ACGME Program Requirements for Graduate Medical Education in Interventional Cardiology (Internal Medicine)

One-year Common Program Requirements are in BOLD
General Subspecialty Requirements are ITALICIZED

Effective: July 1, 2012

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. Interventional cardiology is the practice of techniques that improve coronary circulation,~~ and~~ alleviate valvular stenosis and regurgitation, and treat other ~~valvular and~~ structural heart disease.~~ A subspecialty educational program in~~ Interventional cardiology fellowships ~~must function as an integral component of an ACGME-accredited subspecialty fellowship in cardiovascular disease and be organized to~~ provide advanced cardiology ~~training~~ education ~~and experience at a~~ to allow a fellow to acquire competency in the subspecialty with sufficient expertise to act as a provider of interventional procedures and as an independent consultant.~~ level for fellows to acquire the competency of a specialist in the field.~~

Int.C. ~~An ACGME-accredited fellowship~~ The educational program in interventional cardiology must ~~provide~~ be 12 months ~~of supervised graduate medical education~~ 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 the program must ensure that the program director has sufficient protected time and financial support for his or her educational and administrative responsibilities to the program.

I.A.1. An interventional cardiology fellowship program must function as an integral part of an ACGME-accredited fellowship program in cardiovascular disease.

I.A.2. *The sponsoring institution must:*

I.A.2.a) *provide ~~ensure~~ the program director with adequate support for the administrative activities of the ~~internal medicine subspecialty program~~ fellowship.*

I.A.2.a).(1) *The program director must not be required to generate clinical or other income to provide this administrative support.*

I.A.2.a).(2) *It is suggested this support 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, ~~research~~ and scholarship sufficient to support the fellowship ~~program~~;and,*

I.A.3.c) *share appropriate inpatient and outpatient faculty performance data with the program director.*

I.A.3.d) ~~*provide fellow compensation, and benefits, faculty, facilities, and resources for education*~~, clinical care, ~~*and research required for accreditation;*~~

I.A.3.e) ~~*notify the Review Committee within 60 days of changes in institutional governance, affiliation, or resources that affect the educational program as outlined in the Institutional Requirements;*~~

I.A.3.f) ~~*provide fellowship positions in the one-year, interventional cardiology fellowship with no less than one fellow per year; and*~~

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. Qualifications of the program director must include:

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

II.A.2.a).(1) The program director must have at least five years of participation as an active faculty member in an ACGME-accredited internal medicine cardiovascular disease fellowship or interventional cardiology fellowship.

II.A.2.b) current certification in the subspecialty by the American Board of Internal Medicine (ABIM)**, or subspecialty**

154 **qualifications that are acceptable to the Review Committee;**
155 **and,**
156
157 II.A.2.b).(1) The Review Committee only accepts current ABIM
158 certification in interventional cardiology.
159
160 **II.A.2.c)** **current medical licensure and appropriate medical staff**
161 **appointment.**
162
163 **II.A.3.** **The program director must administer and maintain an educational**
164 **environment conducive to educating the fellows in each of the**
165 **ACGME competency areas. The program director must:**
166
167 **II.A.3.a)** **prepare and submit all information required and requested by**
168 **the ACGME;**
169
170 **II.A.3.b)** **be familiar with and oversee compliance with ACGME and**
171 **Review Committee policies and procedures as outlined in the**
172 **ACGME Manual of Policies and Procedures;**
173
174 **II.A.3.c)** **obtain review and approval of the sponsoring institution's**
175 **GMEC/DIO before submitting to the ACGME information or**
176 **requests for the following:**
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178 **II.A.3.c).(1)** **all applications for ACGME accreditation of new**
179 **programs;**
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181 **II.A.3.c).(2)** **changes in fellow complement;**
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183 **II.A.3.c).(3)** **major changes in program structure or length of**
184 **training;**
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186 **II.A.3.c).(4)** **progress reports requested by the Review Committee;**
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188 **II.A.3.c).(5)** **responses to all proposed adverse actions;**
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190 **II.A.3.c).(6)** **requests for increases or any change to fellow duty**
191 **hours;**
192
193 **II.A.3.c).(7)** **voluntary withdrawals of ACGME-accredited**
194 **programs;**
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196 **II.A.3.c).(8)** **requests for appeal of an adverse action; and,**
197
198 **II.A.3.c).(9)** **appeal presentations to a Board of Appeal or the**
199 **ACGME.**
200
201 **II.A.3.d)** **obtain DIO review and co-signature on all program**
202 **information forms, as well as any correspondence or**
203 **document submitted to the ACGME that addresses:**
204

II.A.3.d).(1) **program citations; and/or**

II.A.3.d).(2) **requests for changes in the program that would have significant impact, including financial, on the program or institution.**

II.A.3.e) *ensure that fellows' service responsibilities are limited to patients for whom the teaching service has diagnostic and therapeutic responsibility.*

