

ACGME Program Requirements for Graduate Medical Education in Vascular Neurology

One-year Common Program Requirements are in BOLD

Effective: February, 2003

Introduction

Int.A. Residency and fellowship programs are essential dimensions of the transformation of the medical student to the independent practitioner along the continuum of medical education. They are physically, emotionally, and intellectually demanding, and require longitudinally-concentrated effort on the part of the resident or fellow.

The specialty education of physicians to practice independently is experiential, and necessarily occurs within the context of the health care delivery system. Developing the skills, knowledge, and attitudes leading to proficiency in all the domains of clinical competency requires the resident and fellow physician to assume personal responsibility for the care of individual patients. For the resident and fellow, the essential learning activity is interaction with patients under the guidance and supervision of faculty members who give value, context, and meaning to those interactions. As residents and fellows gain experience and demonstrate growth in their ability to care for patients, they assume roles that permit them to exercise those skills with greater independence. This concept—graded and progressive responsibility—is one of the core tenets of American graduate medical education. Supervision in the setting of graduate medical education has the goals of assuring the provision of safe and effective care to the individual patient; assuring each resident’s and fellow’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishing a foundation for continued professional growth.

Int.B. Definition

Int.B.1. Vascular neurology is an area of medicine in which selected neurological disorders involving the central nervous system due to ischemia or hemorrhage are assessed, monitored, treated and prevented using a combination of clinical evaluation, imaging, interventional techniques, and medication. Specialists in vascular neurology are expected to:

Int.B.1.a) participate in an interdisciplinary care of patients with vascular disease that incorporates aspects of epidemiology, basic science, clinical neurology, neuroimaging, critical care, endovascular surgical neuroradiology, neurological vascular surgery, neurological surgery, neurosonology, cerebral blood flow and metabolism, neurobehavior, and neurorehabilitation;

Int.B.1.b) acquire detailed knowledge of the vascular supply of the central nervous system and its alteration by disease; and,

- Int.B.1.c) manage stroke patients in outpatient and inpatient settings, including critical care units.
- Int.C. Vascular neurology includes the prevention, evaluation, and treatment of a wide range of diseases resulting in vascular insults to the nervous system, including:
- Int.C.1. cardiogenic brain embolism, to include:
- Int.C.1.a) large vessel cerebral atherosclerosis;
 - Int.C.1.b) aortic arch cerebral and spinal embolism;
 - Int.C.1.c) small cerebral artery occlusive disease;
 - Int.C.1.d) hemodynamic brain ischemia;
 - Int.C.1.e) migraine;
 - Int.C.1.f) hereditary and acquired hypercoagulable states;
 - Int.C.1.g) disseminated intravascular coagulation, thrombotic thrombocytopenic purpura, and other hematological disorders;
 - Int.C.1.h) antiphospholipid antibody syndromes;
 - Int.C.1.i) substance abuse and drug toxicities;
 - Int.C.1.j) hypertensive encephalopathy;
 - Int.C.1.k) arterial dissection;
 - Int.C.1.l) vasculopathies, including inflammatory, infectious, and Moyamoya;
 - Int.C.1.m) cerebral venous thrombosis;
 - Int.C.1.n) genetic and metabolic disorders;
 - Int.C.1.o) intracerebral hemorrhage;
 - Int.C.1.p) aneurismal subarachnoid hemorrhage (SAH);
 - Int.C.1.q) subdural hematomas;
 - Int.C.1.r) spinal cord infarction;
 - Int.C.1.s) complications of vascular disease, including raised intracranial pressure, sepsis, and venous thrombosis; and,
 - Int.C.1.t) vascular malformations.

Int.D. Duration and Scope of Training

Training in vascular neurology shall encompass a total of one year that must be preceded by the completion of a residency program in neurology or child neurology accredited by the Accreditation Council for Graduate Medical Education (ACGME) or the Royal College of Physicians and Surgeons of Canada. Elective time must be available for fellows to pursue individual interests. Training must be separate and distinct from all training required for certification in neurology and child neurology, and must include significant didactic and clinical experience in the care of patients with stroke and/or who are at risk for stroke in both inpatient and outpatient settings as detailed in the Educational Program section (IV) of these requirements. In particular, training must provide the following clinical experiences:

- Int.D.1. inpatient management of patients with stroke, both ischemic and hemorrhagic;
- Int.D.2. critical care management of patients with stroke, both ischemic and hemorrhagic;
- Int.D.3. management of patients with neurosurgical cerebrovascular disorders including aneurysms and arteriovenous malformations;
- Int.D.4. emergent management of patients with stroke, including emergency department management;
- Int.D.5. care of patients in different settings, including nursing homes, medical rehabilitation centers and outpatient clinics;
- Int.D.6. ordering and clinical correlation of diagnostic brain and vascular imaging;
- Int.D.7. ordering and interpretation of diagnostic laboratory tests in stroke;
- Int.D.8. involvement in community activities, including outpatient primary and secondary prevention of stroke;
- Int.D.9. participation in the delivery of educational programs about stroke and stroke prevention, including teaching medical students, ancillary health professionals, and residents;
- Int.D.10. consulting with other medical professionals, including cardiologists, radiologists, neurological surgeons, vascular surgeons and physiatrists in the overall care and management of stroke patients; and,
- Int.D.11. participation in research, such as epidemiological studies, clinical trials, or laboratory research.

Int.E. Relation to Core Program

The one-year program must take place in a center in which there is an ACGME-

accredited residency program in neurology and, with the written approval and support of the program director of the neurology program.

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 fellow 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.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 fellows;

I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of fellows, 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 fellow 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 fellows, 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. Participation by any institution providing two months or more of fellow education must be approved by the Review Committee.

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) The program director, together with the faculty, is responsible for the general administration of the program and for the establishment and maintenance of a stable educational environment. Adequate lengths of appointment for the program director and faculty members are essential to maintaining such an appropriate continuity of leadership.

II.A.2. Qualifications of the program director must include:

II.A.2.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;

II.A.2.b) current certification in the subspecialty by the American Board of Psychiatry and Neurology, or specialty qualifications acceptable to the Review Committee;

II.A.2.c) current medical licensure and appropriate medical staff appointment; and,

II.A.2.c).(1) The program director must have current medical licensure in the state where the institution that sponsors the program is located.

II.A.2.d) completion of at least one additional year of stroke or vascular neurology training.

II.A.2.d).(1) At least 50% of the program director's practice should be devoted to care of stroke patients.

II.A.3. The program director must administer and maintain an educational environment conducive to educating the fellows in each of the ACGME competency areas. The program director must:

II.A.3.a) prepare and submit all information required and requested by the ACGME;

II.A.3.b) be familiar with and oversee compliance with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;

II.A.3.c) obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:

II.A.3.c).(1) all applications for ACGME accreditation of new programs;

- II.A.3.c).(2) **changes in fellow complement;**
- II.A.3.c).(3) **major changes in program structure or length of training;**
- II.A.3.c).(4) **progress reports requested by the Review Committee;**
- II.A.3.c).(5) **responses to all proposed adverse actions;**
- II.A.3.c).(6) **requests for increases or any change to fellow duty hours;**
- II.A.3.c).(7) **voluntary withdrawals of ACGME-accredited programs;**
- II.A.3.c).(8) **requests for appeal of an adverse action; and,**
- II.A.3.c).(9) **appeal presentations to a Board of Appeal or the ACGME.**

- II.A.3.d) **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.3.d).(1) **program citations, and/or**
 - II.A.3.d).(2) **request for changes in the program that would have significant impact, including financial, on the program or institution.**

- II.A.3.e) together with the faculty, be responsible for those activities related to the recruitment, selection, instruction, supervision, counseling, evaluation, and advancement of fellows and the maintenance of records related to program accreditation; and,
 - II.A.3.e).(1) The program director must select fellows for appointment to the program in accordance with institutional and departmental policies and procedures.
 - II.A.3.e).(2) The program director must prepare and implement a supervision policy that specifies fellow and faculty member lines of responsibility for the care of patients.
 - II.A.3.e).(3) The program director must devote time to provide leadership to the program and supervision of the fellows in the program.

- II.A.3.f) together with the program's teaching staff, prepare and comply with written educational goals for the program.

II.B. Faculty

II.B.1. There must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows.

II.B.1.a) The program must have at least two faculty neurologists, including the program director, who have completed training in this subspecialty. It is desirable that they be full-time members of the Department of Neurology.

II.B.2. The faculty must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities and demonstrate a strong interest in the education of fellows.

II.B.3. The physician faculty must have current certification in the subspecialty by the American Board of Psychiatry and Neurology, or possess qualifications acceptable to the Review Committee.

II.B.4. The physician faculty must possess current medical licensure and appropriate medical staff appointment.

