.5.b).(2) must have appropriate didactic instruction and sufficient clinical experience in managing problems of the geriatric population; and,

IV.A.5.b).(3) must have appropriate didactic instruction and sufficient clinical experience in managing the specific needs of the ambulatory surgical patient.

IV.A.5.c) 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:

- IV.A.5.c).(1) identify strengths, deficiencies, and limits in one's knowledge and expertise;**
- IV.A.5.c).(2) set learning and improvement goals;**
- IV.A.5.c).(3) identify and perform appropriate learning activities;**
- IV.A.5.c).(4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;**
- IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice;**
- IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;**
- IV.A.5.c).(7) use information technology to optimize learning; and,**
- IV.A.5.c).(8) participate in the education of patients, families, students, residents and other health professionals.**

IV.A.5.d) 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:

- IV.A.5.d).(1) communicate effectively with patients, families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;**
- IV.A.5.d).(2) communicate effectively with physicians, other health professionals, and health related agencies;**
- IV.A.5.d).(3) work effectively as a member or leader of a health care team or other professional group;**
- IV.A.5.d).(4) act in a consultative role to other physicians and health professionals; and,**

IV.A.5.d).(5) maintain comprehensive, timely, and legible medical records, if applicable.

IV.A.5.e) Professionalism

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

IV.A.5.e).(1) compassion, integrity, and respect for others;

IV.A.5.e).(2) responsiveness to patient needs that supersedes self-interest;

IV.A.5.e).(3) respect for patient privacy and autonomy;

IV.A.5.e).(4) accountability to patients, society and the profession; and,

IV.A.5.e).(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.

IV.A.5.f) 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:

IV.A.5.f).(1) work effectively in various health care delivery settings and systems relevant to their clinical specialty;

IV.A.5.f).(2) coordinate patient care within the health care system relevant to their clinical specialty;

IV.A.5.f).(3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;

IV.A.5.f).(4) advocate for quality patient care and optimal patient care systems;

IV.A.5.f).(5) work in interprofessional teams to enhance patient safety and improve patient care quality; and,

IV.A.5.f).(6) participate in identifying system errors and implementing potential systems solutions.

IV.B. Residents' Scholarly Activities

IV.B.1. The curriculum must advance residents' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.

IV.B.2. Residents should participate in scholarly activity.

IV.B.3. The sponsoring institution and program should allocate adequate educational resources to facilitate resident involvement in scholarly activities.

IV.B.4. Each resident must 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. The Review Committee expects 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.

V Evaluation

V.A. Resident Evaluation

V.A.1. Formative Evaluation

V.A.1.a) The faculty must evaluate resident performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.

V.A.1.b) The program must:

V.A.1.b).(1) provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice;

V.A.1.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);

- V.A.1.b).(3) document progressive resident performance improvement appropriate to educational level; and,
- V.A.1.b).(4) provide each resident with documented semiannual evaluation of performance with feedback.
- V.A.1.c) The evaluations of resident performance must be accessible for review by the resident, in accordance with institutional policy.
- V.A.2. **Summative Evaluation**
- The program director must provide a summative evaluation for each resident upon completion of the program. This evaluation must become part of the resident's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy. This evaluation must:
- V.A.2.a) document the resident's performance during the final period of education, and
- V.A.2.b) verify that the resident has demonstrated sufficient competence to enter practice without direct supervision.
- V.B. **Faculty Evaluation**
- V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program.
- V.B.2. These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.
- V.B.3. This evaluation must include at least annual written confidential evaluations by the residents.
- V.C. **Program Evaluation and Improvement**
- V.C.1. The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:
- V.C.1.a) resident performance;
- V.C.1.b) faculty development;
- V.C.1.c) graduate performance, including performance of program graduates on the certification examination; and,
- V.C.1.d) program quality. Specifically:

V.C.1.d).(1) Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and

V.C.1.d).(2) The program must use the results of residents' assessments of the program together with other program evaluation results to improve the program.

