ACGME Program Requirements for
Graduate Medical Education
in Endovascular Surgical Neuroradiology
(Child Neurology, Diagnostic Radiology, Neurological Surgery, or Neurology)

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One-year Common Program Requirements are in BOLD

Where applicable, text in italics describes the underlying philosophy of the requirements in that section. These philosophic statements are not program requirements and are therefore not citable.

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. Definitions and Scope of the Specialty

Int.B.1. Endovascular surgical neuroradiology is a subspecialty that uses minimally invasive catheter-based technology, radiologic imaging, and clinical expertise to diagnose and treat diseases of the central nervous system, head, neck, and spine. The unique clinical and invasive nature of this subspecialty requires special training and skills.

Int.B.2. In this subspecialty, the objective of training is to give fellows an organized, comprehensive, supervised, and full time educational experience in endovascular surgical neuroradiology.

Int.C. Duration and Scope of Education

Int.C.1. The program shall offer one year of graduate medical education in
Training in endovascular surgical neuroradiology must be conducted in an environment conducive to investigative studies of a clinical or basic science nature. (Core)

A program in endovascular surgical neuroradiology must be jointly administered by programs in neurological surgery, diagnostic radiology, neuroradiology, and child neurology or neurology which are accredited by the Accreditation Council for Graduate Medical Education (ACGME); these programs must be present within the same institution. (Core)

Exceptions to this requirement will be subject to the review and approval, on a case-by-case basis, by the Review Committees for Neurological Surgery, Neurology, and Diagnostic Radiology. The endovascular surgical neuroradiology program is not intended to replace or duplicate the ACGME-accredited program in neuroradiology.

Sponsorship of the program must be in compliance with the policy detailed in section 15.00 of the ACGME Manual of Policies and Procedures. (Core)

Institutions

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. (Core)

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. (Core)

The program director must have adequate support from the institution and the radiology, neurological surgery, and child neurology or neurology departments to carry out the mission of the program. (Core)

Participating Sites

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. (Core)

The PLA should:

identify the faculty who will assume both educational and supervisory responsibilities for fellows; (Detail)

specify their responsibilities for teaching, supervision, and
formal evaluation of fellows, as specified later in this document; (Detail)

I.B.1.c) specify the duration and content of the educational experience; and, (Detail)

I.B.1.d) state the policies and procedures that will govern fellow education during the assignment. (Detail)

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). (Core)

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. (Core)

II.A.1.a) The program director must submit this change to the ACGME via the ADS. (Core)

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; (Core)

II.A.2.b) current certification in the subspecialty by the American Board of Radiology, the American Board of Neurological Surgery, or the American Board of Psychiatry and Neurology, or subspecialty qualifications that are acceptable to the Review Committee; (Core)

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

II.A.2.d) special expertise in endovascular surgical neuroradiology techniques; (Core)

II.A.2.d).(1) The program director must concentrate at least 50% of his or her practice in endovascular surgical neuroradiology therapy. (Core)

II.A.2.e) appointment by and responsibility to the program director of the core program; and, (Core)
II.A.2.f) appointment to the teaching staff in the departments of radiology, neurological surgery, and child neurology or neurology. (Core)

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. (Core)
The program director must:

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

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; (Detail)

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

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

II.A.3.c).(2) changes in fellow complement; (Detail)

II.A.3.c).(3) major changes in program structure or length of training; (Detail)

II.A.3.c).(4) progress reports requested by the Review Committee; (Detail)

II.A.3.c).(5) requests for increases or any change to fellow duty hours; (Detail)

II.A.3.c).(6) voluntary withdrawals of ACGME-accredited programs; (Detail)

II.A.3.c).(7) requests for appeal of an adverse action; and, (Detail)

II.A.3.c).(8) appeal presentations to a Board of Appeal or the ACGME. (Detail)

II.A.3.d) obtain DIO review and co-signature on all program application forms, as well as any correspondence or document submitted to the ACGME that addresses:

II.A.3.d).(1) program citations, and/or, (Detail)

II.A.3.d).(2) request for changes in the program that would have significant impact, including financial, on the program or institution, (Detail)
II.A.3.e) devote sufficient time to the program to fulfill all the responsibilities inherent in meeting its educational goals; (Detail)

II.A.3.f) review the fellow’s personal case log on a quarterly basis. At the completion of training, the program director must submit the entire clinical experience of the endovascular surgical neuroradiology program and the fellows in the format prescribed by the Review Committee. The list of procedures and the logs must be made available to the Review Committee at the time of its review of the core program and the endovascular surgical neuroradiology program; (Core)

II.A.3.g) along with faculty, organize formal teaching conferences specifically developed for the fellows; (Core)

II.A.3.g).(1) Teaching conferences must be held at least once a week to allow discussion of topics selected to broaden knowledge in the field of endovascular surgical neuroradiology. (Detail)

II.A.3.g).(2) Specifically, teaching conferences should embrace the scope of endovascular surgical neuroradiology as outlined in the Introduction (Definitions and Scope) and IV (Educational Program) of these Program Requirements; (Core)

II.A.3.h) ensure protected didactic and interactive conference time, including interdepartmental meetings with neurosurgeons, neuroradiologists, and neurologists; (Core)

II.A.3.i) ensure that journal club should meet on a regular basis to discuss innovations in endovascular surgical neuroradiology; and, (Core)

II.A.3.i).(1) Each fellow should attend and actively participate in interdepartmental meetings and conferences with neuroradiology, neurological surgery, child neurology or neurology, and neuropathology. (Detail)

II.A.3.j) ensure that regular review of all mortality and morbidity related to the performance of endovascular surgical neuroradiology procedures are documented. Fellows must participate actively in these reviews, which should be held at least monthly. (Core)

II.A.3.j).(1) Fellows should be encouraged to attend and participate in local extramural conferences and should attend at least one national meeting or postgraduate course in endovascular surgical neuroradiology therapy while in training. (Detail)

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

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. (Core)

