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AMERICAN OSTEOPATHIC ASSOCIATION

**Basic Standards for  
Residency Training in  
Anesthesiology**

**American Osteopathic Association  
and  
American Osteopathic College of Anesthesiologists**

Adopted 7/1990  
Revised 7/1992  
Revised BOT 7/1994  
Revised 7/2004  
Revised BOT 7/2007, Effective 7/2008

## INTRODUCTION TO THE AMERICAN OSTEOPATHIC ASSOCIATION'S PROGRAM TO APPROVE RESIDENCY TRAINING PROGRAMS

### AUTHORITY AND PURPOSE

The American Osteopathic Association (AOA) Bureau of Osteopathic Education (BOE) is recognized by federal and state authorities, as the only accrediting agency for osteopathic graduate medical education in the United States. Postdoctoral training is approved by the American Osteopathic Association through its Program and Trainee Review Committee (PTRC), a component of the Council on Postdoctoral Training (COPT).

Residency program approval implies the following: that a program has appropriately identified its mission, has secured the resources necessary to accomplish that mission, shown evidence of accomplishing its mission, and demonstrates its ability to carry its mission into the future.

Approval signifies that a residency program has met or exceeded the AOA standards for educational quality with respect to organization and administration: faculty, curriculum, instruction and evaluation; as well as resident relations, and facilities.

The process of anesthesiology residency program approval is a cooperative activity calling for continuing self-assessment on the part of each residency program, periodic peer evaluation through site visits, and review by the American Osteopathic College of Anesthesiologists (AOCA), the PTRC.

The specialty of anesthesiology is a branch of medical science, art and practice that embodies the following:

1. The use of pharmacological agents and methods for rendering the patient unconscious, to the pain and emotional stress of surgical and obstetrical procedures.
2. The performance of diagnostic and therapeutic measures.
3. The medical evaluation and preparation of the patient prior to the administration of anesthesia.
4. The recognition, evaluation and treatment of the physiological responses coincident to the administration of anesthetic procedures.
5. The care and management of concurrent disease before, during and after the administration of any type of anesthetic procedures.
6. The recognition, evaluation and treatment of complications related to the use of anesthesia.
7. The control of pain in patients with acute and chronic pain.
8. The care and management of patient's unconscious from any cause.
9. The application of the principles and practice of anesthesiology to the care of chronic and critically ill patients.

Anesthesiology standards are contained in chapter one of the document. The context and process used by AOCA and PTRC in approving programs is found in Chapter Two, Approval Procedures. Supplementary statements may be found in the *Basic Documents for Postdoctoral Training*.

## **A BRIEF HISTORY OF RESIDENCY PROGRAM APPROVAL**

Early in the 20<sup>th</sup> Century, the AOA initiated approval of osteopathic postdoctoral training programs, with review through the Committee on Hospitals and approval by the AOA Board of Trustees. In 1968, the Committee on Postdoctoral Training was established as a representative body composed of members from AOA affiliate organizations created to assure the Bureau of Osteopathic Education, AOA Board of Trustees, the osteopathic profession and general public that postdoctoral training programs are operating within approved standards, rules and regulations, and are providing educational training resulting in high quality patient care. The AOA Council on Postdoctoral Training also has the obligation to deliberate and recommend policy revisions to the Bureau of Osteopathic Education and the AOA Board of Trustees for improvements in postdoctoral training.

In 1952, the AOA Board of Trustees first authorized the establishment of osteopathic anesthesiology residency programs. Following recognition by the American Osteopathic Association, the AOCA formed its Committee on Postdoctoral Training. This Committee was formed of physicians both active in the field of anesthesiology, and the training of osteopathic interns. This Committee was empowered by the Board of Directors of the AOCA to formulate minimum standards for postdoctoral anesthesiology training. These standards were completed and approved by the AOA in 1950. At that same time, the first osteopathic residency program in anesthesiology was approved by the Board of Trustees of the AOA. The first training programs were two years in length following the successful completion of an internship. In 1986, the residency programs were lengthened to three years after internship to allow for the more specialized training needed by the anesthesiologists.

Presently, the Committee on Postdoctoral Training is composed of 6 members appointed by the President of the AOCA to serve annually. The AOCA Committee on Postdoctoral Training serves as an advisory body to the AOA Council on Postdoctoral Training for anesthesiology. The Committee has two functions: to develop standards which anesthesiology training programs and residents must meet to be approved, and to review and make recommendations to the AOA to assure that residency programs and individual physicians seeking AOA approval have met the training standards. By maintaining these required standards, the AOA and the AOCA assure that graduates of anesthesiology residency programs achieve expertise in their specialty.

The approval process for postdoctoral anesthesiology training is a public trust. Its purposes are many and include assuring that:

- (1) osteopathic training programs meet AOA and AOCA standards;
- (2) residents in training programs, receive education and training consistent with AOA and AOCA standards;
- (3) those responsible for resident education are competent;
- (4) sponsored programs meet acceptable national standards;
- (5) educational programs merit support from funding agencies.

## CHAPTER ONE: BASIC STANDARDS FOR APPROVAL OF RESIDENCY TRAINING IN ANESTHESIOLOGY

### INTRODUCTION

This chapter defines the standards for approval of residency training, against which all residency training programs in anesthesiology are evaluated by the American Osteopathic College of Anesthesiologists (AOCA) through its Committee on Postdoctoral Training, the AOA Council on Postdoctoral Training (COPT), and the American Osteopathic Association (AOA). Chapter Two, "Approval Procedures," documents the context and process used by these bodies during the approval process. The document, *Administrative Handbook for the Council on Postdoctoral Training*, provides additional information about the operation of the approval bodies and administrative staff.

The AOA, BOE, COPT, AOCA, and each AOA-approved anesthesiology residency program are required to adhere to the policies, procedures and standards contained in these documents. Exceptions must be clearly identified and have explicit approval as determined by the AOA Board of Trustees.

