

ACGME Program Requirements for Graduate Medical Education in Cardiovascular Disease (Internal Medicine)

Common Program Requirements are in **BOLD**

Effective: July 1, 2012

Introduction

Int.A. Residency is an essential dimension of the transformation of the medical student to the independent practitioner along the continuum of medical education. It is physically, emotionally, and intellectually demanding, and requires longitudinally-concentrated effort on the part of the resident.

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 physician to assume personal responsibility for the care of individual patients. For the resident, 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 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 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. Cardiovascular disease fellowships provide advanced education to allow a fellow to acquire competency in the subspecialty with sufficient expertise to act as an independent consultant.

Int.C. The educational program in cardiovascular disease must be 36 months in length.

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

- I.A.1. A cardiovascular disease fellowship must function as an integral part of an ACGME-accredited residency in internal medicine.
- I.A.2. The sponsoring institution must:
 - I.A.2.a) establish the cardiovascular disease fellowship within a department of internal medicine or an administrative unit whose primary mission is the advancement of internal medicine subspecialty education and patient care; and,
 - I.A.2.b) provide the program director with adequate support for the administrative activities of the fellowship.
 - I.A.2.b).(1) The program director must not be required to generate clinical or other income to provide this administrative support.
 - I.A.2.b).(2) This support should be 25-50% of the program director's salary, or protected time, depending on the size of the program.
- I.A.3. The sponsoring institution and participating sites must:
 - I.A.3.a) demonstrate that there is a culture of continuous quality improvement in the areas of patient care, patient safety, and education;
 - I.A.3.b) demonstrate a commitment to quality patient-centered care and safety, education, and scholarship sufficient to support the fellowship; and,
 - I.A.3.c) share appropriate inpatient and outpatient faculty performance data with the program director.

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).

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.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.

II.A.3. Qualifications of the program director must include:

II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;

II.A.3.a).(1) The program director must have at least five years of participation as an active faculty member in an ACGME-accredited internal medicine residency or cardiovascular disease fellowship.

II.A.3.b) current certification in the subspecialty by the American Board of Internal Medicine (ABIM), or subspecialty qualifications acceptable to the Review Committee; and

II.A.3.b).(1) The Review Committee only accepts current ABIM certification in cardiovascular disease.

II.A.3.c) current medical licensure and appropriate medical staff appointment.

II.A.4. 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.4.a) oversee and ensure the quality of didactic and clinical

- education in all sites that participate in the program;
- II.A.4.b)** approve a local director at each participating site who is accountable for fellow education;
- II.A.4.c)** approve the selection of program faculty as appropriate;
- II.A.4.d)** evaluate program faculty and approve the continued participation of program faculty based on evaluation;
- II.A.4.e)** monitor fellow supervision at all participating sites;
- II.A.4.f)** prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program fellow updates to the ADS, and ensure that the information submitted is accurate and complete;
- II.A.4.g)** provide each fellow with documented semiannual evaluation of performance with feedback;
- II.A.4.h)** ensure compliance with grievance and due process procedures, as set forth in the Institutional Requirements and implemented by the sponsoring institution;
- II.A.4.i)** provide verification of fellowship education for all fellows, including those who leave the program prior to completion;
- II.A.4.j)** implement policies and procedures consistent with the institutional and program requirements for fellow duty hours and the working environment, including moonlighting, and, to that end, must:
- II.A.4.j).(1)** distribute these policies and procedures to the fellows and faculty;
- II.A.4.j).(2)** monitor fellow duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;
- II.A.4.j).(3)** adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and
- II.A.4.j).(4)** if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.
- II.A.4.k)** monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;

- II.A.4.l)** comply with the sponsoring institution's written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of fellows, disciplinary action, and supervision of fellows;
- II.A.4.m)** be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;
- II.A.4.n)** obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:
 - II.A.4.n).(1)** all applications for ACGME accreditation of new programs;
 - II.A.4.n).(2)** changes in fellow complement;
 - II.A.4.n).(3)** major changes in program structure or length of training;
 - II.A.4.n).(4)** progress reports requested by the Review Committee;
 - II.A.4.n).(5)** responses to all proposed adverse actions;
 - II.A.4.n).(6)** requests for increases or any change to fellow duty hours;
 - II.A.4.n).(7)** voluntary withdrawals of ACGME-accredited programs;
 - II.A.4.n).(8)** requests for appeal of an adverse action;
 - II.A.4.n).(9)** appeal presentations to a Board of Appeal or the ACGME; and
 - II.A.4.n).(10)** proposals to ACGME for approval of innovative educational approaches.
- II.A.4.o)** obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:
 - II.A.4.o).(1)** program citations; and/or
 - II.A.4.o).(2)** request for changes in the program that would have significant impact, including financial, on the program or institution.