V.C.2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.

V.C.3. As part of the overall evaluation of the program, the Review Committee will take into consideration the information provided by the ABA regarding resident performance on the certifying examinations over the most recent five-year period. The Review Committee will also take into account noticeable improvements or declines during the period considered. Program graduates should take the certifying examination, and at least 70% of the program graduates should become certified.

VI Resident Duty Hours in the Learning and Working Environment

VI.A. Principles

VI.A.1. The program must be committed to and be responsible for promoting patient safety and resident well-being and to providing a supportive educational environment.

VI.A.2. The learning objectives of the program must not be compromised by excessive reliance on residents to fulfill service obligations.

VI.A.3. Didactic and clinical education must have priority in the allotment of residents' time and energy.

VI.A.4. Duty hour assignments must recognize that faculty and residents collectively have responsibility for the safety and welfare of patients.

VI.B. Supervision of Residents

The program must ensure that qualified faculty provide appropriate supervision of residents in patient care activities.

VI.B.1. Supervision shall not vary substantially with the time of day or day of the week. In the clinical setting, faculty members should not direct anesthesia at more than two anesthetizing locations simultaneously.

VI.C. Fatigue

Faculty and residents must be educated to recognize the signs of fatigue and sleep deprivation and must adopt and apply policies to prevent and counteract its potential negative effects on patient care and learning.

VI.D. Duty Hours (the terms in this section are defined in the ACGME Glossary and apply to all programs)

Duty hours are defined as all clinical and academic activities related to the program; i.e., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities, such as conferences. Duty hours do *not* include reading and preparation time spent away from the duty site.

VI.D.1. Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.

VI.D.2. Residents must be provided with one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call.

VI.D.3. Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.

VI.D.3.a) The Review Committee will not consider requests for a rest period of less than 10 hours.

VI.E. On-call Activities

VI.E.1. In-house call must occur no more frequently than every third night, averaged over a four-week period.

VI.E.2. Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Residents may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.

VI.E.2.a) During the six additional hours, residents may not administer anesthesia for a new operative case or manage new admissions to the intensive care unit.

VI.E.3. No new patients may be accepted after 24 hours of continuous duty.

VI.E.3.a) A new patient is defined as any patient for whom the resident has not previously provided care.

- VI.E.4. At-home call (or pager call)**
- VI.E.4.a) The frequency of at-home call is not subject to the every-third-night, or 24+6 limitation. However at-home call must not be so frequent as to preclude rest and reasonable personal time for each resident.**
- VI.E.4.b) Residents taking at-home call must be provided with one day in seven completely free from all educational and clinical responsibilities, averaged over a four-week period.**
- VI.E.4.c) When residents are called into the hospital from home, the hours residents spend in-house are counted toward the 80-hour limit.**
- VI.E.5. On-call activities present the resident with the challenges of providing care outside regular duty hours. Therefore, on-call activities, including those that occur throughout the night, and on weekends and holidays, are necessary components of the education of all residents.**
- VI.F. Moonlighting**
- VI.F.1. Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program.**
- VI.F.2. Internal moonlighting must be considered part of the 80-hour weekly limit on duty hours.**
- VI.G. Duty Hours Exceptions**
- A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.**
- VI.G.1. In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.**
- VI.G.2. Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution's GMEC and DIO.**
- VI.G.3. The RRC for Anesthesiology will not consider requests for an exception to the limit to 80 hours per week, averaged monthly.**

VII Experimentation and Innovation

Requests for experimentation or innovative projects that may deviate from the institutional, common and/or specialty specific program requirements must be approved in advance by the Review Committee. In preparing requests, the program director must follow Procedures for Approving Proposals for Experimentation or Innovative Projects located in the ACGME Manual on Policies and Procedures. Once a Review Committee approves a project, the sponsoring institution and program are jointly responsible for the quality of education offered to residents for the duration of such a project.

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