II.A.3.f) *dedicate an average of 20 hours per week of his or her professional effort to the~~ internal medicine subspecialty program~~ fellowship, including ~~with sufficient ~~time for administration of the program;~~. and receive institutional support for that administrative time.~~*

II.A.3.g) *have a reporting relationship with the program director of the cardiovascular disease program to ensure compliance with ~~the~~ ACGME accreditation standards; and,*

II.A.3.h) *be available ~~located ~~at the primary ~~principal ~~clinical site.*

II.B. **Faculty**

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

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

II.B.3. **The physician faculty must have current certification in the subspecialty by the American Board of** Internal Medicine **or possess qualifications acceptable to the Review Committee.**

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

II.B.5. *The physician faculty must meet professional standards of ethical behavior.*

II.B.6. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.

II.B.6.a) The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.

II.B.6.b) Some members of the faculty should also demonstrate scholarship by one or more of the following:

II.B.6.b).(1) peer-reviewed funding;

II.B.6.b).(2) publication of original research or review articles in peer-reviewed journals or chapters in textbooks;

II.B.6.b).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,

II.B.6.b).(4) participation in national committees or educational organizations.

II.B.6.c) Faculty should encourage and support fellows in scholarly activities.

II.B.7. ~~All~~ Each faculty member involved in supervising fellows in the performance of interventional procedures must perform a minimum of 75 interventions per year, with the majority at the primary clinical site.

II.B.8. Key Clinical Faculty

In addition to the program director, each program must have at least one Key Clinical Faculty (KCF). KCF are attending physicians who dedicate, on average, 10 hours per week throughout the year to the ~~training~~ program. For programs with more than two fellows, ~~in the accredited portion of the training program, a ratio of KCF to fellows of at least 1:~~ there must be at least one KCF for every 1.5 fellows ~~must be maintained~~.

II.B.8.a) Key Clinical Faculty Qualifications

II.B.8.a).(1) KCF must be active clinicians with ~~broad~~ knowledge of, experience with, and commitment to the interventional cardiology as a discipline.

II.B.8.a).(2) KCF must have current ABIM certification in interventional cardiology.

II.B.8.b) Key Clinical Faculty Responsibilities

II.B.8.b).(1) In addition to the responsibilities of all individual faculty members, the KCF ~~with~~ and the program director are responsible for the planning, implementation, monitoring, and evaluation of the fellows' clinical and research education ~~training~~.

II.B.8.b).(2) ~~The majority of~~ At least 50% of the KCF must demonstrate evidence of productivity in ~~the~~ scholarship, specifically, peer-reviewed funding; publication of original research, review articles, editorials, or case reports in peer-reviewed journals; or chapters in textbooks. ~~as defined in II.B.5.b.(1), or (2) above~~

II.B.9. *~~All~~ Clinical faculty members should participate in ~~prescribed~~ faculty development programs designed to enhance the effectiveness of their teaching.*

II.B.10. Access to faculty with expertise in congenital heart disease in adults, hematology, pharmacology, radiation safety, and research ~~laboratories~~ is suggested.

II.C. Other Program Personnel

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

II.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 ~~ensure the availability of~~ 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 ~~educational~~ program, including meeting rooms, ~~classrooms,~~ 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. ~~Fellows must have clinical experiences in efficient, effective ambulatory and inpatient care settings.~~

II.D.2.c) Fellows must have access to a lounge facility during assigned duty hours.

II.D.2.d) When fellows are ~~assigned night duty~~ in the hospital, assigned night duty, or called in from home, they must be provided with ~~on-~~

~~call facilities that are convenient and that afford privacy, safety, and a restful environment with~~ a secure space for their belongings.

II.D.3. Laboratory Services

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

~~A equipped cardiac catheterization laboratory; is required~~.

II.D.3.a) ~~wherein a minimum of 400 interventional procedures of the heart are performed per year;~~ cardiac catheterization laboratories, ~~must be~~ each equipped with cardiac fluoroscopic equipment, digital imaging, recording devices, a full complement of interventional devices, and resuscitative equipment; and,~~.~~

II.D.3.a).(1) The primary laboratory must perform a minimum of 400 interventional procedures per year, and each secondary laboratory must perform a minimum of 200 interventional procedures per year.

~~Laboratories other than those located at the primary training site may participate in the educational program under the following conditions:~~

~~The participating catheterization laboratory must perform a minimum of 400 interventional procedures.~~

~~Fellow activities at participating sites must be supervised by a key clinical faculty member who conducts a minimum of 75 interventions annually at the participating site.~~

II.D.3.b) cardiac radionuclide laboratories. ~~must be available.~~

II.D.4. Other ~~Facilities, Resources, or~~ Support Services

The following must be present at the primary ~~training~~ clinical site:

II.D.4.a) an active cardiac surgery program;

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

II.D.4.c) a cardiac intensive care unit.

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 toward its implementation.