- II.A.4.p) be responsible for monitoring fellow stress, including mental or emotional conditions inhibiting performance or learning, and drug- or alcohol-related dysfunction;
- II.A.4.p).(1) The program director should provide access to timely confidential counseling and psychological support services to fellows.
- II.A.4.p).(2) Situations that demand excessive service or that consistently produce undesirable stress on fellows must be evaluated and modified.
- II.A.4.q) ensure that fellows' service responsibilities are limited to patients for whom the teaching service has diagnostic and therapeutic responsibility.
- II.A.4.r) dedicate an average of 20 hours per week of his or her professional effort to the fellowship, including time for administration of the program;
- II.A.4.s) participate in academic societies and in educational programs designed to enhance his or her educational and administrative skills;
- II.A.4.t) have a reporting relationship with the program director of the internal medicine residency program to ensure compliance with ACGME accreditation standards;
- II.A.4.u) be available at the primary clinical site; and,
- II.A.4.v) establish a reporting relationship between him or herself and the dependent accredited sub-specialty programs.

II.B. Faculty

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

The faculty must:

- II.B.1.a) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of fellows; and,**
- II.B.1.b) administer and maintain an educational environment conducive to educating fellows in each of the ACGME competency areas.**

II.B.2. The physician faculty must have current certification in the

subspecialty by the American Board of Internal Medicine, or possess qualifications acceptable by the Review Committee.

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

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

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

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

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

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

II.B.5.b).(2) publication of original research or review articles in peer-reviewed journals or chapters in textbooks;

II.B.5.b).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,

II.B.5.b).(4) participation in national committees or educational organizations.

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

II.B.6. The physician faculty must meet professional standards of ethical behavior.

II.B.7. Key Clinical Faculty

In addition to the program director, each program must have at least three Key Clinical Faculty (KCF) members. KCF are attending physicians who dedicate, on average, 10 hours per week throughout the year to the program. For programs with more than six fellows, there must be at least one KCF for every 1.5 fellows.

II.B.7.a) Key Clinical Faculty Qualifications

II.B.7.a).(1) KCF must be active clinicians with knowledge of, experience with, and commitment to cardiovascular disease as a discipline.

II.B.7.a).(2) KCF must have current ABIM certification in cardiovascular disease.

II.B.7.b) Key Clinical Faculty Responsibilities

II.B.7.b).(1) In addition to the responsibilities of all individual faculty members, the KCF and the program director are responsible for the planning, implementation, monitoring and evaluation of the fellows' clinical and research education.

II.B.7.b).(2) At least 50% of the KCF must demonstrate evidence of productivity in scholarship, specifically, peer-reviewed funding; publication of original research, review articles, editorials, or case reports in peer-reviewed journals; or chapters in textbooks.

II.B.7.b).(3) At least one of the KCF must:

II.B.7.b).(3).(a) be knowledgeable in the evaluation and assessment of the ACGME competencies; and,

II.B.7.b).(3).(b) spend significant time in the evaluation of fellows, including the direct observation of fellows with patients.

II.B.7.b).(4) Appointment of one KCF to be an associate program director is suggested.

II.B.8. Clinical faculty members should participate in faculty development programs designed to enhance the effectiveness of their teaching.

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 the program.

II.C.1. There must be services available from other health care professionals, including dietitians, language interpreters, nurses, occupational therapists, physical therapists, and social workers.

II.C.2. There must be appropriate and timely consultation from other specialties.

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. Space and Equipment

There must be space and equipment for the program, including meeting rooms, examination rooms, computers, visual and other educational aids, and work/study space.

