ACGME Program Requirements for Graduate Medical Education in Interventional Radiology

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Contents

Introduction 3
Int.A. Preamble 3
Int.B. Definition of Specialty 3
Int.C. Length of Educational Program 4
I. Oversight 4
I.A. Sponsoring Institution 4
I.B. Participating Sites 5
I.C. Recruitment 6
I.D. Resources 6
I.E. Other Learners and Other Care Providers 9
II. Personnel 10
II.A. Program Director 10
II.B. Faculty 15
II.C. Program Coordinator 21
II.D. Other Program Personnel 22
III. Resident Appointments 23
III.A. Eligibility Requirements 23
III.B. Number of Residents 26
III.C. Resident Transfers 26
IV. Educational Program 27
IV.A. Curriculum Components 27
IV.B. ACGME Competencies 28
IV.C. Curriculum Organization and Resident Experiences 39
IV.D. Scholarship 51
V. Evaluation 53
V.A. Resident Evaluation 53
V.B. Faculty Evaluation 58
V.C. Program Evaluation and Improvement 59
VI. The Learning and Working Environment 62
VI.A. Patient Safety, Quality Improvement, Supervision, and Accountability 63
VI.B. Professionalism 69
VI.C. Well-Being 71
VI.D. Fatigue Mitigation 74
VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care 75
VI.F. Clinical Experience and Education 76

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ACGME Program Requirements for Graduate Medical Education in Interventional Radiology

Common Program Requirements (Residency) are in BOLD

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

Introduction

Int.A. ***Graduate medical education is the crucial step of professional development between medical school and autonomous clinical practice. It is in this vital phase of the continuum of medical education that residents learn to provide optimal patient care under the supervision of faculty members who not only instruct, but serve as role models of excellence, compassion, professionalism, and scholarship.***

Graduate medical education transforms medical students into physician scholars who care for the patient, family, and a diverse community; create and integrate new knowledge into practice; and educate future generations of physicians to serve the public. Practice patterns established during graduate medical education persist many years later.

Graduate medical education has as a core tenet the graded authority and responsibility for patient care. The care of patients is undertaken with appropriate faculty supervision and conditional independence, allowing residents to attain the knowledge, skills, attitudes, and empathy required for autonomous practice. Graduate medical education develops physicians who focus on excellence in delivery of safe, equitable, affordable, quality care; and the health of the populations they serve. Graduate medical education values the strength that a diverse group of physicians brings to medical care.

Graduate medical education occurs in clinical settings that establish the foundation for practice-based and lifelong learning. The professional development of the physician, begun in medical school, continues through faculty modeling of the effacement of self-interest in a humanistic environment that emphasizes joy in curiosity, problem-solving, academic rigor, and discovery. This transformation is often physically, emotionally, and intellectually demanding and occurs in a variety of clinical learning environments committed to graduate medical education and the well-being of patients, residents, fellows, faculty members, students, and all members of the health care team.

Int.B. **Definition of Specialty**

Interventional radiology focuses on diagnostic and therapeutic aspects of patient care through expertise in diagnostic imaging, image-guided, minimally invasive procedures, and the evaluation and clinical management of patients with conditions amenable to these methods. The residency program in interventional

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radiology offers quality medical educational experience in image-based diagnosis, as well as image-guided procedural education, and the peri- and post-procedural care of patients. Education in both the integrated and independent program formats includes resident development of mature technical skills and clinical judgment. On completion of the interventional radiology program, residents should be able to demonstrate competence in the specialty with sufficient expertise to act as independent providers of interventional procedures and care as consultants.

Int.C. Length of Educational Program

Int.C.1. Education in interventional radiology must be provided in one of the following formats, and all residents must be notified in writing of the required program length: (Core)*

Int.C.1.a) Independent Format: The educational program in the independent format must be 24 months in length. (Core)

Int.C.1.b) Integrated Format: The educational program in the integrated format must be either 60 months or 72 months in length. (Core)

Int. C.1.b).(1) The 60-month program must be comprised of 60 months of radiology education. (Core)

Int. C.1.b).(2) The 72-month program must be comprised of 12 months of education in fundamental clinical skills of medicine followed by 60 months of radiology education. (Core)

Int.C.1.b).(2).(a) Integrated programs seeking to utilize the 72-month format must submit an educational justification for using this format to the Review Committee for approval prior to implementation. The educational effectiveness of this format will be subject to evaluation at each subsequent program accreditation review. (Core)

Int.C.2. A Sponsoring Institution may sponsor both the integrated and independent program formats. (Detail)†

I. Oversight

I.A. Sponsoring Institution

The Sponsoring Institution is the organization or entity that assumes the ultimate financial and academic responsibility for a program of graduate medical education, consistent with the ACGME Institutional Requirements.

When the Sponsoring Institution is not a rotation site for the program, the most commonly utilized site of clinical activity for the program is the primary clinical site.

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Background and Intent: Participating sites will reflect the health care needs of the community and the educational needs of the residents. A wide variety of organizations may provide a robust educational experience and, thus, Sponsoring Institutions and participating sites may encompass inpatient and outpatient settings including, but not limited to a university, a medical school, a teaching hospital, a nursing home, a school of public health, a health department, a public health agency, an organized health care delivery system, a medical examiner's office, an educational consortium, a teaching health center, a physician group practice, federally qualified health center, or an educational foundation.