II.D.6. Patient Population

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

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

II.D.6.c) A sufficient number of patients must be available to enable ~~ensure adequate inpatient and ambulatory experience for~~ 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

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

III.A.1. Prior to appointment in the fellowship, fellows ~~entering the program~~ should have completed a three-year ACGME-accredited cardiovascular disease program.

III.A.2. Fellows from non-ACGME-accredited ~~in education~~ programs must have at least three years of cardiovascular disease education prior to starting the fellowship.

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

III.A.4. When averaged over any five-year period, a minimum of 75% of fellows in each ~~subspecialty training~~ program must be graduates of an ACGME-accredited cardiovascular disease 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 minimum number of fellow positions in the training program fellowship must not be less than the number of accredited training years in the program*~~

IV. Educational Program

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

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

IV.A.2. ACGME Competencies

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

IV.A.2.a) Patient Care

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

IV.A.2.a).(1) *must demonstrate competence in the practice of health promotion, disease prevention, diagnosis, care, and treatment of ~~men and women~~ patients of each gender, from adolescence to old age, during health and all stages of illness;*

IV.A.2.a).(2) ~~have formal instruction, clinical experience, and~~ must demonstrate competence in the prevention, evaluation, and management of both inpatients and outpatients with ~~the following disorders~~:

IV.A.2.a).(2).(a) acute ischemic syndromes;

IV.A.2.a).(2).(b) bleeding disorders or complications associated with percutaneous intervention or drugs, which may include ~~ing but not limited to~~:

IV.A.2.a).(2).(b).(i) bleeding after thrombolytic usage;

IV.A.2.a).(2).(b).(ii) direct or indirect thrombin inhibitor usage;

IV.A.2.a).(2).(b).(iii) glycoprotein IIb/IIIa inhibitor usage; and,

511 IV.A.2.a).(2).(b).(iv) thienopyridine or other antiplatelet usage.

513 IV.A.2.a).(2).(c) chronic ischemic heart disease; and,

515 IV.A.2.a).(2).(d) valvular and structural heart disease.

517 IV.A.2.a).(3) must demonstrate competence in:

519–520 IV.A.2.a).(3).(a) care of ~~the~~ patients before and after interventional procedures;

522–523 IV.A.2.a).(3).(b) care of patients in the cardiac care unit, emergency department, or other intensive care settings;

525–526 IV.A.2.a).(3).(c) outpatient follow-up of patients treated with drugs, interventions, devices, or surgery;

528 IV.A.2.a).(3).(d) use of antiarrhythmic drugs;

530–532 IV.A.2.a).(3).(e) use and limitations of intra-aortic balloon counterpulsation (IABP) and other hemodynamic support devices (as available);

534–535 IV.A.2.a).(3).(f) use of thrombolytic and antithrombolytic, antiplatelet, and antithrombin agents; and,

537–538 IV.A.2.a).(3).(g) use of vasoactive agents for epicardial and microvascular spasm.

540–542 IV.A.2.a).(4) must ~~have formal instruction, clinical experience, and must~~ demonstrate competence in the performance of ~~the following~~:

544 IV.A.2.a).(4).(a) coronary arteriograms;

546–547 IV.A.2.a).(4).(b) ~~minimum of 250~~ coronary interventions, (each fellow must perform a minimum of 250) including:

549–551 IV.A.2.a).(4).(b).(i) application and usage of balloon angioplasty, stents, and other commonly used interventional devices; and,

553–555 IV.A.2.a).(4).(b).(ii) femoral and brachial/radial cannulation of normal and abnormally located coronary ostia.

557–558 IV.A.2.a).(4).(c) Doppler flow, intracoronary pressure measurement and monitoring, and coronary flow reserve;

560 IV.A.2.a).(4).(d) hemodynamic measurements;

562 IV.A.2.a).(4).(e) intravascular ultrasound; and,
563
564 IV.A.2.a).(4).(f) ventriculography and aortography.
565 ~~IV.A.2.a).(4).(g) management of mechanical complications of~~
566 ~~percutaneous intervention, including but not limited~~
567 ~~to:~~
568
569 ~~IV.A.2.a).(4).(h) coronary dissection;~~
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571 ~~IV.A.2.a).(4).(i) thrombosis;~~
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573 ~~IV.A.2.a).(4).(j) spasm;~~
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575 ~~IV.A.2.a).(4).(k) perforation;~~
576
577 ~~IV.A.2.a).(4).(l) "slow reflow";~~
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579 ~~IV.A.2.a).(4).(m) cardiogenic shock;~~
580
581 ~~IV.A.2.a).(4).(n) left main trunk dissection;~~
582
583 ~~IV.A.2.a).(4).(o) cardiac tamponade including pericardiocentesis;~~
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585 ~~IV.A.2.a).(4).(p) peripheral vessel occlusion and retained~~
586 ~~components; and pseudoaneurysm.~~
587
588 IV.A.2.a).(5) must demonstrate competence in the management of
589 mechanical complications of percutaneous intervention,
590 which may include:
591
592 IV.A.2.a).(5).(a) cardiac tamponade, including pericardiocentesis;
593
594 IV.A.2.a).(5).(b) cardiogenic shock;
595
596 IV.A.2.a).(5).(c) coronary dissection;
597
598 IV.A.2.a).(5).(d) perforation;
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600 IV.A.2.a).(5).(e) slow reflow;
601
602 IV.A.2.a).(5).(f) spasm; and,
603
604 IV.A.2.a).(5).(g) thrombosis.
605
606 IV.A.2.a).(6) must demonstrate competence in the management of
607 patients with vascular assessment complications, including
608 management of closure device complications and
609 pseudoaneurysm; and,
610
611 IV.A.2.a).(7) must demonstrate competence in the management of
612 patients with major and minor bleeding complications,