II.D.2. Facilities

- II.D.2.a) Inpatient and outpatient systems must be in place to prevent fellows from performing routine clerical functions, including scheduling tests and appointments, and retrieving records and letters.
- II.D.2.b) The sponsoring institution must provide the broad range of facilities and clinical support services required to provide comprehensive care of adult patients.
- II.D.2.c) Fellows must have access to a lounge facility during assigned duty hours.
- II.D.2.d) When fellows are in the hospital, assigned night duty, or called in from home, they must be provided with a secure space for their belongings.

II.D.3. Laboratory Services

Each of the following must be present at the primary clinical site:

- II.D.3.a) cardiac catheterization laboratories, including cardiac hemodynamics and a full range of interventional cardiology;
- II.D.3.b) cardiac radiology laboratory, including magnetic resonance imaging (MRI) and computed tomography (CT);
- II.D.3.c) cardiac radionuclide laboratories;
- II.D.3.d) echocardiography laboratories, including Doppler and transesophageal echocardiography;
- II.D.3.e) electrocardiogram (ECG), ambulatory ECG, and exercise testing laboratories;
- II.D.3.f) electrophysiology laboratories; and,
- II.D.3.g) noninvasive vascular laboratory.

II.D.4. Other Support Services

The following must be present at the primary clinical site:

- II.D.4.a) a cardiac intensive care unit; and,

II.D.4.b) an active cardiac surgery program.

II.D.5. Medical Records

Access to an electronic health record should be provided. In the absence of an existing electronic health record, institutions must demonstrate institutional commitment to its development, and progress towards its implementation.

II.D.6. Patient Population

II.D.6.a) The patient population must have a variety of clinical problems and stages of cardiovascular diseases.

II.D.6.b) There must be patients of each gender, with a broad age range, including geriatric patients.

II.D.6.c) A sufficient number of patients must be available to enable each fellow to achieve the required educational outcomes.

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

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

III.A.1. Prior to appointment in the fellowship, fellows should have completed an ACGME-accredited internal medicine program.

III.A.2. Fellows from non-ACGME-accredited internal medicine programs must have completed at least three years of internal medicine education prior to starting the fellowship.

III.A.3. The program director must inform applicants from non-ACGME-accredited programs, prior to appointment and in writing, of the ABIM policies and procedures that will affect their eligibility for ABIM certification.

III.A.4. When averaged over any five-year period, a minimum of 75% of fellows in each program must be graduates of an ACGME-accredited internal medicine program.

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.

III.B.1. The number of available fellow positions in the program must be at least one per year.

III.C. Fellow Transfers

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

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

III.D. Appointment of Fellows and Other Learners

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

IV. Educational Program

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

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

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

IV.A.3. Regularly scheduled didactic sessions;

IV.A.3.a) The core curriculum must include a didactic program based upon the core knowledge content in the subspecialty area.

IV.A.3.a).(1) The program must afford each fellow an opportunity to review topics covered in conferences that he or she was unable to attend.

IV.A.3.a).(2) Fellows must participate in clinical case conferences, journal clubs, research conferences, and morbidity and

mortality or quality improvement conferences.

IV.A.3.a).(3) All core conferences must have at least one faculty member present, and must be scheduled as to ensure peer-peer and peer-faculty interaction.

IV.A.3.b) Patient-based teaching must include direct interaction between fellows and faculty members, bedside teaching, discussion of pathophysiology, and the use of current evidence in diagnostic and therapeutic decisions. The teaching must be:

IV.A.3.b).(1) formally conducted on all inpatient, outpatient, and consultative services; and,

IV.A.3.b).(2) conducted with a frequency and duration that ensures a meaningful and continuous teaching relationship between the assigned supervising faculty member(s) and fellows.

IV.A.3.c) Fellows must receive instruction in practice management relevant to cardiovascular disease.