II.B.5. Physician faculty members must participate regularly in clinical discussions, rounds, journal clubs, and research conferences in a manner that promotes a spirit of inquiry and scholarship, including the provision of guidance and technical support for residents involved in research such as research design and statistical analysis, and the provision of support for fellows' participation, as appropriate, in scholarly activities.

II.B.5.a) Scholarship implies an in-depth understanding of basic mechanisms of normal and abnormal states and the application of current knowledge to practice.

II.B.5.b) While not all members of a teaching staff must be investigators, the staff as a whole must demonstrate broad involvement in scholarly activity, and vascular neurology training must be conducted in centers where there is research in vascular neurology.

II.B.5.c) The program must include opportunities for the resident to participate in research projects and scholarly work relating to the field of vascular neurology.

II.B.6. Faculty members must demonstrate sound clinical and teaching abilities, a commitment to their own continuing medical education, and participation in scholarly activities.

II.B.7. Appropriate expertise in the areas defined in Section Int.D., above, must be present among the program director and the faculty. The Review Committee recognizes that expertise in stroke is available from physicians Board-certified in many medical specialties, particularly in physical medicine and rehabilitation, cardiology, neurological surgery,

vascular surgery, and psychiatry, and actively encourages multidisciplinary cooperation in the training of residents.

II.B.8. Faculty members shall devote sufficient time to the program to ensure adequate clinical training of the fellows in vascular neurology and will be primarily involved in direction of fellows in the program.

II.B.9. A member of the teaching staff of each participating site must be designated by the program director to assume responsibility for the day-to-day activities of the program at that site, with overall coordination by the program director.

II.B.10. Other Teaching Staff

Faculty members with suitable training and experience from other disciplines should be included in the teaching program.

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 fellow education, as defined in the specialty program requirements.

II.D.1. Patient Population

There must be an adequate number and variety of patients in both inpatient and outpatient settings to expose residents to the broad spectrum of vascular diseases of the brain.

II.D.1.a) Inpatient experience should include evaluation of a substantial number of stroke patients, no more than 50% of which should be hemorrhagic strokes.

II.D.1.b) Outpatient experience should include management of at least 50 patients for whom the resident is the primary physician under supervision of a faculty member.

II.D.2. Facilities

Vascular neurology shall be within the Department or Division of Neurology and have facilities adequate for the educational program. There must be adequate space and equipment for the educational program, including meeting rooms, classrooms with audiovisual and other educational aids, office space for staff and fellows, pertinent library materials, and diagnostic, therapeutic and research facilities.

II.D.3. Library

II.D.3.a) Fellows must have ready access to a major medical library, either at the institution where the residents are located or through arrangement with convenient nearby institutions.

II.D.3.b) There must be access to an on-site library or to a collection of appropriate texts and journals in each institution participating in the program. On-site libraries and/or collections of texts and journals must be readily available during nights and weekends.

II.E. Medical Information Access

Fellows 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. Fellow Appointments

III.A. Eligibility Criteria

Each fellow must successfully complete an ACGME-accredited specialty program and/or meet other eligibility criteria as specified by the Review Committee. The program must document that each fellow has met the eligibility criteria.

III.B. Number of Fellows

The program director may not appoint more fellows 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 fellows appointed to the program.

IV. Educational Program

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

IV.A.1. Skills and competencies the fellow will be able to demonstrate at the conclusion of the program. The program must distribute these skills and competencies to fellows and faculty annually, in either written or electronic form. These skills and competencies should be reviewed by the fellow at the start of each rotation;

IV.A.2. ACGME Competencies

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

IV.A.2.a) Patient Care

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

IV.A.2.b) Medical Knowledge

Fellows 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.

IV.A.2.c) Practice-based Learning and Improvement

Fellows are expected to develop skills and habits to be able to meet the following goals:

IV.A.2.c).(1) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and,

IV.A.2.c).(2) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.

IV.A.2.d) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals.

IV.A.2.e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

IV.A.2.f) Systems-based Practice

Fellows 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.

IV.B. Fellows' Scholarly Activities

IV.C. Curriculum Organization and Fellow Experiences

IV.C.1. Elective time must be available for fellows to pursue individual interests.

IV.C.2. Fellows should make regular patient management rounds with physician

faculty members and these should be supplemented with weekly or bi-weekly teaching rounds during which specific vascular neurology patient management issues are discussed in depth by the faculty.