Osteopathic residency training in anesthesiology is defined as a formal training period of **four** years in an approved program following **graduation from a Commission on Osteopathic College Accreditation (COCA) approved College of Osteopathic Medicine** to qualify for board certification. This program shall be planned and conducted for the purpose of providing advanced and concentrated training in anesthesiology. Residency training in anesthesiology is full-time. Providing education of the highest quality must be the major mission of the program. Education, not service, is the primary purpose of a residency program.

The purpose of osteopathic anesthesiology residency training is to provide progressive learning experiences that develop the attitudes, skills and knowledge of an osteopathic physician to efficiently provide quality anesthesiology. Specific program objectives are stated in the curriculum referred to in Section IV.

### GOALS

The goals of an anesthesiology residency program are to:

1. Provide learning experiences based on measurable objectives for the education of residents during a **four year** training program.
2. Promote a broad understanding of the role of anesthesiology as it relates to other medical disciplines.
3. Integrate the sciences applicable to anesthesiology with clinical experiences in a progressive manner.
4. Provide the anesthesiology resident with progressive responsibilities commencing with general medical skills and progressing to the complete anesthetic care of patients in need of pain prevention before, during and following surgical, obstetric, therapeutic and diagnostic procedures.
5. Provide the anesthesiology resident an environment that promotes the acquisition of the knowledge, skills, clinical judgment, and attitudes essential to the practice of anesthesiology, including the incorporation of the Core Competencies: The first two core competencies must be implemented by July 1, 2004

## CORE COMPETENCIES

- a) Osteopathic Philosophy and Osteopathic Manipulative Medicine:
- Integrate Osteopathic principles into the diagnosis and management of patients in clinical presentations.  
Apply Osteopathic Manipulative Treatment in patient management where applicable.
- b) Medical Knowledge
- Demonstrate competency in the understanding and application of clinical anesthesiology to patient care.  
Demonstrate thorough knowledge of the complex treatment options of anesthesiology.  
Integrate the sciences applicable in anesthesiology with clinical experiences.  
Understand and apply the foundations of behavioral medicine appropriate to anesthesiology.  
Demonstrate the ability to provide end of life care.  
Identify and address socioeconomic, ethnic, religious and cultural aspects of illness and their impact on patient clinical presentation and subsequent management.
- c) Professionalism
- Identify the role of Anesthesiology as it relates to other medical disciplines.  
Develop the principles of appropriate ethical conduct and integrity in dealing with patients and their families.  
Identify potential areas of conflict of interest inherent in the practice of anesthesiology.  
Demonstrate appropriate, judicious and efficient utilization of medical therapies and procedures without consideration of personal gain.  
Demonstrate the understanding of the implicit trust and authority that patients often place physicians and recognize the ethical requirement to avoid exploitation of that trust either intentionally or unintentionally.  
Recognize the elements of religion, race, ethnicity, or cultural background in individual patients and address them properly.  
Recognize the need for continuous quality care in all patient populations, and demonstrate lack of discrimination.
- d) Interpersonal and Communication Skills
- Exercise effective patient interviewing skills  
Demonstrate appropriate verbal communication with clarity, sensitivity, and respect.  
Create well-organized, clear, succinct but **thorough** and legible medical record entries.  
Demonstrate the ability to interact with support staff in the hospital and ambulatory setting in a constructive, positive and effective manner.  
Identify methods to communicate with non-English speaking patients, and with those having sensory deficits (verbal, visual, and auditory)

e) Patient Care

Demonstrate the ability to rapidly evaluate, initiate and provide appropriate treatment for patients who are critically ill.

Demonstrate the ability to thoroughly evaluate, initiate treatment, and provide long-term therapeutic recommendations to patients with chronic problems in both the hospital and ambulatory setting.

f) Systems-Based Practice

Develop in the resident the skills needed to practice within a system-based health care environment and use the resources to deliver quality care.

Understand the national and local health care delivery systems and how they impact on patient care and advocate for the patient in obtaining quality care in complex systems.

g) Practice-Based Learning and Improvement

Develop professional leadership and practice management skills.

Evaluate the progress of resident training by using continuous assessment tools.

1. Utilize systematic evaluation to include self-study and assessment, individual trainee assessment and outcomes analysis.
2. Participate in quality improvement programs and assessment activities in the hospital and ambulatory settings.

Expose the resident to research methodology in anesthesiology

Identify information technology applicable to the practice of anesthesiology and research and demonstrate the ability to effectively utilize such technology.

Develop resident teaching skills in anesthesiology.

Promote the development of the attitude and commitment to habits of lifelong learning and scholarly pursuit in anesthesiology.

Prepare the resident to meet the eligibility criteria of the AOA to take the certification examination administered by the American Osteopathic Board of Anesthesiology AOBA.

6. Develop the teaching skills of residents in anesthesiology.
7. Develop the skills necessary for problem solving in the operation room, obstetrical suite, intensive care, pain center or wherever the anesthesiologist is needed.
8. Develop professional leadership and management skills.
9. Promote lifelong learning in medical education.
10. Develop interest in and understanding of research in anesthesiology.
11. Prepare the resident to meet certification requirements of the AOA through the AOBA.