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

IV.A.5. ACGME Competencies

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

IV.A.5.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. Fellows:

IV.A.5.a).(1) must demonstrate competence in the practice of health promotion, disease prevention, diagnosis, care, and treatment of patients of each gender, from adolescence to old age, during health and all stages of illness;

IV.A.5.a).(2) must demonstrate competence in prevention, evaluation, and management of the following:

IV.A.5.a).(2).(a) arrhythmias; acute myocardial infarction and other acute ischemic syndromes;

IV.A.5.a).(2).(b) cardiomyopathy;

IV.A.5.a).(2).(c) cardiovascular evaluation of patients undergoing noncardiac surgery;

IV.A.5.a).(2).(d)	congestive heart failure;
IV.A.5.a).(2).(e)	coronary heart disease:
IV.A.5.a).(2).(e).(i)	acute coronary syndromes; and,
IV.A.5.a).(2).(e).(ii)	chronic coronary heart disease.
IV.A.5.a).(2).(f)	diseases of the aorta;
IV.A.5.a).(2).(g)	heart disease in pregnancy;
IV.A.5.a).(2).(h)	hypertension;
IV.A.5.a).(2).(i)	infectious and inflammatory heart disease;
IV.A.5.a).(2).(j)	lipid disorders and metabolic syndrome;
IV.A.5.a).(2).(k)	need for end-of-life (palliative) care;
IV.A.5.a).(2).(l)	peripheral vascular disease;
IV.A.5.a).(2).(m)	pericardial disease;
IV.A.5.a).(2).(n)	pulmonary hypertension;
IV.A.5.a).(2).(o)	thromboembolic disorders; and,
IV.A.5.a).(2).(p)	valvular heart disease.
IV.A.5.a).(3)	must demonstrate competence in the performance of the following procedures:
IV.A.5.a).(3).(a)	direct current cardioversion (each fellow must perform 10);
IV.A.5.a).(3).(b)	echocardiography (each fellow must perform a minimum of 75 and interpret a minimum of 150 studies, and observe the performance and interpretation of transesophageal cardiac studies);
IV.A.5.a).(3).(c)	exercise stress testing (each fellow must perform a minimum of 50 stress ECG tests);
IV.A.5.a).(3).(d)	right and left heart catheterization, including coronary arteriography (each fellow must participate in a minimum of 100 catheterizations);
IV.A.5.a).(3).(e)	conscious sedation;

- IV.A.5.a).(3).(f) placement and management of temporary pacemakers, including transvenous and transcutaneous; and,
- IV.A.5.a).(3).(g) programming and follow-up surveillance of permanent pacemakers and ICDs.
- IV.A.5.a).(4) must demonstrate competence in the interpretation of:
 - IV.A.5.a).(4).(a) ambulatory ECG recordings;
 - IV.A.5.a).(4).(b) electrocardiograms (each fellow must interpret a minimum of 3500 electrocardiograms);
 - IV.A.5.a).(4).(c) nuclear cardiology (each fellow must interpret a minimum of 100 radionuclide studies to include SPECT myocardial perfusion imaging and ventriculograms); and,
 - IV.A.5.a).(4).(d) chest x-rays.

IV.A.5.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:

- IV.A.5.b).(1) must demonstrate knowledge of the scientific method of problem solving and evidence-based decision making;
- IV.A.5.b).(2) must demonstrate a knowledge of indications, contraindications, limitations, complications, techniques, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indications for and use of screening tests/procedures;
- IV.A.5.b).(3) must demonstrate knowledge of the following content areas:
 - IV.A.5.b).(3).(a) basic science, including:
 - IV.A.5.b).(3).(a).(i) cardiovascular anatomy;
 - IV.A.5.b).(3).(a).(ii) cardiovascular metabolism;
 - IV.A.5.b).(3).(a).(iii) cardiovascular pathology;
 - IV.A.5.b).(3).(a).(iv) cardiovascular pharmacology, including drug metabolism, adverse effects,

- indications, the effects on aging, relative costs of therapy, and the effects of non-cardiovascular drugs upon cardiovascular function;
- IV.A.5.b).(3).(a).(v) cardiovascular physiology;
- IV.A.5.b).(3).(a).(vi) genetic causes of cardiovascular disease; and,
- IV.A.5.b).(3).(a).(vii) molecular biology of the cardiovascular system.
- IV.A.5.b).(3).(b) primary and secondary prevention of cardiovascular disease, including:
 - IV.A.5.b).(3).(b).(i) biostatistics;
 - IV.A.5.b).(3).(b).(ii) clinical epidemiology;
 - IV.A.5.b).(3).(b).(iii) cardiac rehabilitation;
 - IV.A.5.b).(3).(b).(iv) current and emerging risk factors; and,
 - IV.A.5.b).(3).(b).(v) cerebrovascular disease.
- IV.A.5.b).(3).(c) evaluation and management of patients with:
 - IV.A.5.b).(3).(c).(i) adult congenital heart disease;
 - IV.A.5.b).(3).(c).(ii) cardiac trauma;
 - IV.A.5.b).(3).(c).(iii) cardiac tumors;
 - IV.A.5.b).(3).(c).(iv) cerebrovascular disease; and,
 - IV.A.5.b).(3).(c).(v) geriatric cardiology.