- IV.C.3. The didactic curriculum must include a monthly didactic teaching conference, journal clubs, pathology meetings, neuroanatomy courses, neuroscience grand rounds related to vascular neurology, and multidisciplinary conferences with neuroradiology, neurological surgery, and neuropathology.
- IV.C.3.a) The following topics must be included:
- IV.C.3.a).(1) fundamental mechanisms of stroke and other nervous system vascular disorders;
- IV.C.3.a).(2) etiopathogenic characterization of stroke and other nervous system vascular disorders;
- IV.C.3.a).(3) clinical manifestations of stroke and other nervous system vascular disorders;
- IV.C.3.a).(4) diagnostic strategies in stroke and other nervous system vascular disorders;
- IV.C.3.a).(5) treatment strategies in stroke and other nervous system vascular disorders; and,
- IV.C.3.a).(6) epidemiologic issues.
- IV.D. Seminars and Conferences
- The section of vascular neurology must conduct seminars and conferences that include:
- IV.D.1. formal lectures and teaching conferences in vascular neurology on a schedule that will allow the program to cover all of the topics listed under Section Int.C.; and,
- IV.D.2. a monthly didactic teaching conference organized by the faculty on topics that cover the scope of vascular neurology as outlined in Section Int.C. of this document.
- IV.D.2.a) The monthly conference should be supplemented by journal clubs, pathology meetings, neuroanatomy courses, neuroscience grand rounds related to vascular neurology and multidisciplinary conferences with neuroradiology, neurological surgery, and neuropathology.
- IV.E. Teaching and Supervision
- IV.E.1. Supervisory faculty and staff members must be available on a full-time

basis. There must be a 1:1 faculty-to-fellow ratio.

IV.E.2. Clinical Science

Fellows must have instruction and practical experience to foster the development of diagnostic, procedural, technical, and interventional skills essential to the practice of vascular neurology, including:

- IV.E.2.a) opportunities to observe, evaluate, and manage patients of all ages with a wide variety of disorders of the cerebrovascular and nervous systems;
- IV.E.2.b) learning about the effectiveness of procedures to manage stroke;
- IV.E.2.c) participating in clinical experiences that provide for basic and advanced training and education, as well as professional development;
- IV.E.2.d) acquiring systems-based skills that include working in outpatient and inpatient settings and effectively utilizing health care resources, including pathology and radiology services;
- IV.E.2.e) participating in problem-based learning that includes experience in the areas critical to vascular neurology as outlined in Section Int.A.;
- IV.E.2.f) developing and executing plans for evaluation and treatment, including the appropriate technical skills for the non-invasive management of stroke patients;
- IV.E.2.f).(1) These skills must include familiarity with the indications for intubation, extubation/weaning and the general principles of respirator management, and the placement of catheters for the supportive care and pharmacological treatment of strokes.
- IV.E.2.g) opportunities to formulate a clinical diagnosis and to order and use laboratory data to clinically evaluate a patient's condition and to support outpatient and inpatient diagnostic evaluations; and,
- IV.E.2.h) progressive experience for training as outlined in Section Int.D. that includes caring for a sufficient number of stroke patients to achieve competence in the assessment of patients with a wide range of vascular neurology disorders.
- IV.E.3. Fellows must be provided with an advanced and extensive background in those basic sciences on which vascular neurology is founded.
- IV.E.3.a) In particular, the basic science program must include neuroepidemiology, neuroanatomy, neuropharmacology, neuropathology, and neurobiology, as well as mechanisms of

atherosclerosis and coagulation.

- IV.E.3.b) Didactic lectures and seminars must include the basic neurological sciences as they pertain to stroke.
- IV.E.4. The program director must ensure an adequate number and variety of patients to provide a sound educational program. Particular attention should be given to achieving a balance in the age and gender of patients, in patients with short-term and long-term neurological problems, as well as in the number of inpatients and outpatients.
- IV.E.5. Faculty/Fellow Ratio
- There must be a ratio of at least one vascular neurology faculty member for each vascular neurology fellow.
- IV.E.5.a) Faculty members must demonstrate diverse interests and skills to contribute to the depth and breadth of training necessary to fulfill the program requirements, to ensure adequate clinical experience for residents, and to provide for an educational environment that supports seminars, conferences, and reliable supervision of residents.
- IV.F. Diagnostic Skills
- IV.F.1. Fellows must learn how to integrate information obtained from patient history, physical examination, imaging study results, and biochemical and molecular tests results to arrive at an accurate and timely diagnosis and treatment plan.
- IV.F.2. Fellows are required to learn about the indications for and potential limitations of diagnostic tests and to interpret the results in the context of the clinical situation.
- IV.F.2.a) These diagnostic tests must include the following imaging studies:
- IV.F.2.a).(1) cranial and spinal MRIs and CTs;
- IV.F.2.a).(2) magnetic resonance imaging;
- IV.F.2.a).(3) cerebral angiography;
- IV.F.2.a).(4) carotid and cranial doppler studies;
- IV.F.2.a).(5) single photon emission tomography (SPECT); and,
- IV.F.2.a).(6) photon emission tomography (PET).
- IV.F.3. Fellows must learn the appropriate biochemical and molecular testing for strokes in patients of different age groups.