## OBJECTIVES

An anesthesiology residency program, approved by the AOA through the AOCA, shall provide meaningful objectives that prepare the resident to:

1. Manage and use pharmacological agents and methods for rendering the patient insensible to the pain and emotional stress of surgical and obstetrical operations and the performance of diagnostic and therapeutic procedures, which are based on the knowledge of basic and clinical sciences.
2. Manage and control pain in patients with acute and chronic pain.
3. Manage and care for patients' unconscious from any cause.
4. Use critical thinking in making effective decisions for patient management.
5. Accurately evaluate and prepare the patient prior to the administration of anesthetic procedures.
6. Care and manage concurrent disease before, during and after the administration of anesthetic procedures.
7. Recognize, evaluate and treat the physiological responses coincident to the administration of anesthetic procedures.
8. Recognize, evaluate and treat complications related to the use of anesthetic procedures.
9. Apply the principles and practice of anesthesiology to the care of the chronic and critically ill patient.
10. Make sound, ethical, and legal judgments as to the expected risks arising from the administration of anesthetic procedures, as well as the condition being treated.
11. Demonstrate proficiency in the psychomotor skills required of a competent anesthesiologist.
12. Provide cost-effective care to anesthesia patients.
13. Collaborate effectively, and share knowledge with colleagues and allied health professionals.
14. Participate in community and professional organizations.
15. Read, interpret, and participate in clinical research, where appropriate.
16. Participate in opportunities for continuing education to promote personal and professional growth.
17. Teach basic skills needed in the anesthesiology department, to medical students, interns, and other residents within the context of the residency program.

## I. REQUIREMENTS FOR PROGRAM APPROVAL

- A. To be considered for approval to conduct an anesthesiology residency program, a sponsoring institution must first meet the following organizational requirements:
  1. Be accredited by the AOA or an AOA College of Osteopathic Medicine, and affiliated with an OPTI accredited by the AOA.
  2. Be in operation not less than twelve (12) months immediately preceding the date of application for residency training.
  3. Confirm that education, in combination with quality patient care, will be the first priority of the anesthesiology residency program.
  4. Have appropriate administrative structure, including a director of medical education (DME) who is an osteopathic physician with AOA-approved intern and residency training.
  5. Have a medical library and other facilities of a quality and quantity to support residency training in anesthesiology (see Section V).
  6. Have teaching faculty composed of anesthesiologists, and other physicians involved in anesthesiology, who affirm and demonstrate their commitment to the residency training program. (See Section B).

7. Demonstrate the financial commitment and provide support resources to the resident and the residency program.
8. Demonstrate planning for the conduct of a residency program in anesthesiology, including a written program description.

B. The base institution must:

1. Have a minimum of four organized departments or committees including family medicine, internal medicine, obstetrics/gynecology and surgery.
2. Have an organized department/section of anesthesiology, which must provide evidence that there is review of the quality of care provided by all members of this department as well as their utilization of hospital services.
3. Have organized pathologic and radiologic services, supervised by full-time qualified, certified specialists in pathology and radiology.

C. To be considered for approval of a residency program in anesthesiology, the department of anesthesiology at the base institution must:

1. Have a department composed of two or more anesthesiologists who are members of the medical staff at the base institution taking an active part in the training program. And must either be board certified or board eligible by the AOA through the AOBA or certified or board eligible by the American Board of Medical specialists through the ABA.
2. Have a program director who is certified by the American Osteopathic Association through AOBA.
3. Have all physicians who are clinically supervising anesthesiology residents certified in anesthesiology by the AOA or ABA or in the process of being certified. Significant clinical exposure to osteopathic anesthesiologists must be provided.
4. Have a minimum of one (1) core faculty member for every three (3) resident positions be a physician certified in anesthesiology by AOBA or ABA to provide adequate supervision for residents.
5. Have the scope, volume and variety to support a residency program with at least 3 residency positions or 1 position per year. This is generally a minimum volume of 1800 Anesthesiology Department procedures annually at the base institution. Other anesthesiology sites, which are affiliated with this base institution, must have a minimum volume of capable of supplementing the volume of the base institution to warrant additional residency positions annually.
5. Provide experience and training in the specialty of anesthesiology.
6. This training should take place at the base hospital and its affiliated sites, however, 50% of the training **must** take place at the base institution.
7. Ensure that osteopathic principles and practice and their application to anesthesiology are emphasized.
8. Have an AOA-approved internship program
9. Have a membership in an Osteopathic Postdoctoral Training Institution (OPTI).

## II. STANDARDS FOR ADMINISTRATION, FACULTY AND ORGANIZATION

Sections II through V of this document contain *standards* for residency training in anesthesiology. The standards and prerequisites are utilized by the PTRC and the AOCA to evaluate the residency program on a continuing basis.

- A. An institution sponsoring AOA-approved residency training is required to provide each resident with training as proposed in the program description. The institution may make changes in its residency program during the course of the residency to meet mandated changes or to strengthen its program, consistent with AOA and AOCA standards.
- B. The base hospital must have a postdoctoral education committee that shall include the DME, program directors of all specialty training programs at that institution, and representatives of supporting specialty services. This committee will function within the established policies of the hospital, its purposes to include the following:
  1. Coordinating intern and residency programs.
  2. Maintaining and improving program quality and function in an advisory role.
  3. Mediating problems between teaching staff and trainees.
  4. Assisting in the development and implementation of evaluative procedures for osteopathic postdoctoral training at that institution.
  5. Assuming other responsibilities as defined by the sponsoring institution. This committee will maintain minutes and meet at least monthly.
- C. The sponsoring institution shall designate an osteopathic physician as program director for the program who has sufficient clinical time for program administration and clinical instruction. Appointments are subject to the approval by the AOCA COPT and subsequent registry by the AOA.

The program director may serve as the DME, but may not serve as the Chairman of the Department of Anesthesiology, or as program director of more than one residency program.

  1. The program director of the anesthesiology residency program must possess the following qualifications:
    - a. Active staff membership within the department of anesthesiology.
    - b. Certification by the AOA through the AOBA and recertified within the prescribed time frame of the certifying body.
    - c. Membership in the American Osteopathic Association. (AOA).
    - d. Membership in the AOCA.
    - e. Active clinical practice of anesthesiology at the base institution.
    - f. Practice of anesthesiology for a minimum of five (5) years or three (3) years full-time with an anesthesiology residency program.
    - g. Fulfill the qualifications as a faculty member of an anesthesiology residency program, including administrative and demonstrated leadership skills, and completion of the AOA's continuing medical education requirements and anesthesiology training skills and faculty development.
    - h. Active participation in community and professional organizations appropriate to anesthesiology.