including retroperitoneal bleeding.

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:

IV.A.2.b).(1) *must demonstrate knowledge of the scientific method of problem solving and evidence-based decision making;* ~~commitment to lifelong learning, and an attitude of caring that is derived from humanistic and professional values.~~

IV.A.2.b).(2) *must ~~develop~~ demonstrate a knowledge ~~understanding~~ of indications, contraindications, limitations, complications, techniques, and interpretation of results of those diagnostic and therapeutic procedures integral to the discipline, including the appropriate indication for and use of screening tests/procedures;*

IV.A.2.b).(3) must ~~have formal instruction for the fellows to acquire~~ demonstrate knowledge of~~ the following content areas~~:

IV.A.2.b).(3).(a) detailed coronary anatomy;

IV.A.2.b).(3).(b) clinical utility and limitations of the treatment of valvular and structural heart disease;

IV.A.2.b).(3).(c) pathophysiology of restenosis;

IV.A.2.b).(3).(d) physiology of coronary flow and detection of flow-limiting conditions;

IV.A.2.b).(3).(e) radiation physics, biology, and safety related to the use of x-ray imaging equipment;

~~IV.A.2.b).(3).(f) strengths and limitations, both short- and long-term, of percutaneous versus surgical and medical therapy for a wide variety of clinical and anatomic situations related to cardiovascular disease;~~

IV.A.2.b).(3).(g) strengths and limitations of both noninvasive and invasive coronary evaluation during the recovery phase after acute myocardial infarction;

IV.A.2.b).(3).(h) strengths and limitations, both short- and long-term, of differing percutaneous approaches for a wide variety of anatomic situations related to cardiovascular disease;

IV.A.2.b).(3).(i) strengths and weaknesses of mechanical versus lytic approaches for patients with acute myocardial infarction;

IV.A.2.b).(3).(j) ~~understanding the~~ the assessment of plaque composition and response to intervention;

IV.A.2.b).(3).(k) the clinical importance of complete versus incomplete revascularization in a wide variety of clinical and anatomic situations;

IV.A.2.b).(3).(l) the role of emergency coronary bypass surgery in the management of complications of percutaneous intervention;

IV.A.2.b).(3).(m) the role and limitations of established and emerging therapies for treatment of restenosis;

IV.A.2.b).(3).(n) the role of platelets and the clotting cascade in response to vascular injury;

IV.A.2.b).(3).(o) the role of randomized clinical trials and registry experiences in clinical decision making; and,

IV.A.2.b).(3).(p) the use of pharmacologic agents appropriate in the post-intervention management of patients.

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

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

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

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

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

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

IV.A.2.d).(1) Fellows must demonstrate competence in providing consultation and obtaining informed consent.

IV.A.2.e) Professionalism

715
716 **Fellows must demonstrate a commitment to carrying out**
717 **professional responsibilities and an adherence to ethical**
718 **principles.**
719
720 *IV.A.2.e).(1)* *Fellows must demonstrate:*
721
722 *IV.A.2.e).(1).(a)* *high standards of ethical behavior, including*
723 *maintaining appropriate professional boundaries*
724 *and relationships with other physicians and other*
725 *health care team members, and avoiding conflicts*
726 *of interest; and,*
727
728 *IV.A.2.e).(1).(b)* *a commitment to lifelong learning, and an attitude*
729 *of caring that is derived from humanistic and*
730 *professional values.*
731
732 **IV.A.2.f)** **Systems-based Practice**
733
734 **Fellows must demonstrate an awareness of and**
735 **responsiveness to the larger context and system of health**
736 **care, as well as the ability to call effectively on other**
737 **resources in the system to provide optimal health care.**
738
739 IV.A.3. Curriculum Organization and Fellow Experiences
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741 IV.A.3.a) All 12 months must include ~~appropriate protected, block or~~
742 ~~concurrent time, for fellow's research~~ clinical experiences and
743 appropriate protected ~~(block or concurrent)~~ time for research.
744
745 IV.A.3.b) *Fellows must participate in training using simulation.*
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747 *IV.A.3.c)* *The core curriculum must include a didactic program based upon*
748 *the core knowledge content in the subspecialty area.*
749
750 *IV.A.3.c).(1)* *The program must afford each fellow an opportunity to*
751 *review topics covered in conferences that he or she was*
752 *unable to attend.*
753
754 *IV.A.3.c).(2)* *Fellows must participate in clinical case conferences,*
755 *journal clubs, research conferences, and morbidity and*
756 *mortality or quality improvement conferences.*
757
758 *IV.A.3.c).(3)* *All core conferences must have at least one faculty*
759 *member preset, and must be scheduled as to ensure peer-*
760 *peer and peer-faculty interaction.*
761
762 *IV.A.3.d)* *Fellows must be instructed in practice management relevant to*
763 *interventional cardiology.*
764
765 IV.A.3.e) Fellows must attend an outpatient ~~program~~ clinic ~~must exist~~ to