IV.F.4. Fellows should learn the temporal profile of the clinical, biochemical, and radiological changes that accompany vascular insults of the nervous system.

IV.F.5. The acquisition of the diagnostic skill must be provided by clinical assignments that provide a progressive increase in responsibility for patient care with direct supervision by a faculty or staff member.

IV.G. Subspecialty Experience

While a wide range of clinical experience is mandatory, each fellow should have extensive experience in one or more areas of vascular neurology. Clinical assignments need not be identical for each resident. Subspecialty experience should accommodate individual interests.

IV.H. Fellow Responsibility for Teaching

Fellow education in vascular neurology is reinforced by teaching the discipline to other residents in neurology and other disciplines, and to medical students, nurses, and other health care personnel. Fellows must be given this opportunity.

IV.H.1. Each fellow must be given an active role in the education of neurology residents in which the section resides.

V. Evaluation

V.A. Fellow Evaluation

V.A.1. Formative Evaluation

V.A.1.a) **The faculty must evaluate fellow performance in a timely manner.**

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) **provide each fellow with documented semiannual evaluation of performance with feedback;**

V.A.1.b).(4) **at least semiannually evaluate the knowledge, skills, and professional growth of the fellows, using appropriate criteria and procedures; and,**

- V.A.1.b).(5) communicate each evaluation to the fellow in a timely manner.
- V.A.1.c) **The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy.**
- V.A.2. **Summative Evaluation**
- The program director must provide a summative evaluation for each fellow upon completion of the program. This evaluation must become part of the fellow's permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy. This evaluation must:**
- V.A.2.a) document the fellow's performance during their education, and
- V.A.2.b) verify that the fellow 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.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) fellow performance, and
- V.C.1.b) faculty development
- 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 by the teaching faculty and documented in meeting minutes.**
- V.C.3. The teaching staff must be organized and have regular documented meetings to review program goals and objectives as well as program effectiveness in achieving them. At least one fellow representative must participate in these reviews.
- V.C.4. The teaching staff must periodically evaluate the utilization of the resources available to the program, the contribution of each institution

participating in the program, the financial and administrative support of the program, the volume and variety of patients available to the program for educational purposes, the evaluation, and the quality of supervision of fellows.

- V.C.5. The quality of the curriculum and the extent to which the educational goals have been met by fellows must be assessed.
- V.C.6. Written confidential evaluations by fellows must be utilized in this process.
- V.D. Use of Board Examinations

One measure of the quality of a program is the proportion of its graduates who take the examination in vascular neurology provided by the American Board of Psychiatry and Neurology, as well as their performance on those examinations.

VI. Fellow Duty Hours in the Learning and Working Environment

VI.A. Professionalism, Personal Responsibility, and Patient Safety

- VI.A.1. Programs and sponsoring institutions must educate fellows and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.**
- VI.A.2. The program must be committed to and responsible for promoting patient safety and fellow well-being in a supportive educational environment.**
- VI.A.3. The program director must ensure that fellows are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.**
- VI.A.4. The learning objectives of the program must:**
 - VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,**
 - VI.A.4.b) not be compromised by excessive reliance on fellows to fulfill non-physician service obligations.**
- VI.A.5. The program director and sponsoring institution must ensure a culture of professionalism that supports patient safety and personal responsibility. Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:**
 - VI.A.5.a) assurance of the safety and welfare of patients entrusted to their care;**

- VI.A.5.b) provision of patient- and family-centered care;
- VI.A.5.c) assurance of their fitness for duty;
- VI.A.5.d) management of their time before, during, and after clinical assignments;
- VI.A.5.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;
- VI.A.5.f) attention to lifelong learning;
- VI.A.5.g) the monitoring of their patient care performance improvement indicators; and,
- VI.A.5.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.

VI.A.6. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.

VI.B. Transitions of Care

- VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.
- VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.
- VI.B.3. Programs must ensure that fellows are competent in communicating with team members in the hand-over process.
- VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and fellows currently responsible for each patient's care.