- i. Involvement in research and academic pursuits, examples may include, but are not limited to publication in peer review journals, textbooks, local or specialty publications, formal lectures and visiting professorships.
2. The program director shall have the following responsibilities:
- a. Direction of the anesthesiology residency program to ensure that the resident receives the training outlined in the program description.
  - b. Arrangement of formal affiliation agreements and/or outside rotations necessary or desirous to meet the program objectives.
  - c. Evaluation of residents, faculty, and the anesthesiology residency program.
  - d. Submission of quarterly program reports to the DME and administrator of the institution. Annual reports shall be submitted to the AOCA at the completion of each year of training.
  - e. In coordination with the DME, have responsibility for all schedules, and appropriate time for resident training, including lectures, educational sessions, and study time.
  - f. Working with the DME to support the predoctoral and postdoctoral education and training at the institution.
  - g. Notify the AOCA of all residents in training on an annual basis.
  - h. Participation in the annual AOCA Program Director Workshop. **Attendance at this annual workshop is mandatory for the program director once every three (3) years.**
  - i. Ensuring that the program complies with the standards, policies and procedures of the AOA.
  - j. Preparation for and participation in the AOA inspection of the program in cooperation with the Division of Postdoctoral Training and the designated inspector.
  - k. Inform the AOA, OPTI and AOCA's committee on postdoctoral training of major changes, including but not limited to changes in program directors; institutional ownership and affiliations, or other major administrative changes.
- D. The sponsoring institution, in conjunction with the program director shall designate a minimum of two (2) **Core** faculty, who shall participate in the anesthesiology residency program.
1. Core faculty must be certified or an active candidate in the process of certification by the AOBA or ABA.
  2. Core faculty must be qualified by training and experience to perform their teaching role, including recertification within the prescribed time frame of the certifying body. Faculty must demonstrate sufficient scholarly activity. (See C, 1, j). Faculty credentials must be on file and available at the time of inspection.
  3. At least twenty-five percent (25%) of the core faculty must be osteopathic anesthesiologists who participate in the training of residents.
- E. The institution shall have administrative and other non-physician staff committed to the program to support teaching in the anesthesiology residency program.
- F. The anesthesiology residency program must adopt formal policies and the residents must be advised of these policies. There must be a resident manual that will include, but not be limited to:

1. The institution's anesthesiology residency curriculum.
  2. The rules and regulations stating the resident's duties and responsibilities.
  3. Leave policies.
  4. Financial arrangements, including housing, meals and other benefits, as may be determined by the institution and described in the resident contract.
  5. Institutional policies and procedures for the supervision and evaluation of residents, due process, (e.g., grievances, disciplinary action, academic deficiencies or failure) and appeal processes.
  6. Policies governing outside activities of a professional nature.
  7. Institutional policies regarding contract renewal, contract interruption or cancellation, and the number of anesthesiology positions offered each year of training.
- G. To fulfill requirements of the basic standards or enhance training, the program director may arrange for required rotations with affiliated training sites.

A program seeking to fulfill its requirements through affiliations with other AOA OR ACGME institutions shall sign formal ***affiliation agreements*** with these training sites. Affiliation agreements shall be signed by representatives of both the base institution and the affiliate training sites, and shall be maintained on file with the DME at the base institution. Affiliations shall be consistent with the guidelines of the AOA (see Appendix 1).

Residents on rotation to affiliated training sites shall remain under contract to the base institution. Resident training logs shall reflect training and service to the affiliated training site and shall be included in the resident records at the base institution. Written evaluation of the resident's performance at the affiliated training site must be submitted by the on-site faculty to the program director at the base institution.

- H. The program director may arrange supplemental rotations for residents seeking to enhance their training. Such rotations will be conducted at sites approved by the program director. Evaluations from the individual responsible at the outside rotation must be included in the program director's annual report of each resident.
- I. There must be effective, timely evaluation of the anesthesiology residency program, following the procedures outlined in Chapter 2, Approval Procedures.

### III. STANDARDS FOR RESIDENTS

- A. An applicant for anesthesiology residency training must:
1. Be a graduate of an AOA-accredited college of osteopathic medicine and have successfully completed an AOA-approved internship.
  2. Be a member of the AOA and maintain membership in the AOA throughout their term of training.
  3. Be licensed in the State(s) where required where the training program and affiliated sites are located.
  4. Present official transcripts from the college of osteopathic medicine of graduation and a letter of recommendation from the DME of internship program graduation.
  5. Sign an annual residency contract with the institution.

- B. The institution shall have a written description of the process and criteria used in the selection of residents. This description shall include a statement regarding the institution's policies regarding contract renewal for residents who demonstrate competence and potential regarding the number of positions funded for each year.
- C. Admission to a residency program shall not be influenced by race, sex, religion, creed, national origin, age or handicap as defined by federal regulations.
- D. The resident is legally, morally, and ethically responsible to pursue exclusively the agreed upon program of training. The resident shall not engage in any outside activities of a professional nature during residency training except those approved by the program director and designated institutional authorities. Such activities must not interfere with the resident's participation in the training program. The resident may not act as an unsupervised consultant and must be designated in such a manner to retain his/her identity as a resident.
- E. The resident shall progressively assume increasing responsibility for patient care during the residency program, so that by the final year of training, the resident must be able to assume complete management of all assigned cases.
- F. Increased competency in anesthesiology is based on experience and number and variety of cases managed in the anesthesiology department. Such experience is gained through participation in highly specialized rotations as deemed necessary by the program director. The resident shall observe, assist and administer no fewer than 500 and not greater than 800 procedures per OGME year. The total number of anesthetic procedures for the third year of training may vary according to the program selected.
- G. It is required that by the completion of a **four-year** anesthesiology residency program, each resident will have participated in a minimum of **twenty-four (24)** months in the department of anesthesiology and organized rotations in the following areas:
  - Surgery
  - PACU
  - Trauma
  - ICU/CCU
  - Obstetrics
  - Pediatrics
  - Research/Administration

The resident shall become proficient in basic sciences and clinical medicine in the management of pre, intra and post anesthetic evaluation and management of patients undergoing anesthetic procedures. In addition the resident shall receive instruction in other disciplines of medicine, including but not limited to, internal medicine, cardiology and radiology.