II.B.2.a) The faculty-to-fellow ratio must be at least one full-time equivalent faculty person for every fellow enrolled in the program. (Core)

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

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

II.B.4.a) The physician faculty must be appointed in good standing to the staff of an institution participating in the program. (Core)

II.B.4.b) The physician faculty must concentrate at least 50% of their practice in endovascular surgical neuroradiology therapy. (Core)

II.B.4.c) The physician faculty should hold primary and/or joint appointments in the departments of radiology, neurological surgery, and child neurology or neurology departments. (Detail)

II.B.4.d) The physician faculty must provide didactic teaching and direct supervision of fellows' performance in clinical patient management and in the procedural, interpretive, and consultative aspects of endovascular surgical neuroradiology therapy. (Core)

II.B.4.e) In addition to the program director, the physician faculty must include at least one full-time member with expertise in endovascular surgical neuroradiology techniques. (Core)

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. (Core)

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. (Core)

II.D.1. Equipment and Facilities
II.D.1.a) Modern imaging/procedure rooms and equipment must be available and must permit the performance of all endovascular surgical neuroradiology procedures. Rooms in which endovascular surgical neuroradiology procedures are performed should be equipped with physiological monitoring and resuscitative equipment. The following state-of-the-art equipment must be available: MRI scanner equipped with high speed gradients, CT scanner (multi-detector) capable of CT angiography and CT Perfusion, biplane digital subtraction angiography, ultrasound, and a radiographic-fluoroscopic room (s). (Core)

II.D.1.b) Facilities for storing catheters, guidewires, contrast materials, embolic agents, and other supplies must be adjacent to or within procedure rooms. There must be adequate space and facilities for image display and interpretation and for consultation with other clinicians. (Core)

II.D.1.c) The sites where endovascular surgical neuroradiology training is conducted must include appropriate inpatient, outpatient, emergency, and intensive care facilities for direct fellow involvement in providing comprehensive endovascular surgical neuroradiology care. (Core)

II.D.1.d) The institution should provide laboratory facilities to support research projects pertinent to endovascular therapies. (Detail)

II.D.2. In order to ensure adequate training, the institution’s patient population must have a diversity of illnesses from which broad experience in endovascular surgical neuroradiology therapy can be obtained. The case material should encompass a range of diseases, including: (Core)

II.D.2.a) aneurysms; (Core)

II.D.2.b) arteriovenous malformation; (Core)

II.D.2.c) atherosclerotic disease of the cervical vessels; (Core)

II.D.2.d) occlusive vascular disease and acute infarction; (Core)

II.D.2.e) intracranial neoplasms; (Core)

II.D.2.f) vascular anomalies of the head and neck; (Core)

II.D.2.g) neoplasms of the head and neck; (Core)

II.D.2.h) vascular anomalies of the spine; (Core)

II.D.2.i) neoplasms of the spine; and, (Core)

II.D.2.j) traumatic vascular lesions of the CNS, head, neck and spine. (Core)
II.D.3. Interchange with Residents in Other Specialties and Students

Fellows should be encouraged to participate in research activities with residents and staff in other related specialties. (Detail)

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. (Detail)

III. Fellow Appointments

III.A. Eligibility Requirements – Fellowship Programs

All required clinical education for entry into ACGME-accredited fellowship programs must be completed in an ACGME-accredited residency program, or in an RCPSC-accredited or CFPC-accredited residency program located in Canada. (Core)

[See Program Requirements III.A.5., III.A.6., III.A.7.]

III.A.1. Fellowship programs must receive verification of each entering fellow’s level of competency in the required field using ACGME or CanMEDS Milestones assessments from the core residency program. (Core)

III.A.1.a) The preliminary year in neuroradiology may be performed in the same institution as the endovascular surgical neuroradiology fellowship or in another institution with ACGME-accredited residencies in radiology, neuroradiology, neurological surgery, and neurology. For fellows who obtain preparatory training in another institution, documentation of completion of training must be provided by the neuroradiology program director for that institution. The endovascular surgical neuroradiology program director has the responsibility and authority to assess the adequacy of the preparatory training and to verify that all preliminary training requirements have been fulfilled. (Detail)

III.A.2. Fellow Eligibility Exception

A Review Committee may grant the following exception to the fellowship eligibility requirements:

An ACGME-accredited fellowship program may accept an exceptionally qualified applicant**, who does not satisfy the eligibility requirements listed in Sections III.A. and III.A.1., but who does meet all of the following additional qualifications and conditions: (Core)
III.A.2.a) Assessment by the program director and fellowship selection committee of the applicant's suitability to enter the program, based on prior training and review of the summative evaluations of training in the core specialty; and (Core)

III.A.2.b) Review and approval of the applicant's exceptional qualifications by the GMEC or a subcommittee of the GMEC; and (Core)

III.A.2.c) Satisfactory completion of the United States Medical Licensing Examination (USMLE) Steps 1, 2, and, if the applicant is eligible, 3, and; (Core)

III.A.2.d) For an international graduate, verification of Educational Commission for Foreign Medical Graduates (ECFMG) certification; and, (Core)

III.A.2.e) Applicants accepted by this exception must complete fellowship Milestones evaluation (for the purposes of establishment of baseline performance by the Clinical Competency Committee), conducted by the receiving fellowship program within six weeks of matriculation. This evaluation may be waived for an applicant who has completed an ACGME International-accredited residency based on the applicant’s Milestones evaluation conducted at the conclusion of the residency program. (Core)

III.A.2.e).(1) If the trainee does not meet the expected level of Milestones competency following entry into the fellowship program, the trainee must undergo a period of remediation, overseen by the Clinical Competency Committee and monitored by the GMEC or a subcommittee of the GMEC. This period of remediation must not count toward time in fellowship training. (Core)

** An exceptionally qualified applicant has (1) completed a non-ACGME-accredited residency program in the core specialty, and (2) demonstrated clinical excellence, in comparison to peers, throughout training. Additional evidence of exceptional qualifications is required, which may include one of the following: (a) participation in additional clinical or research training in the specialty or subspecialty; (b) demonstrated scholarship in the specialty or subspecialty; (c) demonstrated leadership during or after residency training; (d) completion of an ACGME-International-accredited residency program.