766 provide follow-up care for patients.
767
768 *IV.A.3.f)* Procedures and Technical Skills
769
770 *IV.A.3.f).(1)* *Direct ~~faculty~~ supervision of procedures performed by each*
771 *fellow must occur until proficiency has been acquired and*
772 *documented by the program director.*
773
774 IV.A.3.f).(2) ~~A skilled preceptor~~ Faculty members must ~~be available to~~
775 teach and supervise the fellows in the performance and
776 interpretation of ~~these~~ procedures, which must be
777 documented in each fellow's record, ~~giving~~ including
778 indications, outcomes, diagnoses, and supervisor(s).
779
780 IV.A.3.f).(3) All fellows must:
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782 IV.A.3.f).(3).(a) participate in pre-procedural planning, including the
783 indications for the procedure, and the selection of
784 the appropriate procedure or instruments;
785
786 IV.A.3.f).(3).(b) perform the critical technical manipulations of the
787 procedure; and,
788
789 IV.A.3.f).(3).(c) demonstrate substantial involvement in post-
790 procedure care.
791
792 **IV.B. Fellows' Scholarly Activities**
793
794 IV.B.1. ~~Fellows should participate in scholarly activity.~~ *Each program must*
795 *provide an opportunity for fellows to participate in research or other*
796 *scholarly activities, including:*
797
798 IV.B.1.a) *a research project (with faculty mentorship); or,*
799
800 IV.B.1.b) *participation with the faculty in the initiation and conduct of clinical*
801 *trials within the department; or,*
802
803 IV.B.1.c) *participation in quality assurance/quality improvement or process*
804 *improvement projects.*
805
806 **V. Evaluation**
807
808 **V.A. Fellow Evaluation**
809
810 **V.A.1. Formative Evaluation**
811
812 **V.A.1.a) The faculty must evaluate fellow performance in a timely**
813 **manner.**
814
815 *V.A.1.a).(1)* The faculty must discuss evaluations with each fellow at
816 least every three months. ~~*The faculty must discuss this*~~

817 ~~*evaluation with the fellow at the completion of the*~~
818 ~~*assignment.*~~
819
820 ~~V.A.1.a).(1).(a)~~ ~~Fellow performance in an outpatient follow-up clinic~~
821 ~~must be reviewed with them verbally and in writing~~
822 ~~at least every three months.~~
823
824 *V.A.1.a).(2)* *Assessment of procedural competence should include a*
825 *formal evaluation process and not be based solely on a*
826 *minimum number of procedures performed.*
827
828 **V.A.1.b)** **The program must:**
829
830 **V.A.1.b).(1)** **provide objective assessments of competence in**
831 **patient care, medical knowledge, practice-based**
832 **learning and improvement, interpersonal and**
833 **communication skills, professionalism, and systems-**
834 **based practice;**
835
836 *V.A.1.b).(1).(a)* *Patient Care*
837
838 *The program must assess the fellow in data*
839 *gathering, clinical reasoning, patient management,*
840 *and procedures in both the inpatient and outpatient*
841 *setting. This assessment must involve direct*
842 *observation of fellow-patient encounters.*
843
844 *Each program must define ~~a standard~~ criteria for*
845 *~~proficiency~~ competence for all required and elective*
846 *procedures.*
847
848 *V.A.1.b).(1).(a).(i)* *The record of evaluation must include the*
849 *fellow's logbook or an equivalent method to*
850 *demonstrate that each fellow has achieved*
851 *competence in the performance of required*
852 *procedures.*
853
854 *V.A.1.b).(1).(b)* *Medical Knowledge*
855
856 *The program must use an objective formative*
857 *assessment method. The same formative*
858 *assessment method must be administered at least*
859 *twice during the program.*
860
861 *V.A.1.b).(1).(c)* *Practice-based Learning and Improvement*
862
863 *The program must use performance data to assess*
864 *the fellow in:*
865
866 *V.A.1.b).(1).(c).(i)* *application of evidence to patient care;*
867