During the **four** years of residency training in anesthesiology, the resident shall become knowledgeable in the following:

- History of anesthesiology
- Recording of anesthetic data
- Medical legal considerations

- Mortality review
- Fundamental physics
- Anesthetic equipment and maintenance
- Physiology of posture and positioning of patients
- Preanesthetic medication
- Preanesthetic evaluation, management and preparation
- General anesthesia fundamentals
- Endotracheal intubation and management
- Endobronchial intubation and management
- Carbon dioxide absorption system
- Endotracheal and endobronchial anesthesia
- Pulmonary and ventilatory management
- Airway management
- Cardiovascular physiology
- Autonomic nervous system
- Endocrine system
- Anatomical considerations
- Neurology and neurophysiology
- Neonatal and pediatric anesthesia
- Fluid, electrolyte, and acid-base balance
- Obstetrical anesthesia
- Anesthesia for traumatic and emergency cases
- Intravenous anesthesia
- Dissociate anesthesia
- Neuroanesthesia
- Cardiovascular anesthesia
- Critical care management
- Neuromuscular blocking agents
- Spinal anesthesia
- Epidural anesthesia
- Caudal anesthesia
- Regional blocks
- Pharmacology of local anesthetic agents
- Diagnostics and therapeutic blocks
- Pain management
- Cardiopulmonary resuscitation
- Pharmacology of inhalation agents
- Newborn and infants resuscitation
- Hypothermia anesthesia
- Hypotensive anesthesia
- Management of PACU patients
- Outpatient anesthesia
- Anesthesia and renal function
- Anesthesia and hepatic function
- Geriatric anesthesia
- Invasive arterial parameters
- Invasive venous parameters
- Administration of department of anesthesiology
- Administration of the PACU

- Administration of respiratory service
  - Business considerations in the practice of anesthesiology.
- H. Each resident shall adhere to established policies and procedures for residency training, as outlined in this document, and in the resident manual.
- I. Each resident shall receive guidance and supervision by the program director, anesthesia faculty, and other department members.
- J. The resident shall maintain formal records of all activities related to the educational program. These records shall be submitted monthly to the program director and DME for review and verification. Copies of these records shall be kept on permanent file by the administration at the base institution and shall be available at the time of the inspection. These records should document the fulfillment of the requirements of the program, describing the volume, variety and scope, and progressive responsibility on the part of the resident anesthesia cases and procedures performed under supervision, along with didactic discussions between faculty, staff and residents.
- K. The resident is required to maintain and submit a monthly typewritten or an electronic log listing all anesthetic procedures to the program director. A copy of these logs shall be submitted in **proper format** quarterly to the AOCA.
- L. The resident shall prepare a scientific paper, which is either an original contribution or a case report. Original contributions will document original clinical or applied research. Case reports will document unusual clinical presentations with newly recognized or rarely reported features. The length of the paper shall be a minimum of **1500 words**, double-spaced, paginated, and with references required for all material derived from the works of others. The paper shall be submitted at the completion of the **third** year of residency training (OGME-3). Each resident must prepare his/her own original paper and no resident may submit the same paper individually or in conjunction with other residents as co-authors.
- To participate in such research, the resident must submit an outline of the research project with the **second** year annual report (**OGME-2**); and the completed research project with the **third** year annual report (**OGME-3**). The completed research project must be submitted to the Evaluating Committee of the AOCA in a publishable format. In all instances research projects must be approved and signed by the program director.
- M. The resident shall be required to participate in professional staff activities that are of interest to the training program, such as, medical audits, mortality reviews, tissue and tumor conferences.
- N. The resident shall be required to participate in as many postmortem examinations as practical, especially those relating to anesthesia and surgery.
- O. The resident must annually participate in the AOCA Resident Examination. In the event the resident is unable to participate in this examination, due to reasons of documented ill health, emergency, or other extenuating circumstances the program director may waive this requirement for that year. The program director must advise the AOCA's Evaluating Committee, in writing, of the Resident's inability to participate in the examination within ten (10) days of the examination.

- P. The resident must be certified as a provider in advanced cardiac life support (ACLS), advanced trauma life support (ATLS), or its equivalent, and advanced pediatric life support (APLS) or its equivalent.
- Q. A resident may choose to take the **fourth** year of training in another institution or choose to take up to nine months of training in a concentrated subspecialty area in preparation for a potential fourth year subspecialty residency.