IV.A.5.c)

Practice-based Learning and Improvement

Fellows must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Fellows are expected to develop skills and habits to be able to meet the following goals:

- IV.A.5.c).(1) identify strengths, deficiencies, and limits in one's knowledge and expertise;
- IV.A.5.c).(2) set learning and improvement goals;

- IV.A.5.c).(3) identify and perform appropriate learning activities;
- IV.A.5.c).(4) systematically analyze practice, using quality improvement methods, and implement changes with the goal of practice improvement;
- IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice;
- IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;
- IV.A.5.c).(7) use information technology to optimize learning;
- IV.A.5.c).(8) participate in the education of patients, families, students, fellows and other health professionals; and,
- IV.A.5.c).(9) obtain procedure-specific informed consent by competently educating patients about rationale, technique, and complications of procedures.

IV.A.5.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. Fellows are expected to:

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

IV.A.5.e) Professionalism

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

principles. Fellows are expected to demonstrate:

- IV.A.5.e).(1)** **compassion, integrity, and respect for others;**
- IV.A.5.e).(2)** **responsiveness to patient needs that supersedes self-interest;**
- IV.A.5.e).(3)** **respect for patient privacy and autonomy;**
- IV.A.5.e).(4)** **accountability to patients, society and the profession;**
- IV.A.5.e).(5)** **sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation;**
- IV.A.5.e).(6)** **high standards of ethical behavior, including maintaining appropriate professional boundaries and relationships with other physicians and other health care team members, and avoiding conflicts of interest; and,**
- IV.A.5.e).(7)** **a commitment to lifelong learning, and an attitude of caring derived from humanistic and professional values.**

IV.A.5.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. Fellows are expected to:

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

implementing potential systems solutions.

- IV.A.6. Curriculum Organization and Fellow Experiences
- IV.A.6.a) A minimum time must be spent in the following areas:
- IV.A.6.a).(1) 24 months of clinical experience, including inpatient and special experiences;
- IV.A.6.a).(2) four months in the cardiac catheterization laboratory;
- IV.A.6.a).(3) six months in noninvasive cardiac evaluations, consisting of the following:
- IV.A.6.a).(3).(a) three months of echocardiography and Doppler;
- IV.A.6.a).(3).(b) two months of nuclear cardiology, to include the fellow's active participation in daily nuclear cardiology study interpretation (a minimum of 80 hours) during the rotation;
- IV.A.6.a).(3).(c) one month of experiences in other noninvasive cardiac evaluations, to include exercise stress testing; ECG interpretation; and ambulatory ECG monitoring (continuous and event recording). This rotation may be done concurrently with other rotations.
- IV.A.6.a).(3).(d) experience in cardiac tomography, positron emission tomography, cardiac magnetic resonance imaging, and, peripheral vascular imaging. These rotations may be done concurrently with other rotations.
- IV.A.6.a).(4) two months devoted to electrophysiology; and,
- IV.A.6.a).(5) nine months of non-laboratory clinical practice activities.
- IV.A.6.b) Fellows must participate in training using simulation.
- IV.A.6.c) Experience with Continuity Ambulatory Patients
- Fellows must have continuity ambulatory clinic experience that exposes them to the breadth and depth of cardiovascular disease.
- IV.A.6.c).(1) This experience should average one half-day each week.
- IV.A.6.c).(2) This experience must include an appropriate distribution of patients of each gender and a diversity of ages, which should be accomplished through either:

- IV.A.6.c).(2).(a) a continuity clinic which provides fellows the opportunity to observe and learn the course of disease; or,
- IV.A.6.c).(2).(b) selected blocks of at least six months which address specific areas of cardiovascular disease.
- IV.A.6.c).(3) Each fellow should, on average, be responsible for four to eight patients during each half-day session.
- IV.A.6.c).(4) The continuing patient care experience should not be interrupted by more than one month, excluding a fellow's vacation.
- IV.A.6.c).(5) Fellows should be informed of the status of their continuity patients when such patients are hospitalized, as clinically appropriate.
- IV.A.6.d) Procedures and Technical Skills
- IV.A.6.d).(1) Direct supervision of procedures performed by each fellow must occur until proficiency has been acquired and documented by the program director.
- IV.A.6.d).(2) Faculty members must teach and supervise the fellows in the performance and interpretation of procedures, which must be documented in each fellow's record, including indications, outcomes, diagnoses, and supervisor(s).
- IV.A.6.d).(3) Fellows must have formal instruction and clinical experience to the performance of the following:
- IV.A.6.d).(3).(a) CT;
- IV.A.6.d).(3).(b) intra-aortic balloon counterpulsation;
- IV.A.6.d).(3).(c) intracardiac electrophysiologic studies;
- IV.A.6.d).(3).(d) MRI;
- IV.A.6.d).(3).(e) percutaneous transluminal coronary angioplasty and other interventional procedures; and,
- IV.A.6.d).(3).(f) pericardiocentesis.

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.**

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

IV.B.2.a) The majority of fellows must demonstrate evidence of scholarship conducted during the fellowship through one or more of the following:

IV.B.2.a).(1) publication of articles, book chapters, abstracts or case reports in peer-reviewed journals;

IV.B.2.a).(2) publication of peer-reviewed performance improvement or education research;

IV.B.2.a).(3) peer-reviewed funding; or,

IV.B.2.a).(4) peer-reviewed abstracts presented at regional, state, or national specialty meetings.

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

V. Evaluation

V.A. Fellow

V.A.1. Formative Evaluation

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

V.A.1.a).(1) The faculty must discuss this evaluation with each fellow at the completion of each assignment.

V.A.1.a).(2) Assessment of procedural competence should include a formal evaluation process and not be based solely on a minimum number of procedures performed.

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).(1).(a) Patient Care

The program must assess the fellow in data

gathering, clinical reasoning, patient management and procedures in both the inpatient and outpatient setting. This assessment must involve direct observation of fellow-patient encounters.

V.A.1.b).(1).(a).(i)

Each program must define criteria for competence for all required and elective procedures.

V.A.1.b).(1).(a).(ii)

The record of evaluation must include the fellow's logbook or an equivalent method to demonstrate that each fellow has achieved competence in the performance of required procedures.

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

Medical Knowledge

The program must use an objective formative assessment method. The same formative assessment method must be administered at least twice during the program.

V.A.1.b).(1).(c)

Practice-based Learning and Improvement

The program must use performance data to assess the fellow in:

V.A.1.b).(1).(c).(i)

application of evidence to patient care;

V.A.1.b).(1).(c).(ii)

practice improvement;

V.A.1.b).(1).(c).(iii)

teaching skills involving peers and patients; and,

V.A.1.b).(1).(c).(iv)

scholarship.

V.A.1.b).(1).(d)

Interpersonal and Communication Skills

The program must use both direct observation and multi-source evaluation, including patients, peers and non-physician team members, to assess fellow performance in:

V.A.1.b).(1).(d).(i)

communication with patient and family;

V.A.1.b).(1).(d).(ii)

teamwork;

V.A.1.b).(1).(d).(iii)

communication with peers, including transitions in care; and,

V.A.1.b).(1).(d).(iv)

record keeping.