868 *V.A.1.b).(1).(c).(ii)* *practice improvement;*
869
870 *V.A.1.b).(1).(c).(iii)* *teaching skills involving peers and patients;*
871 *and,*
872
873 *V.A.1.b).(1).(c).(iv)* *scholarship.*
874
875 *V.A.1.b).(1).(d)* *Interpersonal and Communication Skills*
876
877 *The program must use both direct observation and*
878 *multi-source evaluation, including patients, peers*
879 *and non-physician team members, to assess fellow*
880 *performance in:*
881
882 *V.A.1.b).(1).(d).(i)* *communication with patient and family;*
883
884 *V.A.1.b).(1).(d).(ii)* *teamwork;*
885
886 *V.A.1.b).(1).(d).(iii)* *communication with peers, including*
887 *transitions in care; and,*
888
889 *V.A.1.b).(1).(d).(iv)* *record keeping.*
890
891 *V.A.1.b).(1).(e)* *Professionalism*
892
893 *The program must use multi-source evaluation,*
894 *including patients, peers, and non-physician team*
895 *members, to assess each fellow:*
896
897 *V.A.1.b).(1).(e).(i)* *honesty and integrity;*
898
899 *V.A.1.b).(1).(e).(ii)* *ability to meet professional responsibilities;*
900
901 *V.A.1.b).(1).(e).(iii)* *ability to maintain appropriate professional*
902 *relationships with patients and colleagues;*
903 *and,*
904
905 *V.A.1.b).(1).(e).(iv)* *commitment to self-improvement.*
906
907 *V.A.1.b).(1).(f)* *Systems-based Practice*
908
909 *The program must use multi-source evaluation,*
910 *including peers, and non-physician team members,*
911 *to assess each fellow's:*
912
913 *V.A.1.b).(1).(f).(i)* *ability to provide care coordination,*
914 *including transition of care;*
915
916 *V.A.1.b).(1).(f).(ii)* *ability to work in interdisciplinary teams;*
917
918 *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); and,**

V.A.1.b).(3) **provide each fellow with documented semiannual evaluation of performance with feedback.**

V.A.1.c) **The evaluation of fellow performance must be accessible for review by the fellows, in accordance with institutional policy.**

V.A.2. **Summative Evaluation**

The program director must provide a summative evaluation for each fellow upon completion of the program. This evaluation must become part of the fellow's permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy. This evaluation must:

V.A.2.a) **document the fellow's performance during their education; and,**

V.A.2.b) **verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision.**

V.B. **Faculty Evaluation**

V.B.1. **At least annually, the program must evaluate faculty performance as it relates to the educational program.**

V.B.2. **These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities. These evaluations must be confidential, and must be reviewed with the faculty members annually.**

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

V.B.4. *~~be reviewed~~ These evaluations must be reviewed with ~~attending~~ 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 program's graduating fellows from ~~those eligible to take an ABIM subspecialty certifying examination upon completion of their training for~~ the most recently defined five year period who are eligible should ~~must have~~ taken ~~an~~ the ABIM ~~subspecialty~~ certifying examination. ~~(Note: Five-year rolling pass rate for first time takers of the ABIM certifying examination will be examined at each program review).~~*

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.c).(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.1.a).(1)* *Fellows' service responsibilities must be limited to patients for whom the teaching service has diagnostic and therapeutic responsibility.*~~

VI.A.5. **The program director and sponsoring institution must ensure a culture of professionalism that supports patient safety and personal responsibility. Fellows and faculty members must demonstrate an understanding and acceptance of their personal role in the following:**

VI.A.5.a) **assurance of the safety and welfare of patients entrusted to their care;**

VI.A.5.b) **provision of patient- and family-centered care;**

VI.A.5.c) **assurance of their fitness for duty;**

VI.A.5.d) **management of their time before, during, and after clinical assignments;**

VI.A.5.e) **recognition of impairment, including illness and fatigue, in themselves and in their peers;**

VI.A.5.f) **attention to lifelong learning;**

VI.A.5.g) **the monitoring of their patient care performance improvement indicators; and,**

VI.A.5.h) **honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.**

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

VI.B. **Transitions of Care**

VI.B.1. **Programs must design clinical assignments to minimize the number of transitions in patient care.**