#### IV. STANDARDS FOR CURRICULUM, INSTRUCTION AND EVALUATION

- A. The anesthesiology program shall adhere to a **four-year** curriculum (**OGME-1** to OGME-4), which meets or exceeds the requirements listed within this document. The program shall create and implement a core curriculum for anesthesiology residency training, which prepares the resident for specialty certification in general anesthesiology.
  - 1. The **four-year** curriculum in anesthesiology must include the following core curriculum components:
    - a. Utilization of osteopathic principles and practice relating to anesthesiology.
    - b. Development of a growing competence on the part of the resident in the clinical practice of anesthesiology.
    - c. Development of a philosophy of anesthesiology directed toward delivery of the best possible patient care.
    - d. Advanced training in the basic sciences, which shall include structured learning and clinical experience in the basic sciences and clinical skills in anesthesiology.
    - e. Participation in required OPTI educational programs.
  - 2. The program must provide a minimum of four (4) hours of planned anesthesiology educational activity per week.
    - a. Residents must be excused from clinical duties to attend planned educational experiences.
    - b. No more than fifty percent of the conference may be planned and presented by residents.
    - c. Residents must be exposed to the core curriculum during their training.
    - d. Residents are required to attend the academic portions of the program, unless excused by the program director.
  - 3. The program must provide an environment, which is conducive to teaching residents. This environment must include exposure to both the clinical applications of anesthesiology as well as the skills necessary to develop the proper attitudes towards patients, professional staff, and administration of the institution.
  - 4. The program must ensure that the resident demonstrates increasing competence in anesthesiology skill and technique in the use of its pain and therapeutic modalities. This shall be done through:
    - a. Observation, assistance, and supervised participation leading toward greater responsibility for care, and treatment of patients.

- b. Opportunities to attend or participate in teaching and training inside and outside of the parent institution.
    - c. Participation in available seminars, divisional society meetings, workshops in other institutions, programs provided by universities and clinical activities in affiliated outpatient clinics or specialty institutions.
  - 5. Residents in the program will learn teaching skills by actively participating in the process of instructing interns, medical students and other residents.
  - 6. The curriculum shall include instruction in medical ethics and interpersonal skills.
  - 7. The curriculum shall be based on written objectives for each rotation.
  - 8. The curriculum will provide for annual evaluation by faculty and residents as a method for revision and updating of the document.
- B. The program shall ensure that each program defines, teaches and evaluates, in accordance with AOA and AOCA requirements, the specific knowledge, skill, attitude and experience required in order for residents to learn and demonstrate the following core competencies: (page 3 # 5)
- 1. Osteopathic Philosophy and Osteopathic Manipulative Medicine
  - 2. Medical Knowledge
  - 3. Patient Care
  - 4. Interpersonal and Communication Skills
  - 5. Professionalism
  - 6. Practice-Based Learning and Improvement
  - 7. Systems-Based Practice

## V. STANDARDS FOR FACILITIES AND OTHER RESOURCES

- A. Institutional facilities and resources must be adequate to provide educational opportunities to the resident. The institution is responsible for assuming the financial, technical and educational support for the program. The institution must provide the necessary space, facilities and learning environment for the establishment and maintenance of an AOA-approved program.
- 1. The institution shall have the following facilities:
    - a. A medical library, which is properly staffed and maintained by a qualified librarian. This library shall include access to standard medical reference texts and current medical journals, and computer-assisted literature search capabilities, e.g., Medline.
    - b. Conference room(s), which are available for formal instruction.
    - c. Sleeping, lounge and food facilities.
    - d. Faculty and administrative office space.
    - e. Office space for residents.
  - 2. The institution shall supply and maintain modern state of the art equipment required for the administration of all anesthetics. In addition, the institution shall have written policies and procedures for patient safety and supply the follow monitoring equipment:
    - a. Blood pressure monitoring devices, invasive and non-invasive.
    - b. Spirometers
    - c. Precordial and esophageal stethoscopes.

- d. Electrocardiographs
- e. Peripheral nerve stimulators
- f. Pulse oximetry
- g. Patient temperature
- h. End tidal carbon dioxide
- i. Inspired oxygen concentration
- j. Central venous pressure
- k. Swan-Ganz catheter
  - (1) right atrial
  - (2) right ventricle
  - (3) pulmonary artery
  - (4) pulmonary wedge
  - (5) cardiac output
- l. Direct measurement of arterial pressures

## APPENDIX ONE

### MODEL PROGRAM FOR RESIDENCY TRAINING IN ANESTHESIOLOGY

#### I. INTRODUCTION

The following model is a combination of experience gained through both residency training and the observation and evaluation of established anesthesiology training programs. It is fully understood that no model program will fit all circumstances, therefore, each program should be adapted to the capabilities of the program director, the variety and volume of available clinical material, and the physical resources of the teaching institution. The contents of this program should be used as a guide.

#### II. GOALS

- A. The program must provide training and education in the specialty of anesthesiology for qualified osteopathic physicians who are preparing for the practice of anesthesiology.
- B. The program must contain the basic requirements for the candidate to enter into the examination process for certification by the American Osteopathic Board of Anesthesiology.
- C. The training program should produce sound practitioners in the specialty of anesthesiology through the development of technical, diagnostic, and medical skills.
- D. The training should inculcate and reinforce ethical and moral standards in the practice of anesthesiology.

#### III. ADMISSION REQUIREMENTS

- A. The training should inculcate and reinforce ethical and moral standards in the practice of anesthesiology.
- B. The candidate must be a graduate of a college of osteopathic medicine approved by the American Osteopathic Association.
- C. The residency program shall be of **four** years duration. Satisfactory completion of each year is a requirement before appointment for the following year.

#### IV. PROGRAM

##### **A. First year**

- 1. Under this rotation schedule, each first year resident must complete the following educational rotations and activities. These may be scheduled as 12 one month rotations or 13 four week rotations or any combination thereof.**
- 2. Nine months of rotations divided as follows:**
  - a. One month of family practice (preferable in an ambulatory setting).**
  - b. Three months of general internal medicine.**