V.A.1.b).(1).(e)	Professionalism
	The program must use multi-source evaluation, including patients, peers, and non-physician team members, to assess each fellow's:
V.A.1.b).(1).(e).(i)	honesty and integrity;
V.A.1.b).(1).(e).(ii)	ability to meet professional responsibilities;
V.A.1.b).(1).(e).(iii)	ability to maintain appropriate professional relationships with patients and colleagues; and,
V.A.1.b).(1).(e).(iv)	commitment to self-improvement.
V.A.1.b).(1).(f)	Systems-based Practice
	The program must use multi-source evaluation, including peers, and non-physician team members to assess each fellow's:
V.A.1.b).(1).(f).(i)	ability to provide care coordination, including transition of care;
V.A.1.b).(1).(f).(ii)	ability to work in interdisciplinary teams;
V.A.1.b).(1).(f).(iii)	advocacy for quality of care; and,
V.A.1.b).(1).(f).(iv)	ability to identify system problems and participate in improvement activities.
V.A.1.b).(2)	use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);
V.A.1.b).(3)	document progressive fellow performance improvement appropriate to educational level; and
V.A.1.b).(4)	provide each fellow with documented semiannual evaluation of performance with feedback.
V.A.1.b).(4).(a)	Fellows' performance in continuity clinic must be reviewed with them verbally and in writing at least semiannually.
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 the final period of 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 faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.

V.B.3. This evaluation must include at least annual written confidential evaluations by fellows.

V.B.3.a) Fellows must have the opportunity to provide confidential written evaluations of each supervising faculty member at the end of each rotation.

V.B.3.b) These evaluations must be reviewed with each faculty member annually.

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;

V.C.1.b) faculty development;

V.C.1.c) graduate performance, including performance of program graduates on the certification examination; and,

V.C.1.c).(1) At least 80% of the program's graduating fellows from the most recently defined five year period who are eligible should take the ABIM certifying examination.

V.C.1.c).(2) At least 80% of a program's graduates taking the ABIM certifying examination for the first time during the most

recently defined five year period should pass.

- V.C.1.d) program quality. Specifically:**
- V.C.1.d).(1) Fellows and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually.**
- V.C.1.d).(2) The program must use the results of fellows' assessments of the program together with other program evaluation results to improve the program.**
- V.C.1.d).(3) At least 80% of the entering fellows should have completed the program when averaged over a five-year period.**
- V.C.2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.**
- V.C.3. Representative program personnel, at a minimum to include the program director, representative faculty, and one fellow, must review program goals and objectives, and the effectiveness with which they are achieved.**
- 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 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 resident or fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or resident 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) Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or 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.5.a).(1)** In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available.
- 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.
- The Review Committee for Internal Medicine will not consider requests for exceptions to the 80-hour limit to the fellows' work week.
- 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.2.c) PGY-1 residents are not permitted to moonlight.

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

VI.G.4.a) Duty periods of PGY-1 residents must not exceed 16 hours in duration.

VI.G.4.b) Duty periods of PGY-2 residents and above 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.b).(1) 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).(2) Fellows must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.

VI.G.4.b).(3) 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.b).(3).(a)** Under those circumstances, the fellow must:
- VI.G.4.b).(3).(a).(i)** appropriately hand over the care of all other patients to the team responsible for their continuing care; and,
- VI.G.4.b).(3).(a).(ii)** 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.b).(3).(b)** 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)** PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.
- VI.G.5.b)** Intermediate-level residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.

Internal medicine subspecialty fellows are considered to be in the final years of education.

- VI.G.5.c)** Residents in the final years of education must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.

Internal medicine subspecialty fellows are considered to be in the final years of education.

- VI.G.5.c).(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 in their final years of education 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.c).(1).(a)** Circumstances of return-to-hospital activities with fewer than eight hours away from the

hospital by fellows in their final years of education must be monitored by the program director.

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

In unusual circumstances, fellows may remain beyond their scheduled period of duty or return after their scheduled period of duty to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity of care for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of the patient or family. Such episodes should be rare, must be of the fellows' own initiative, and need not initiate a new 'off-duty period' nor require a change in the scheduled 'off-duty period.'

VI.G.5.c).(1).(c)

Under such circumstances, the fellow must appropriately hand over care of all other patients to the team responsible for their continuing care, and document the reasons for remaining or returning to care for the patient in question and submit that documentation to the program director.

VI.G.5.c).(1).(d)

The program director must review each submission of additional service and track both individual fellows' and program-wide episodes of additional duty.

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

PGY-2 residents and above must be scheduled for in-house call no more frequently than every-third-night (when averaged over a four-week period).

VI.G.7.a)

Internal Medicine fellowships must not average in-house call 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”.

VII. Innovative Projects

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

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