1072 **VI.B.2.** **Sponsoring institutions and programs must ensure and monitor**
1073 **effective, structured hand-over processes to facilitate both**
1074 **continuity of care and patient safety.**
1075
1076 **VI.B.3.** **Programs must ensure that fellows are competent in communicating**
1077 **with team members in the hand-over process.**
1078
1079 **VI.B.4.** **The sponsoring institution must ensure the availability of schedules**
1080 **that inform all members of the health care team of attending**
1081 **physicians and fellows currently responsible for each patient's care.**
1082
1083 **VI.C.** **Alertness Management/Fatigue Mitigation**
1084
1085 **VI.C.1.** **The program must:**
1086
1087 **VI.C.1.a)** **educate all faculty members and fellows to recognize the**
1088 **signs of fatigue and sleep deprivation;**
1089
1090 **VI.C.1.b)** **educate all faculty members and fellows in alertness**
1091 **management and fatigue mitigation processes; and,**
1092
1093 **VI.C.1.c)** **adopt fatigue mitigation processes to manage the potential**
1094 **negative effects of fatigue on patient care and learning, such**
1095 **as naps or back-up call schedules.**
1096
1097 **VI.C.2.** **Each program must have a process to ensure continuity of patient**
1098 **care in the event that a fellow may be unable to perform his/her**
1099 **patient care duties.**
1100
1101 **VI.C.3.** **The sponsoring institution must provide adequate sleep facilities**
1102 **and/or safe transportation options for fellows who may be too**
1103 **fatigued to safely return home.**
1104
1105 **VI.D.** **Supervision of Fellows**
1106
1107 **VI.D.1.** **In the clinical learning environment, each patient must have an**
1108 **identifiable, appropriately-credentialed and privileged attending**
1109 **physician (or licensed independent practitioner as approved by each**
1110 **Review Committee) who is ultimately responsible for that patient's**
1111 **care.**
1112
1113 **VI.D.1.a)** **This information should be available to fellows, faculty**
1114 **members, and patients.**
1115
1116 **VI.D.1.b)** **Fellows and faculty members should inform patients of their**
1117 **respective roles in each patient's care.**
1118
1119 **VI.D.2.** **The program must demonstrate that the appropriate level of**
1120 **supervision is in place for all fellows who care for patients.**
1121
1122 **Supervision may be exercised through a variety of methods. Some**

1123 **activities require the physical presence of the supervising faculty member. For many aspects of patient care, the supervising physician may be a more advanced fellow. Other portions of care provided by the fellow can be adequately supervised by the immediate availability of the supervising faculty member or fellow physician, either in the institution, or by means of telephonic and/or electronic modalities. In some circumstances, supervision may include post-hoc review of fellow-delivered care with feedback as to the appropriateness of that care.**

1133 **VI.D.3. Levels of Supervision**

1135 **To ensure oversight of fellow supervision and graded authority and responsibility, the program must use the following classification of supervision:**

1139 **VI.D.3.a) Direct Supervision – the supervising physician is physically present with the fellow and patient.**

1142 **VI.D.3.b) Indirect Supervision:**

1144 **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.**

1149 **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.**

1156 **VI.D.3.c) Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.**

1160 **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.**

1165 **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.**

1169 **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.**

1173 **VI.D.4.c) Fellows should serve in a supervisory role of residents or**

1174 **junior fellows in recognition of their progress toward**
1175 **independence, based on the needs of each patient and the**
1176 **skills of the individual fellow.**
1177
1178 **VI.D.5.** **Programs must set guidelines for circumstances and events in**
1179 **which fellows must communicate with appropriate supervising**
1180 **faculty members, such as the transfer of a patient to an intensive**
1181 **care unit, or end-of-life decisions.**
1182
1183 **VI.D.5.a)** **Each fellow must know the limits of his/her scope of**
1184 **authority, and the circumstances under which he/she is**
1185 **permitted to act with conditional independence.**
1186
1187 **VI.D.6.** **Faculty supervision assignments should be of sufficient duration to**
1188 **assess the knowledge and skills of each fellow and delegate to**
1189 **him/her the appropriate level of patient care authority and**
1190 **responsibility.**
1191
1192 **VI.E.** **Clinical Responsibilities**
1193
1194 **The clinical responsibilities for each fellow must be based on PGY-level,**
1195 **patient safety, fellow education, severity and complexity of patient**
1196 **illness/condition and available support services.**
1197
1198 **VI.F.** **Teamwork**
1199
1200 **Fellows must care for patients in an environment that maximizes effective**
1201 **communication. This must include the opportunity to work as a member of**
1202 **effective interprofessional teams that are appropriate to the delivery of care**
1203 **in the specialty.**
1204
1205 **VI.G.** **Fellow Duty Hours**
1206
1207 **VI.G.1.** **Maximum Hours of Work per Week**
1208
1209 **Duty hours must be limited to 80 hours per week, averaged over a**
1210 **four-week period, inclusive of all in-house call activities and all**
1211 **moonlighting.**
1212
1213 **VI.G.1.a)** **Duty Hour Exceptions**
1214
1215 **A Review Committee may grant exceptions for up to 10% or a**
1216 **maximum of 88 hours to individual programs based on a**
1217 **sound educational rationale.**
1218
1219 *The Review Committee for Internal Medicine will not consider*
1220 *requests for exceptions to the 80-hour limit to the fellows' work*
1221 *week.*
1222
1223 **VI.G.1.a).(1)** **In preparing a request for an exception the program**
1224 **director must follow the duty hour exception policy**