- c. **Three months of surgery, one of which is general surgery. (Plastics, orthopedic and urologic)**
  - d. **One month of pediatrics (inpatient or ambulatory) if available, or one additional month of anesthesia.**
  - e. **One month of obstetrics and gynecology, if available, or female reproductive medicine.**
3. **Three months of anesthesia, to be developed and/or taught by the department of anesthesia, to include:**
- a. **Osteopathic principles and practice.**
  - b. **Obstetrical anesthesia including academic presentations on anesthesia modalities and complications unique to obstetric anesthesia.**
  - c. **Pulmonary medicine exposure/experience as taught by anesthesia staff as it affects choice of anesthetic management of the pulmonary compromised patient and pre- and post-operative ventilation management.**
  - d. **Non-invasive and invasive radiological interpretations of diagnostic procedures and their impact on the anesthetic management of the surgical patient.**
  - e. **Cardiology and the interpretation of sophisticated cardiac tests and their influence on the management of the cardiac patient going to surgery for non-cardiac surgery.**
  - f. **Basic instruction in performing and writing a scientific paper.**
  - g. **Integration of manipulative medicine where appropriate in anesthesia.**
  - h. **Pediatric anesthetic academic presentations to encompass neonatal, pediatric, and adolescent anesthesia.**

B. **Second Year**

1. The **second** year of residency training should be spent at the base institution. This first year is to emphasize basic and fundamental aspects of the management of anesthesia.
2. During the first six (6) months there shall be:
  - a. Basic science didactic input that includes areas as: anatomy, physiology, pharmacology, and pathology with reading assignments.
  - b. Clinical input that includes:
    - 1) Knowledge of agents and techniques, and fundamentals of anesthesia.
    - 2) The development of basic skills, such as intubation, spinal punctures, epidurals, CPR, arterial lines, IV's, etc.
    - 3) Instruction in the preoperative, intraoperative, and postoperative care and management of patients.

- 4) To gain experience under direct supervision with patients who are to receive anesthesia for various procedures.
  - 5) The use of musculoskeletal findings in clinical problem solving and establishing indications for osteopathic manipulative therapy.
3. The second six (6) months shall include:
- a. Didactic input
    - 1) Cardiology through a four-week service integrated with:
      - (a) E.C.G. interpretation
      - (b) Management of arrhythmias
      - (c) Invasive and non-invasive monitoring
      - (d) Physiology and pharmacology in the management of cardiovascular disease
    - 2) Radiology through a four-week service integrated with clinical anesthesia.
      - (a) Chest x-ray interpretation
      - (b) Use of radiographic measures and equipment in the placement of invasive monitors, catheters, and tubes for diagnostic and therapeutic therapy.
      - (c) Other radiographic interest to anesthesia.
    - 3) Osteopathic principles and practice
      - (a) Osteopathic principles as they relate to anesthesia.
        - (1) Body unity
        - (2) Structure-function interrelationships
    - 4) Self-regulation; homeostatic mechanisms
      - (a) Use of osteopathic palpatory assessment and manipulative treatment for pre and post anesthesia evaluation and treatment.
    - 5) Respiratory therapy through a four-week service integrated with clinical anesthesia.
      - (a) Pulmonary function laboratory  
Management of ventilator cases
      - (b) Instruction in the use of fiberoptic bronchoscope examination for diagnosis and therapy.

C. **Third Year**

1. The sequencing of rotations in the second and third year of clinical training is left to the discretion of the program director and the resident. The time spent away from the base hospital in other approved institutions shall not exceed six (6) months during this period of time.
  - a. Didactic input
 

The **third** year should include the management of complicated and more complex cases in the pre, intra, and post anesthetic periods.

    - 1) Drug interactions
    - 2) Medical management of surgical patients requiring anesthesia
    - 3) Medical legal considerations in the practice of anesthesia
    - 4) Respiratory therapy
    - 5) Economics of practice
  - b. Clinical input
 

The **third** year experiences shall include exposure in the subspecialty areas in the management of anesthesia.

    - 1) A four-week clinical service in the ICU, or CCU unit, to provide didactic, clinical, and technical background for the insertion of monitoring lines, e.g. arterial, Swan-Ganz, subclavian, etc.
    - 2) Pediatric anesthesia
    - 3) Thoracic anesthesia

- 4) Neurological anesthesia
- 5) Cardiovascular anesthesia
- 6) Sophisticated anesthesia such as:
  - (a) Cervical plexus block
  - (b) Interscalene block
  - (c) Hypotensive anesthesia
  - (d) Hypothermia anesthesia

**D. Fourth Year**

1. The resident in collaboration with the program director will select one of the following formats. During this period of time the resident, regardless of the selected format, shall be assigned the more complex anesthesia procedures of the most seriously ill patients with multiple system disease.
  - a. Advanced training
  - b. Subspecialty training
    1. Critical Care Medicine
    2. Acute and Chronic Pain Management
  - c. Research oriented programs
2. Advanced training
  - a. The resident will be expected to complete a minimum of six (6) months in the more complex and comprehensive anesthesia assignments.
  - b. The resident will be expected to complete six (6) months in one to three selected subspecialty rotations, or more comprehensive and complex anesthesia assignments.
  - c. Upon completion of a three year anesthesiology residency training program, a resident may opt for a fourth year of training in critical care medicine or acute and chronic pain management.
3. Subspecialty training
  - a. The resident will be expected to complete nine months in one of the subspecialty rotations and three months in comprehensive and complex assignments if nine months in subspecialty area is chosen.
  - b. If a resident chooses to take the third year of training in another institution, or chooses to take a subspecialty program for the nine months, the following format must be followed.
    - (1) The program director of the parent institution must supply the AOA Division of Postdoctoral Training with the following information for any osteopathic resident who elects to train in an allopathic institution for the required third year of an anesthesiology program and have this training applied towards the completion of an osteopathic program:
      - (a) A written affirmation of acceptance of the program and an agreement to monitor the resident's progress through quarterly and annual reports, including the required annual scientific paper;
      - (b) A written program description, recent statistics and current curriculum vita of the allopathic program director;
      - (c) A copy of the resident's allopathic contract;
 Upon receipt of this information, the Division of Postdoctoral Training will forward copies of this material to the American Osteopathic College of Anesthesiologists for their records. A copy will also be kept on file at the

AOA. The resident will be noted in AOA records as a resident in the osteopathic program but will be footnoted that he/she is a participant in allopathic subspecialty training and will not utilize an otherwise funded position. This program must be approved before the training begins.