III.A.3. The Review Committee for Diagnostic Radiology does allow exceptions to the Eligibility Requirements for Fellowship Programs in Section III.A. (Core)
III.A.4. The Review Committees for Neurological Surgery and Neurology do not allow exceptions to the Eligibility Requirements for Fellowship Programs in Section III.A. (Core)

III.A.5. Fellows entering from radiology should have:

III.A.5.a) completed an ACGME-accredited residency in diagnostic radiology or an RCPSC-accredited residency in diagnostic radiology located in Canada; (Core)

III.A.5.b) completed an ACGME-accredited fellowship (subspecialty residency) in neuroradiology or an RCPSC-accredited fellowship in neuroradiology located in Canada; (Core)

III.A.5.c) performed and interpreted a minimum of 100 diagnostic neuroangiograms under the supervision of a qualified physician (a board-certified radiologist, interventional neuroradiologist, endovascular neurosurgeon or interventional neurologist with appropriate training); and, (Core)

III.A.5.d) completed six months’ training in neurologic surgery, vascular neurology, and neurointensive care, during which the fellow will become proficient in the outpatient evaluation and care of pre- and post-procedure endovascular patients, as well as in the management of patients in the neurointensive care environment. (Core)

III.A.5.d).(1) This may be completed during the radiology residency. (Detail)

III.A.6. Fellows entering from neurological surgery should have:

III.A.6.a) completed an ACGME-accredited residency in neurological surgery; and, (Core)

III.A.6.b) completed a preparatory year of neuroradiology training which provides education and clinical experience. The preparatory year may occur during the neurological surgery residency and should include; (Core)

III.A.6.b).(1) a course in basic radiographic skills, including radiation physics, radiation biology, and radiation protection; and the pharmacology of radiographic contrast materials acceptable to the program director where the neuroradiology training will occur; (Core)

III.A.6.b).(2) performing and interpreting a minimum of 100 diagnostic neuroangiograms under the supervision of a qualified physician (a Board-certified radiologist, interventional neuroradiologist, endovascular neurosurgeon, or interventional neurologist with appropriate training); (Core)
III.A.6.b).(3) the use of needles, catheters, guidewires and angiographic devices and materials; (Core)

III.A.6.b).(4) recognition and management of complication of angiographic procedures; and, (Core)

III.A.6.b).(5) understanding the fundamentals of non-invasive neurovascular imaging studies pertinent to the practice of endovascular surgical neuroradiology, including CT/CTA, MR/MRA and sonography of neurovascular diseases. (Core)

III.A.7. Fellows entering from neurology should have:

III.A.7.a) completed an ACGME-accredited residency in child neurology or neurology or an RCPSC-accredited residency in child neurology or neurology located in Canada; (Core)

III.A.7.b) completed an ACGME-accredited one-year vascular/stroke neurology program or an RCPSC-accredited one-year vascular/stroke neurology program located in Canada that includes at least three months of neuro-intensive care; (Core)

III.A.7.c) completed three months of clinical experience within an ACGME-accredited neurological surgery program an RCPSC-accredited neurological surgery program located in Canada; (Core)

III.A.7.d) completed a preparatory year of neuroradiology training, which provides education and clinical experience that includes: (Core)

III.A.7.d).(1) a course in basic radiographic skills, including radiation physics, radiation biology, and radiation protection; and the pharmacology of radiographic contrast materials acceptable to the program director where the neuroradiology training will occur; (Core)

III.A.7.d).(2) performing and interpreting a minimum of 100 diagnostic neuroangiograms under the supervision of a qualified physician (Board-certified neuroradiologist, interventional neuroradiologist, endovascular neurosurgeon, or intervening neurologist with appropriate training); (Core)

III.A.7.d).(3) instruction in the use of needles, catheters, guidewires and angiographic devices and materials; (Core)

III.A.7.d).(4) recognition and management of complication of angiographic procedures; and, (Core)

III.A.7.d).(5) understanding the fundamentals of non-invasive neurovascular imaging studies pertinent to the practice of endovascular surgical neuroradiology, including CT/CTA,
MR/MRA and sonography of neurovascular diseases. (Core)

III.B. Number of Fellows

The program’s educational resources must be adequate to support the number of fellows appointed to the program. (Core)

III.B.1. The program director may not appoint more fellows than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. (Core)

III.B.2. Faculty-to-Fellow Ratio

The total number of fellows in the program must be commensurate with the capacity of the program to offer an adequate educational experience in endovascular surgical neuroradiology therapy. (Detail)

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 at least annually, in either written or electronic form. (Core)

IV.A.1.a) Clinical training must consist of a period of 12 continuous months in endovascular surgical neuroradiology under close supervision. (Core)

IV.A.1.b) The program must include training and experience in the following:

IV.A.1.b).(1) signs and symptoms of disorders amenable to diagnosis and treatment by endovascular surgical neuroradiology techniques; (Core)

IV.A.1.b).(2) physical examinations to evaluate patients with neurological disorders; (Core)

IV.A.1.b).(3) pathophysiology and natural history of these disorders; (Core)

IV.A.1.b).(4) indications for and contraindications to endovascular surgical neuroradiology procedures; (Core)

IV.A.1.b).(5) clinical and technical aspects of endovascular surgical neuroradiology procedures; (Core)

IV.A.1.b).(6) medical and surgical alternatives; (Core)
IV.A.1.b).(7) preoperative and postoperative management of endovascular patients; (Core)

IV.A.1.b).(8) neurointensive care management; (Core)

IV.A.1.b).(9) fundamentals of imaging physics and radiation biology; and, (Core)

IV.A.1.b).(10) interpretation of neuroangiographic studies pertinent to the practice. (Core)

IV.A.1.c) Fellows must attend and participate in clinical conferences. (Core)

IV.A.1.c).(1) It is desirable that they participate in the clinical teaching of neurological surgery, and of radiology fellows and medical students. (Detail)