VI.C. Alertness Management/Fatigue Mitigation

- VI.C.1. The program must:
 - VI.C.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation;
 - VI.C.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and,
 - VI.C.1.c) adopt fatigue mitigation processes to manage the potential

negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

VI.C.2. Each program must have a process to ensure continuity of patient care in the event that a fellow may be unable to perform his/her patient care duties.

VI.C.3. The sponsoring institution must provide adequate sleep facilities and/or safe transportation options for fellows who may be too fatigued to safely return home.

VI.D. Supervision of Fellows

VI.D.1. In the clinical learning environment, each patient must have an identifiable, appropriately-credentialed and privileged attending physician (or licensed independent practitioner as approved by each Review Committee) who is ultimately responsible for that patient's care.

VI.D.1.a) This information should be available to fellows, faculty members, and patients.

VI.D.1.b) Fellows and faculty members should inform patients of their respective roles in each patient's care.

VI.D.2. The program must demonstrate that the appropriate level of supervision is in place for all fellows who care for patients.

Supervision may be exercised through a variety of methods. Some activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or fellow physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback as to the appropriateness of that care.

VI.D.3. Levels of Supervision

To ensure oversight of fellow supervision and graded authority and responsibility, the program must use the following classification of supervision:

VI.D.3.a) Direct Supervision – the supervising physician is physically present with the fellow and patient.

VI.D.3.b) Indirect Supervision:

VI.D.3.b).(1) with direct supervision immediately available – the

supervising physician is physically within the hospital or other site of patient care, and is immediately available to provide Direct Supervision.

VI.D.3.b).(2)

with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.

VI.D.3.c)

Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.

VI.D.4.

The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each fellow must be assigned by the program director and faculty members.

VI.D.4.a)

The program director must evaluate each fellow’s abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.

VI.D.4.b)

Faculty members functioning as supervising physicians should delegate portions of care to fellows, based on the needs of the patient and the skills of the fellows.

VI.D.4.c)

Fellows should serve in a supervisory role of residents or junior fellows in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual fellow.

VI.D.5.

Programs must set guidelines for circumstances and events in which fellows must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.

VI.D.5.a)

Each fellow must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.

VI.D.6.

Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each fellow and delegate to him/her the appropriate level of patient care authority and responsibility.

VI.E.

Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY-level, patient safety, fellow education, severity and complexity of patient

illness/condition and available support services.

VI.F. Teamwork

Fellows must care for patients in an environment that maximizes effective communication. This must include the opportunity to work as a member of effective interprofessional teams that are appropriate to the delivery of care in the specialty.

VI.G. Fellow Duty Hours

VI.G.1. Maximum Hours of Work per Week

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

VI.G.1.a) Duty Hour 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.a).(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.1.a).(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.2. Moonlighting

VI.G.2.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.

VI.G.2.b) Time spent by fellows in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.

VI.G.3. Mandatory Time Free of Duty

Fellows must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.

VI.G.4. Maximum Duty Period Length

Duty periods of fellows may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage

fellows to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.

VI.G.4.a) It is essential for patient safety and fellow education that effective transitions in care occur. Fellows may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.

VI.G.4.b) Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.c) In unusual circumstances, fellows, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.

VI.G.4.c).(1) Under those circumstances, the fellow must:

VI.G.4.c).(1).(a) appropriately hand over the care of all other patients to the team responsible for their continuing care; and,

VI.G.4.c).(1).(b) document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.

VI.G.4.c).(2) The program director must review each submission of additional service, and track both individual fellow and program-wide episodes of additional duty.

VI.G.5. Minimum Time Off between Scheduled Duty Periods

VI.G.5.a) Fellows must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

Vascular neurology fellows are considered to be in the final years of education.

VI.G.5.a).(1) This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that fellows have eight hours free of duty between scheduled duty periods, there may be circumstances

when these fellows must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.

VI.G.5.a).(1).(a)

Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by fellows must be monitored by the program director.

VI.G.5.a).(1).(b)

The Review Committee defines such circumstances as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the fellow has been involved; events of exceptional educational value; or, humanistic attention to the needs of a patient or family.

VI.G.6.

Maximum Frequency of In-House Night Float

Fellows must not be scheduled for more than six consecutive nights of night float.

VI.G.7.

Maximum In-House On-Call Frequency

Fellows must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

VI.G.8.

At-Home Call

VI.G.8.a)

Time spent in the hospital by fellows on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.

VI.G.8.a).(1)

At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each fellow.

VI.G.8.b)

Fellows are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.

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