4. Research oriented programs
  - a. The resident will be expected to complete six (6) months of comprehensive anesthesia assignments or subspecialty.
  - b. The resident will be expected to complete six (6) months in a laboratory of clinical investigation, in areas approved by the program director.

B. Advanced standing

Consideration for advanced standing towards the completion of an anesthesiology residency program for training taken in other medical disciplines will be considered on an individual basis by the American Osteopathic College of Anesthesiologists. The candidate must submit the following data for individual consideration of advanced standing:

1. Have successfully completed at least one (1) year of residency training in any specialty;
2. Submit documentation from previous program director confirming that the candidate has achieved a specific level of training; and
3. Receive an endorsement from the current program director recommending advanced standing for a specific block of time.

## V - PROGRAM REQUIREMENTS

- A. The residency training program shall commence only after it has received the recommendation of the Program and Trainee Review Committee.
- B. The members of the department should consult with those specialists whose services may aid in the evaluation of the seriously ill or multiple systems disease patients that may require an anesthetic procedure. The anesthesiologist shall be the final judge in both the selection of the anesthetic procedure and the anesthetic medications and the methods of administration.

The patient's hospital record must show evidence that prior to the administration of an anesthetic procedure a preanesthetic evaluation has been made by an anesthesiologist. The written evaluation must state that the anesthesiologist has reviewed the chart, interviewed and examined the patient, recorded the findings, dated and timed the preanesthetic evaluation and indicated the proposed anesthetic procedure, agents and methods. The anesthesiologist must grade the physical status of the patient according to the accepted anesthesiology standards. All preanesthetic orders must be dated and timed according to accepted standards.

The anesthesiologist shall perform a postanesthetic evaluation on all patients within three (3) to twenty-four (24) hours after the administration of an anesthetic procedure. This written evaluation must be dated and timed according to accepted standards. There shall be a written record of the patient's progress for as long as the patient's condition warrants postanesthetic evaluation.

The original signed anesthesia record shall become a component part of the patient's permanent hospital record. The following must be recorded on the chart:

1. designated operating room, anesthetic administering equipment and the check of the equipment
2. designation of type of anesthetic and method of administration
3. agents and type of administration, the recording of any changes of the flow rates or concentrations of gasses and the times of such changes
4. dosage, route, site and the times of administration of medication
5. informational data shall be obtained from the monitors utilized as to the times and values and recorded as a continuous value or as the monitor dictates
6. intubation procedures including:
  - a. the type and size of laryngoscope blade
  - b. type and size of intubation tube
  - c. amount of air used to inflate the cuff
  - d. time of intubation
  - e. time of extubation
7. ventilator parameters settings, including:
  - a. tidal volume
  - b. respiratory rate
  - c. peak inspiratory pressure
  - d. level of positive end-expiratory pressure (PEEP) or continuous positive airway pressure (CPAP)
8. patient's position and any changes in the table position
9. blood pressure, pulse and respiration every five (5) minutes or more often as the case dictates
10. size and site of the intravenous catheters
11. size and site of arterial catheters
12. type and amount of fluids administered
13. estimated blood and fluid loss
14. administration of blood or blood products such as:
  - a. whole blood
  - b. packed cells
  - c. platelets
  - d. fresh frozen plasma
  - e. other blood products
  - f. the identification numbers of these products
15. time that patient was sent to the PACU or ICU after surgery surgical procedure and surgeon

C. The following monitoring equipment must be available and used on each patient as the case dictates:

1. blood pressure; invasive and non-invasive
2. precordial and esophageal stethoscopes
3. electrocardiographs
4. peripheral nerve stimulators
5. inspired oxygen concentration
6. spirometry
7. peak inspiratory pressure
8. ventilator
9. temperature
10. pulse oximetry
11. invasive arterial blood pressure

12. central venous pressure
  13. Swan-Ganz pressures, e.g. right atrial, right ventricle, pulmonary artery, pulmonary wedge, cardiac output
  14. end tidal carbon dioxide
  15. urinary output
  16. arterial and mixed venous blood gases
  17. blood component analysis
  18. inspiratory gas temperature (for heated humidified circuits)
- D. Members of the department must take an active part in the care of the patient in the postanesthetic care unit (PACU). The PACU must be under the direction of a member of the department of anesthesiology. It is recommended that the chairman of the department be the Medical Director of the PACU.
- E. Department meeting and seminars shall be held once a month. The resident and all department members must attend these meetings. Attendance sheets will be signed recording those present and will be filed with the department and the hospital administration.
- F. The following education standards must be fulfilled:
1. members of the department must exhibit willingness to teach by participating in formal programs of instruction. Time must be established for formal teaching.
  2. department members must allow the resident time for careful evaluation of patients, study, and preparation of scientific papers.
  3. residents must be provided supervised responsibility. Individualized instruction may vary and be modified depending on the rate of progress of each resident, the ability to absorb knowledge and demonstration of capability, responsibility, and good judgment.
  4. basic sciences must be taught as they apply to anesthesiology. The basic sciences must be utilized in the whole spectrum of the care and evaluation of patients undergoing anesthetic procedures.
- G. A resident may choose to take up to nine months of training in a subspecialty in another institution for the **fourth** year of training. In addition, he/she or may choose to take a concentrated subspecialty area for the **fourth** year.
- H. Osteopathic principles and practice shall be integrated throughout the training program.
- I. Enrollment in postgraduate courses in anesthesiology is to be encouraged, planned and documented.
- J. The training shall inculcate and reinforce ethical and moral standings for the practice of anesthesiology.
- K. The resident shall be encouraged to prepare papers on clinical cases for presentation at department meetings. This should prepare the resident in the use of the library and practice in scientific writing.