IV.A.1.d) Fellows must have experience in didactic and clinical experiences that encompass the full clinical spectrum of endovascular surgical neuroradiology therapy. (Core)

IV.A.1.d).(1) The program in endovascular surgical neuroradiology must not have an adverse impact on the educational experience of diagnostic radiology, neuroradiology, neurological surgery, or neurology fellows in the same institution. (Detail)

IV.A.1.e) Fellows must make daily rounds with the endovascular surgical neuroradiology faculty members during which patient management decisions are discussed and made. (Core)

IV.A.1.f) Fellows must have adequate training and experience in invasive functional testing. (Detail)

IV.A.1.g) Direct interactions of fellows with patients must be closely observed to ensure that appropriate standards of care and concern for patient welfare are strictly maintained. Communication, consultation, and coordination of care with the referring clinical staff and clinical services must be maintained and documented with appropriate notes in the medical record. (Detail)

IV.A.2. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum: (Core)

IV.A.2.a) Patient Care and Procedural Skills

IV.A.2.a).(1) 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. Fellows: (Outcome)
IV.A.2.a).(1).(a) must demonstrate competence as consultants under the supervision of staff endovascular surgical neuroradiology practitioners. (Outcome)

IV.A.2.a).(2) Fellows must be able to competently perform all medical, diagnostic and surgical procedures considered essential for the area of practice. Fellows: must participate in and demonstrate competence in:

IV.A.2.a).(2).(a) personally performing and analyzing a broad spectrum of endovascular procedures. (Outcome)

IV.A.2.a).(2).(a).(i) Fellows must perform a minimum of 100 therapeutic endovascular procedures; (Outcome)

IV.A.2.a).(2).(b) the management of patients with neurological disease, the performance of endovascular surgical neuroradiology procedures, and the integration of endovascular surgical neuroradiology therapy into the clinical management of patient (Outcome)

IV.A.2.a).(2).(c) performing clinical preprocedure evaluations of patients, and their preliminary diagnostic studies, and consulting with clinicians on other services; (Outcome)

IV.A.2.a).(2).(d) performing diagnostic and therapeutic endovascular surgical neuroradiology procedures; (Outcome)

IV.A.2.a).(2).(e) generating procedural reports; and, (Outcome)

IV.A.2.a).(2).(f) providing short-term and long-term post-procedure follow-up care, including neurointensive care. The continuity of care must be of sufficient duration to ensure that the fellow is familiar with the outcome of all endovascular surgical neuroradiology procedures. (Outcome)

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. Fellows: (Outcome)

IV.A.2.b).(1) must demonstrate competence in their knowledge of the
following didactic component areas:

IV.A.2.b).(1).(a) anatomical and physiologic basic knowledge, including: (Outcome)

IV.A.2.b).(1).(a).(i) arterial and venous angiographic anatomy of the brain, spine, spinal cord, and head and neck, including: (Outcome)

IV.A.2.b).(1).(a).(i).(a) collateral circulation; (Outcome)

IV.A.2.b).(1).(a).(i).(b) dangerous anastomosis; (Outcome)

IV.A.2.b).(1).(a).(i).(c) cerebral blood flow; (Outcome)

IV.A.2.b).(1).(a).(i).(d) autoregulation; (Outcome)

IV.A.2.b).(1).(a).(i).(e) variants of anatomy; and, (Outcome)

IV.A.2.b).(1).(a).(i).(f) vascular distributions and supply/drainage. (Outcome)

IV.A.2.b).(1).(a).(ii) related bony and soft tissue anatomy and physiology, including: (Outcome)

IV.A.2.b).(1).(a).(ii).(a) vertebral, face, and skull bony anatomy; (Outcome)

IV.A.2.b).(1).(a).(ii).(b) brain, neck, face, and spine soft tissue anatomy and physiology; and, (Outcome)

IV.A.2.b).(1).(a).(ii).(c) ligamentous, articular and muscular anatomy. (Outcome)

IV.A.2.b).(1).(b) pharmacology of the CNS and vasculature and relevant brain physiology, including: (Outcome)

IV.A.2.b).(1).(b).(i) vasodilators and constrictors; (Outcome)

IV.A.2.b).(1).(b).(ii) agents used in provocative testing; (Outcome)

IV.A.2.b).(1).(b).(iii) contrast agents; (Outcome)

IV.A.2.b).(1).(b).(iv) coagulation cascade; (Outcome)

IV.A.2.b).(1).(b).(iv).(a) anticoagulants; (Outcome)

IV.A.2.b).(1).(b).(iv).(b) antiaggregants; and, (Outcome)

IV.A.2.b).(1).(b).(iv).(c) thrombolytics. (Outcome)
IV.A.2.b).(1).(c) embolic, sclerosing, ablative and bone stabilization agents, including: (Outcome)

IV.A.2.b).(1).(c).(i) blood pressure control; (Outcome)

IV.A.2.b).(1).(c).(ii) heart rate control; (Outcome)

IV.A.2.b).(1).(c).(iii) allergic reaction control; (Outcome)

IV.A.2.b).(1).(c).(iv) infection; and, (Outcome)

IV.A.2.b).(1).(c).(v) stroke risk reduction. (Outcome)

IV.A.2.b).(1).(d) technical aspects of endovascular surgical neuroradiology, including: (Outcome)

IV.A.2.b).(1).(d).(i) catheter and delivery systems; (Outcome)

IV.A.2.b).(1).(d).(ii) embolic, sclerosing and stabilizing agents in cerebral, spinal and head and neck embolization; (Outcome)

IV.A.2.b).(1).(d).(iii) stents, balloons, and revascularization devices; (Outcome)

IV.A.2.b).(1).(d).(iv) flow controlled navigations and embolization; (Outcome)

IV.A.2.b).(1).(d).(v) complications of angiography and embolization; (Outcome)

IV.A.2.b).(1).(d).(vi) collateral network manipulations, flow diversion; (Outcome)