1225 **from the ACGME Manual on Policies and Procedures.**
1226
1227 **VI.G.1.a).(2)** **Prior to submitting the request to the Review**
1228 **Committee, the program director must obtain approval**
1229 **of the institution's GMEC and DIO.**
1230
1231 **VI.G.2.** **Moonlighting**
1232
1233 **VI.G.2.a)** **Moonlighting must not interfere with the ability of the fellow**
1234 **to achieve the goals and objectives of the educational**
1235 **program.**
1236
1237 **VI.G.2.b)** **Time spent by fellows in Internal and External Moonlighting**
1238 **(as defined in the ACGME Glossary of Terms) must be**
1239 **counted towards the 80-hour Maximum Weekly Hour Limit.**
1240
1241 **VI.G.3.** **Mandatory Time Free of Duty**
1242
1243 **Fellows must be scheduled for a minimum of one day free of duty**
1244 **every week (when averaged over four weeks). At-home call cannot**
1245 **be assigned on these free days.**
1246
1247 **VI.G.4.** **Maximum Duty Period Length**
1248
1249 **Duty periods of fellows may be scheduled to a maximum of 24 hours**
1250 **of continuous duty in the hospital. Programs must encourage**
1251 **fellows to use alertness management strategies in the context of**
1252 **patient care responsibilities. Strategic napping, especially after 16**
1253 **hours of continuous duty and between the hours of 10:00 p.m. and**
1254 **8:00 a.m., is strongly suggested.**
1255
1256 **VI.G.4.a)** **It is essential for patient safety and fellow education that**
1257 **effective transitions in care occur. Fellows may be allowed to**
1258 **remain on-site in order to accomplish these tasks; however,**
1259 **this period of time must be no longer than an additional four**
1260 **hours.**
1261
1262 **VI.G.4.b)** **Fellows must not be assigned additional clinical**
1263 **responsibilities after 24 hours of continuous in-house duty.**
1264
1265 **VI.G.4.c)** **In unusual circumstances, fellows, on their own initiative,**
1266 **may remain beyond their scheduled period of duty to**
1267 **continue to provide care to a single patient. Justifications for**
1268 **such extensions of duty are limited to reasons of required**
1269 **continuity for a severely ill or unstable patient, academic**
1270 **importance of the events transpiring, or humanistic attention**
1271 **to the needs of a patient or family.**
1272
1273 **VI.G.4.c).(1)** **Under those circumstances, the fellow must:**
1274
1275 **VI.G.4.c).(1).(a)** **appropriately hand over the care of all other**

1276 **patients to the team responsible for their**
1277 **continuing care; and,**
1278
1279 **VI.G.4.c).(1).(b)** **document the reasons for remaining to care for**
1280 **the patient in question and submit that**
1281 **documentation in every circumstance to the**
1282 **program director.**
1283
1284 **VI.G.4.c).(2)** **The program director must review each submission of**
1285 **additional service, and track both individual fellow and**
1286 **program-wide episodes of additional duty.**
1287
1288 **VI.G.5.** **Minimum Time Off between Scheduled Duty Periods**
1289
1290 **VI.G.5.a)** **Fellows must be prepared to enter the unsupervised practice**
1291 **of medicine and care for patients over irregular or extended**
1292 **periods.**
1293
1294 *Internal medicine subspecialty fellows are considered to be in the*
1295 *final years of education.*
1296
1297 **VI.G.5.a).(1)** **This preparation must occur within the context of the**
1298 **80-hour, maximum duty period length, and one-day-**
1299 **off-in-seven standards. While it is desirable that**
1300 **fellows have eight hours free of duty between**
1301 **scheduled duty periods, there may be circumstances**
1302 **when these fellows must stay on duty to care for their**
1303 **patients or return to the hospital with fewer than eight**
1304 **hours free of duty.**
1305
1306 **VI.G.5.a).(1).(a)** **Circumstances of return-to-hospital activities**
1307 **with fewer than eight hours away from the**
1308 **hospital by fellows must be monitored by the**
1309 **program director.**
1310
1311 *VI.G.5.a).(1).(b)* *In unusual circumstances, fellows may remain*
1312 *beyond their scheduled period of duty or return*
1313 *after their scheduled period of duty to provide care*
1314 *to a single patient. Justifications for such*
1315 *extensions of duty are limited to reasons of*
1316 *required continuity of care for a severely ill or*
1317 *unstable patient, academic importance of the*
1318 *events transpiring, or humanistic attention to the*
1319 *needs of the patient or family. Such episodes*
1320 *should be rare, must be of the fellows' own*
1321 *initiative, and need not initiate a new 'off-duty*
1322 *period' nor require a change in the scheduled 'off-*
1323 *duty period.'*
1324
1325 *VI.G.5.a).(1).(c)* *Under such circumstances, the fellow must*
1326 *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.a).(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

Fellows 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 ~~residency programs are~~ fellowships must not ~~allowed to~~ 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".

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