IV.A.2.b).(1).(d).(vii) electrophysiology; (Outcome)

IV.A.2.b).(1).(d).(viii) provocative testing; (Outcome)

IV.A.2.b).(1).(d).(ix) imaging of the vascular system; and, (Outcome)

IV.A.2.b).(1).(d).(x) direct access/therapeutic injection techniques, including biopsy and aspiration. (Outcome)

IV.A.2.b).(2) must demonstrate knowledge of the classification, clinical presentation, imaging appearance, natural history, epidemiology, hemodynamic and physiologic basis for disease and treatment, indications and techniques for treatment, contraindications for treatment, treatment alternatives, combined therapies, risks of treatment, and
complication management for all the disease states listed below: *(Outcome)*

IV.A.2.b).(2).(a) arteriovenous malformations and fistulae; *(Outcome)*

IV.A.2.b).(2).(b) vascular trauma; *(Outcome)*

IV.A.2.b).(2).(c) hemorrhage and epistaxis; *(Outcome)*

IV.A.2.b).(2).(d) stroke and cerebral ischemia; *(Outcome)*

IV.A.2.b).(2).(e) arteriopathies; *(Outcome)*

IV.A.2.b).(2).(f) vertebral fracture and degeneration; *(Outcome)*

IV.A.2.b).(2).(g) tumors; and, *(Outcome)*

IV.A.2.b).(2).(h) other vascular malformations and lesions. *(Outcome)*

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) systemically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and, *(Outcome)*

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

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. *(Outcome)*

IV.A.2.e) Professionalism

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

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. *(Outcome)*
IV.B. Fellows' Scholarly Activities

IV.B.1. The curriculum must advance fellows’ knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care. (Core)

IV.B.2. Fellows should participate in scholarly activity. (Detail)

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

V. Evaluation

V.A. Fellow Evaluation

V.A.1. The program director must appoint the Clinical Competency Committee. (Core)

V.A.1.a) At a minimum the Clinical Competency Committee must be composed of three members of the program faculty. (Core)

V.A.1.a).(1) The program director may appoint additional members of the Clinical Competency Committee.

V.A.1.a).(1).(a) These additional members must be physician faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program’s fellows in patient care and other health care settings. (Core)

V.A.1.a).(1).(b) Chief residents who have completed core residency programs in their specialty and are eligible for specialty board certification may be members of the Clinical Competency Committee. (Core)

V.A.1.b) There must be a written description of the responsibilities of the Clinical Competency Committee. (Core)

V.A.1.b).(1) The Clinical Competency Committee should:

V.A.1.b).(1).(a) review all fellow evaluations semi-annually; (Core)

V.A.1.b).(1).(b) prepare and ensure the reporting of Milestones evaluations of each fellow semi-annually to ACGME; and, (Core)

V.A.1.b).(1).(c) advise the program director regarding fellow
progress, including promotion, remediation, and dismissal.  

V.A.2. Formative Evaluation

V.A.2.a) The faculty must evaluate fellow performance in a timely manner.  

V.A.2.b) The program must:

V.A.2.b).(1) provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific Milestones;  

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

V.A.2.b).(3) provide each fellow with documented semiannual evaluation of performance with feedback.  

V.A.2.c) The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy.  

V.A.2.d) Assessment should include regular evaluation of fellows’ knowledge, skills, and overall performance, including the development of professional attitudes consistent with being a physician. The assessment must include cognitive, motor, and interpersonal skills as well as judgment.  

V.A.2.e) The program director will meet quarterly with the fellows to communicate each evaluation. At this time, procedure logs and performance will be reviewed and each fellow will be provided with feedback.  

V.A.2.e).(1) Fellows will be advanced to positions of higher responsibility only on evidence of their satisfactory progressive scholarship and professional growth.  

V.A.2.e).(2) The program will maintain a permanent record of evaluation for each fellow and have it accessible to the fellow and other authorized personnel.  

V.A.3. Summative Evaluation

V.A.3.a) The specialty-specific Milestones must be used as one of the tools to ensure fellows are able to practice core professional activities without supervision upon completion of the
V.A.3.b) The program director must provide a summative evaluation for each fellow upon completion of the program.

This evaluation must:

V.A.3.b).(1) 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.

V.A.3.b).(2) document the fellow’s performance during their education; and,

V.A.3.b).(3) 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 director must appoint the Program Evaluation Committee (PEC).

V.C.1.a) The Program Evaluation Committee:

V.C.1.a).(1) must be composed of at least two program faculty members and should include at least one fellow;

V.C.1.a).(2) must have a written description of its responsibilities; and,

V.C.1.a).(3) should participate actively in:

V.C.1.a).(3).(a) planning, developing, implementing, and evaluating educational activities of the program;

V.C.1.a).(3).(b) reviewing and making recommendations for revision of competency-based curriculum goals and objectives;
V.C.1.a).(3).(c) addressing areas of non-compliance with ACGME standards; and, (Detail)

V.C.1.a).(3).(d) reviewing the program annually using evaluations of faculty, fellows, and others, as specified below. (Detail)

V.C.2. The program, through the PEC, must document formal, systematic evaluation of the curriculum at least annually, and is responsible for rendering a written, annual program evaluation. (Core)

The program must monitor and track each of the following areas:

V.C.2.a) fellow performance; (Core)

V.C.2.b) faculty development; (Core)

V.C.2.c) progress on the previous year’s action plan(s); and, (Core)

V.C.2.d) the quality of the curriculum and the extent to which the educational goals have been met by fellows. (Core)

V.C.2.d).(1) Written evaluations by fellows should be used in this process. (Detail)

V.C.3. The PEC must prepare a written plan of action to document initiatives to improve performance in one or more of the areas listed in section V.C.2., as well as delineate how they will be measured and monitored. (Core)

V.C.3.a) The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes. (Detail)

VI. The Learning and Working Environment

Fellowship education must occur in the context of a learning and working environment that emphasizes the following principles:

- Excellence in the safety and quality of care rendered to patients by fellows today

- Excellence in the safety and quality of care rendered to patients by today’s fellows in their future practice

- Excellence in professionalism through faculty modeling of:
  - the effacement of self-interest in a humanistic environment that supports the professional development of physicians
  - the joy of curiosity, problem-solving, intellectual rigor, and discovery
VI.A. Patient Safety, Quality Improvement, Supervision, and Accountability

VI.A.1. Patient Safety and Quality Improvement

All physicians share responsibility for promoting patient safety and enhancing quality of patient care. Graduate medical education must prepare fellows to provide the highest level of clinical care with continuous focus on the safety, individual needs, and humanity of their patients. It is the right of each patient to be cared for by fellows who are appropriately supervised; possess the requisite knowledge, skills, and abilities; understand the limits of their knowledge and experience; and seek assistance as required to provide optimal patient care.

Fellows must demonstrate the ability to analyze the care they provide, understand their roles within health care teams, and play an active role in system improvement processes. Graduating fellows will apply these skills to critique their future unsupervised practice and effect quality improvement measures.

It is necessary for fellows and faculty members to consistently work in a well-coordinated manner with other health care professionals to achieve organizational patient safety goals.

VI.A.1.a) Patient Safety

VI.A.1.a).(1) Culture of Safety

A culture of safety requires continuous identification of vulnerabilities and a willingness to transparently deal with them. An effective organization has formal mechanisms to assess the knowledge, skills, and attitudes of its personnel toward safety in order to identify areas for improvement.

VI.A.1.a).(1).(a) The program, its faculty, residents, and fellows must actively participate in patient safety systems and contribute to a culture of safety. (Core)

VI.A.1.a).(1).(b) The program must have a structure that promotes safe, interprofessional, team-based care. (Core)

VI.A.1.a).(2) Education on Patient Safety
Programs must provide formal educational activities that promote patient safety-related goals, tools, and techniques. *(Core)*

**VI.A.1.a).(3)**  
**Patient Safety Events**

*Reporting, investigation, and follow-up of adverse events, near misses, and unsafe conditions are pivotal mechanisms for improving patient safety, and are essential for the success of any patient safety program. Feedback and experiential learning are essential to developing true competence in the ability to identify causes and institute sustainable systems-based changes to ameliorate patient safety vulnerabilities.*

**VI.A.1.a).(3).(a)**  
Residents, fellows, faculty members, and other clinical staff members must:

- **VI.A.1.a).(3).(a).(i)**  
  know their responsibilities in reporting patient safety events at the clinical site; *(Core)*

- **VI.A.1.a).(3).(a).(ii)**  
  know how to report patient safety events, including near misses, at the clinical site; and, *(Core)*

- **VI.A.1.a).(3).(a).(iii)**  
  be provided with summary information of their institution’s patient safety reports. *(Core)*

**VI.A.1.a).(3).(b)**  
Fellows must participate as team members in real and/or simulated interprofessional clinical patient safety activities, such as root cause analyses or other activities that include analysis, as well as formulation and implementation of actions. *(Core)*

**VI.A.1.a).(4)**  
**Fellow Education and Experience in Disclosure of Adverse Events**

*Patient-centered care requires patients, and when appropriate families, to be apprised of clinical situations that affect them, including adverse events. This is an important skill for faculty physicians to model, and for fellows to develop and apply.*

**VI.A.1.a).(4).(a)**  
All fellows must receive training in how to disclose adverse events to patients and families. *(Core)*
VI.A.1.a).(4).(b) Fellows should have the opportunity to participate in the disclosure of patient safety events, real or simulated. (Detail)

VI.A.1.b) Quality Improvement

VI.A.1.b).(1) Education in Quality Improvement

A cohesive model of health care includes quality-related goals, tools, and techniques that are necessary in order for health care professionals to achieve quality improvement goals.

VI.A.1.b).(1).(a) Fellows must receive training and experience in quality improvement processes, including an understanding of health care disparities. (Core)

VI.A.1.b).(2) Quality Metrics

Access to data is essential to prioritizing activities for care improvement and evaluating success of improvement efforts.

VI.A.1.b).(2).(a) Fellows and faculty members must receive data on quality metrics and benchmarks related to their patient populations. (Core)

VI.A.1.b).(3) Engagement in Quality Improvement Activities

Experiential learning is essential to developing the ability to identify and institute sustainable systems-based changes to improve patient care.

VI.A.1.b).(3).(a) Fellows must have the opportunity to participate in interprofessional quality improvement activities. (Core)

VI.A.1.b).(3).(a).(i) This should include activities aimed at reducing health care disparities. (Detail)

VI.A.2. Supervision and Accountability

VI.A.2.a) Although the attending physician is ultimately responsible for the care of the patient, every physician shares in the responsibility and accountability for their efforts in the provision of care. Effective programs, in partnership with their Sponsoring Institutions, define, widely communicate, and monitor a structured chain of responsibility and accountability as it relates to the supervision of all patient care.
Supervision in the setting of graduate medical education provides safe and effective care to patients; ensures each fellow’s development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishes a foundation for continued professional growth.

VI.A.2.a).(1) Each patient must have an identifiable and appropriately-credentialed and privileged attending physician (or licensed independent practitioner as specified by the applicable Review Committee) who is responsible and accountable for the patient’s care. (Core)

VI.A.2.a).(1).(a) This information must be available to fellows, faculty members, other members of the health care team, and patients. (Core)

VI.A.2.a).(1).(b) Fellows and faculty members must inform each patient of their respective roles in that patient’s care when providing direct patient care. (Core)

VI.A.2.b) Supervision may be exercised through a variety of methods. 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 on site or by means of telephonic and/or electronic modalities. Some activities require the physical presence of the supervising faculty member. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback.

VI.A.2.b).(1) The program must demonstrate that the appropriate level of supervision in place for all fellows is based on each fellow’s level of training and ability, as well as patient complexity and acuity. Supervision may be exercised through a variety of methods, as appropriate to the situation. (Core)

VI.A.2.c) Levels of Supervision

To promote oversight of fellow supervision while providing for graded authority and responsibility, the program must use the following classification of supervision: (Core)

VI.A.2.c).(1) Direct Supervision – the supervising physician is physically present with the fellow and patient. (Core)

VI.A.2.c).(2) Indirect Supervision:
VI.A.2.c).(2).(a) 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. (Core)

VI.A.2.c).(2).(b) 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. (Core)

VI.A.2.c).(3) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered. (Core)

VI.A.2.d) 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. (Core)

VI.A.2.d).(1) The program director must evaluate each fellow’s abilities based on specific criteria, guided by the Milestones. (Core)

VI.A.2.d).(2) Faculty members functioning as supervising physicians must delegate portions of care to fellows based on the needs of the patient and the skills of each fellow. (Core)

VI.A.2.d).(3) Fellows should serve in a supervisory role to residents or junior fellows in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow. (Detail)

VI.A.2.e) Programs must set guidelines for circumstances and events in which fellows must communicate with the supervising faculty member(s). (Core)

VI.A.2.e).(1) Each fellow must know the limits of their scope of authority, and the circumstances under which the fellow is permitted to act with conditional independence. (Outcome)

VI.A.2.f) Faculty supervision assignments must be of sufficient duration to assess the knowledge and skills of each fellow and to delegate to the fellow the appropriate level of patient care authority and responsibility. (Core)
VI.B. Professionalism

VI.B.1. Programs, in partnership with their Sponsoring Institutions, must educate fellows and faculty members concerning the professional responsibilities of physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients. (Core)

VI.B.2. The learning objectives of the program must:

VI.B.2.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; (Core)

VI.B.2.b) be accomplished without excessive reliance on fellows to fulfill non-physician obligations; and, (Core)

VI.B.2.c) ensure manageable patient care responsibilities. (Core)

VI.B.3. The program director, in partnership with the Sponsoring Institution, must provide a culture of professionalism that supports patient safety and personal responsibility. (Core)

VI.B.4. Fellows and faculty members must demonstrate an understanding of their personal role in the:

VI.B.4.a) provision of patient- and family-centered care; (Outcome)

VI.B.4.b) safety and welfare of patients entrusted to their care, including the ability to report unsafe conditions and adverse events; (Outcome)

VI.B.4.c) assurance of their fitness for work, including:

VI.B.4.c).(1) management of their time before, during, and after clinical assignments; and, (Outcome)

VI.B.4.c).(2) recognition of impairment, including from illness, fatigue, and substance use, in themselves, their peers, and other members of the health care team. (Outcome)

VI.B.4.d) commitment to lifelong learning; (Outcome)

VI.B.4.e) monitoring of their patient care performance improvement indicators; and, (Outcome)

VI.B.4.f) accurate reporting of clinical and educational work hours, patient outcomes, and clinical experience data. (Outcome)

VI.B.5. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. This includes the
recognition 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. (Outcome)

VI.B.6. Programs must provide a professional, respectful, and civil
environment that is free from mistreatment, abuse, or coercion of
students, residents/fellows, faculty, and staff. Programs, in
partnership with their Sponsoring Institutions, should have a
process for education of fellows and faculty regarding
unprofessional behavior and a confidential process for reporting,
investigating, and addressing such concerns. (Core)

VI.C. Well-Being

In the current health care environment, fellows and faculty members are at
increased risk for burnout and depression. Psychological, emotional, and
physical well-being are critical in the development of the competent,
caring, and resilient physician. Self-care is an important component of
professionalism; it is also a skill that must be learned and nurtured in the
context of other aspects of fellowship training. Programs, in partnership
with their Sponsoring Institutions, have the same responsibility to address
well-being as they do to evaluate other aspects of fellow competence.

VI.C.1. This responsibility must include:

VI.C.1.a) efforts to enhance the meaning that each fellow finds in the
experience of being a physician, including protecting time
with patients, minimizing non-physician obligations,
providing administrative support, promoting progressive
autonomy and flexibility, and enhancing professional
relationships; (Core)

VI.C.1.b) attention to scheduling, work intensity, and work
compression that impacts fellow well-being; (Core)

VI.C.1.c) evaluating workplace safety data and addressing the safety of
fellows and faculty members; (Core)

VI.C.1.d) policies and programs that encourage optimal fellow and
faculty member well-being; and, (Core)

VI.C.1.d).(1) Fellows must be given the opportunity to attend
medical, mental health, and dental care appointments,
including those scheduled during their working hours.
(Core)

VI.C.1.e) attention to fellow and faculty member burnout, depression,
and substance abuse. The program, in partnership with its
Sponsoring Institution, must educate faculty members and
fellows in identification of the symptoms of burnout,
depression, and substance abuse, including means to assist
those who experience these conditions. Fellows and faculty members must also be educated to recognize those symptoms in themselves and how to seek appropriate care. The program, in partnership with its Sponsoring Institution, must:

VI.C.1.e).(1) encourage fellows and faculty members to alert the program director or other designated personnel or programs when they are concerned that another resident, fellow, or faculty member may be displaying signs of burnout, depression, substance abuse, suicidal ideation, or potential for violence; (Core)

VI.C.1.e).(2) provide access to appropriate tools for self-screening; and, (Core)

VI.C.1.e).(3) provide access to confidential, affordable mental health assessment, counseling, and treatment, including access to urgent and emergent care 24 hours a day, seven days a week. (Core)

VI.C.2. There are circumstances in which fellows may be unable to attend work, including but not limited to fatigue, illness, and family emergencies. Each program must have policies and procedures in place that ensure coverage of patient care in the event that a fellow may be unable to perform their patient care responsibilities. These policies must be implemented without fear of negative consequences for the fellow who is unable to provide the clinical work. (Core)

VI.D. Fatigue Mitigation

VI.D.1. Programs must:

VI.D.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation; (Core)

VI.D.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and, (Core)

VI.D.1.c) encourage fellows to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning. (Detail)

VI.D.2. Each program must ensure continuity of patient care, consistent with the program’s policies and procedures referenced in VI.C.2, in the event that a fellow may be unable to perform their patient care responsibilities due to excessive fatigue. (Core)

VI.D.3. The program, in partnership with its Sponsoring Institution, must ensure adequate sleep facilities and safe transportation options for
fellows who may be too fatigued to safely return home. (Core)

VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care

VI.E.1. Clinical Responsibilities

The clinical responsibilities for each fellow must be based on PGY level, patient safety, fellow ability, severity and complexity of patient illness/condition, and available support services. (Core)

VI.E.2. Teamwork

Fellows must care for patients in an environment that maximizes 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 and larger health system. (Core)

VI.E.3. Transitions of Care

VI.E.3.a) Programs must design clinical assignments to optimize transitions in patient care, including their safety, frequency, and structure. (Core)

VI.E.3.b) Programs, in partnership with their Sponsoring Institutions, must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety. (Core)

VI.E.3.c) Programs must ensure that fellows are competent in communicating with team members in the hand-over process. (Outcome)

VI.E.3.d) Programs and clinical sites must maintain and communicate schedules of attending physicians and fellows currently responsible for care. (Core)

VI.E.3.e) Each program must ensure continuity of patient care, consistent with the program’s policies and procedures referenced in VI.C.2, in the event that a fellow may be unable to perform their patient care responsibilities due to excessive fatigue or illness, or family emergency. (Core)

VI.F. Clinical Experience and Education

Programs, in partnership with their Sponsoring Institutions, must design an effective program structure that is configured to provide fellows with educational and clinical experience opportunities, as well as reasonable opportunities for rest and personal activities.

VI.F.1. Maximum Hours of Clinical and Educational Work per Week
Clinical and educational work hours must be limited to no more than 80 hours per week, averaged over a four-week period, inclusive of all in-house clinical and educational activities, clinical work done from home, and all moonlighting.  

VI.F.2. Mandatory Time Free of Clinical Work and Education

VI.F.2.a) The program must design an effective program structure that is configured to provide fellows with educational opportunities, as well as reasonable opportunities for rest and personal well-being.  

VI.F.2.b) Fellows should have eight hours off between scheduled clinical work and education periods.  

VI.F.2.b).(1) There may be circumstances when fellows choose to stay to care for their patients or return to the hospital with fewer than eight hours free of clinical experience and education. This must occur within the context of the 80-hour and the one-day-off-in-seven requirements.  

VI.F.2.c) Fellows must have at least 14 hours free of clinical work and education after 24 hours of in-house call.  

VI.F.2.d) Fellows must be scheduled for a minimum of one day in seven free of clinical work and required education (when averaged over four weeks). At-home call cannot be assigned on these free days.  

VI.F.3. Maximum Clinical Work and Education Period Length

VI.F.3.a) Clinical and educational work periods for fellows must not exceed 24 hours of continuous scheduled clinical assignments.  

VI.F.3.a).(1) Up to four hours of additional time may be used for activities related to patient safety, such as providing effective transitions of care, and/or fellow education.  

VI.F.3.a).(1).(a) Additional patient care responsibilities must not be assigned to a fellow during this time.  

VI.F.4. Clinical and Educational Work Hour Exceptions

VI.F.4.a) In rare circumstances, after handing off all other responsibilities, a fellow, on their own initiative, may elect to remain or return to the clinical site in the following circumstances:
VI.F.4.a).(1) to continue to provide care to a single severely ill or unstable patient; (Detail)

VI.F.4.a).(2) humanistic attention to the needs of a patient or family; or, (Detail)

VI.F.4.a).(3) to attend unique educational events. (Detail)

VI.F.4.b) These additional hours of care or education will be counted toward the 80-hour weekly limit. (Detail)

VI.F.4.c) A Review Committee may grant rotation-specific exceptions for up to 10 percent or a maximum of 88 clinical and educational work hours to individual programs based on a sound educational rationale.

The Review Committee will not consider requests for exceptions to the 80-hour limit to the fellows' work week.

VI.F.4.c).(1) In preparing a request for an exception, the program director must follow the clinical and educational work hour exception policy from the ACGME Manual of Policies and Procedures. (Core)

VI.F.4.c).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval from the Sponsoring Institution's GMEC and DIO. (Core)

VI.F.5. Moonlighting

VI.F.5.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program, and must not interfere with the fellow's fitness for work nor compromise patient safety. (Core)

VI.F.5.b) Time spent by fellows in internal and external moonlighting (as defined in the ACGME Glossary of Terms) must be counted toward the 80-hour maximum weekly limit. (Core)

VI.F.6. In-House Night Float

Night float must occur within the context of the 80-hour and one-day-off-in-seven requirements. (Core)

VI.F.6.a) Fellows must have no more than six consecutive weeks of night float rotations, and no more than four months of night float rotations in total per year. (Detail)

VI.F.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). (Core)
VI.F.8. At-Home Call

VI.F.8.a) Time spent on patient care activities by fellows on at-home call must count toward the 80-hour maximum weekly 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 clinical work and education, when averaged over four weeks. (Core)

VI.F.8.a).(1) At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each fellow. (Core)

VI.F.8.b) Fellows are permitted to return to the hospital while on at-home call to provide direct care for new or established patients. These hours of inpatient patient care must be included in the 80-hour maximum weekly limit. (Detail)

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*Core Requirements:* Statements that define structure, resource, or process elements essential to every graduate medical educational program.

*Detail Requirements:* Statements that describe a specific structure, resource, or process, for achieving compliance with a Core Requirement. Programs and sponsoring institutions in substantial compliance with the Outcome Requirements may utilize alternative or innovative approaches to meet Core Requirements.

*Outcome Requirements:* Statements that specify expected measurable or observable attributes (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their graduate medical education.

**Osteopathic Recognition**

For programs seeking Osteopathic Recognition for the entire program, or for a track within the program, the Osteopathic Recognition Requirements are also applicable.

(http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/Osteopathic_Recognition_Requirements.pdf)