103
104 **I.A.1.** **The program must be sponsored by one ACGME-accredited**
105 **Sponsoring Institution.** (Core)
106
107 **I.B.** **Participating Sites**
108
109 ***A participating site is an organization providing educational experiences or***
110 ***educational assignments/rotations for residents.***
111
112 **I.B.1.** **The program, with approval of its Sponsoring Institution, must**
113 **designate a primary clinical site.** (Core)
114
115 I.B.1.a) Interventional radiology education should occur in environments
116 with other residents and/or fellows from other specialties at the
117 Sponsoring Institution and/or participating sites to facilitate the
118 interchange of knowledge and experience among the residents.
119 (Core)~~(Detail)~~
120
121 **I.B.2.** **There must be a program letter of agreement (PLA) between the**
122 **program and each participating site that governs the relationship**
123 **between the program and the participating site providing a required**
124 **assignment.** (Core)
125
126 **I.B.2.a)** **The PLA must:**
127
128 **I.B.2.a).(1)** **be renewed at least every 10 years; and,** (Core)
129
130 **I.B.2.a).(2)** **be approved by the designated institutional official**
131 **(DIO).** (Core)
132
133 **I.B.3.** **The program must monitor the clinical learning and working**
134 **environment at all participating sites.** (Core)
135
136 **I.B.3.a)** **At each participating site there must be one faculty member,**
137 **designated by the program director as the site director, who**
138 **is accountable for resident education at that site, in**
139 **collaboration with the program director.** (Core)
140

Background and Intent: While all residency programs must be sponsored by a single ACGME-accredited Sponsoring Institution, many programs will utilize other clinical settings to provide required or elective training experiences. At times it is appropriate to utilize community sites that are not owned by or affiliated with the Sponsoring

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Institution. Some of these sites may be remote for geographic, transportation, or communication issues. When utilizing such sites the program must ensure the quality of the educational experience. The requirements under I.B.3. are intended to ensure that this will be the case.

Suggested elements to be considered in PLAs will be found in the ACGME Program Director's Guide to the Common Program Requirements. These include:

- **Identifying the faculty members who will assume educational and supervisory responsibility for residents**
- **Specifying the responsibilities for teaching, supervision, and formal evaluation of residents**
- **Specifying the duration and content of the educational experience**
- **Stating the policies and procedures that will govern resident education during the assignment**

141
142 **I.B.4.** **The program director must submit any additions or deletions of**
143 **participating sites routinely providing an educational experience,**
144 **required for all residents, of one month full time equivalent (FTE) or**
145 **more through the ACGME's Accreditation Data System (ADS).** **(Core)**
146
147 I.B.5. Programs with multiple participating sites must ensure the provision of a
148 cohesive educational experience. (Core)
149
150 I.B.6. Each participating site must offer meaningful educational opportunities
151 that enrich the overall program. (Core)
152
153 **I.C.** **The program, in partnership with its Sponsoring Institution, must engage in**
154 **practices that focus on mission-driven, ongoing, systematic recruitment**
155 **and retention of a diverse and inclusive workforce of residents, fellows (if**
156 **present), faculty members, senior administrative staff members, and other**
157 **relevant members of its academic community.** **(Core)**
158

Background and Intent: It is expected that the Sponsoring Institution has, and programs implement, policies and procedures related to recruitment and retention of minorities underrepresented in medicine and medical leadership in accordance with the Sponsoring Institution's mission and aims. The program's annual evaluation must include an assessment of the program's efforts to recruit and retain a diverse workforce, as noted in V.C.1.c).(5).(c).

159
160 **I.D.** **Resources**
161
162 **I.D.1.** **The program, in partnership with its Sponsoring Institution, must**
163 **ensure the availability of adequate resources for resident education.**
164 **(Core)**
165
166 I.D.1.a) The program must provide adequate space, necessary
167 equipment, and modern facilities to ensure an effective
168 educational experience for residents in all of the
169 specialty/subspecialty rotations. (Core)
170

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I.D.1.a).(1) There should be adequate personal or shared office space, conference space, and access to computers. (Core)~~(Detail)~~

I.D.1.a).(2) Modern imaging equipment and procedure rooms must be available with adequate space to permit the performance of all radiologic and interventional radiologic procedures, including vascular and non-vascular invasive imaging and image-guided interventional radiological procedures broadly distributed over the domain of interventional radiology. (Core)

I.D.1.a).(3) Imaging modalities must include fluoroscopy, digital subtraction angiography, computed tomography (CT), ultrasonography, magnetic resonance imaging (MRI), and radionuclide scintigraphy. (Core)

I.D.1.a).(3).(a) Fluoroscopic and digital imaging equipment should be high resolution and have digital display with post-procedure image processing capability. (Core)~~(Detail)~~

I.D.1.a).(4) Rooms in which interventional procedures are performed must be equipped with physiologic monitoring and resuscitative equipment. (Core)

I.D.1.a).(5) There should be facilities for storing catheters, guide wires, contrast materials, embolic agents, and other supplies adjacent to or within procedure rooms. (Core)~~(Detail)~~

I.D.1.a).(6) Patient recovery and holding areas must be available. (Core)

I.D.1.a).(7) There must be space and facilities for image display, image interpretation, and consultation with other clinicians. (Core)

I.D.1.a).(8) An interventional radiology clinic or outpatient office, separate from the procedure rooms, must be available for patient consultations and non-procedural follow-up visits. (Core)

I.D.1.a).(8).(a) This space should be conducive to patient privacy and conducting physical examinations. (Core)~~(Detail)~~

I.D.1.b) Support Services

I.D.1.b).(1) Pathology and medical laboratory services must be regularly and conveniently available to meet the needs of patients. (Core)

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I.D.1.b).(1).(a) Laboratory services must be available 24 hours a day. (Core)

I.D.1.b).(2) Diagnostic laboratories for the non-invasive assessment of peripheral vascular disease must be available. (Core)

I.D.1.b).(3) The sponsoring institution and program should provide laboratory and ancillary facilities to support research projects. (Core)~~(Detail)~~

I.D.2. The program, in partnership with its Sponsoring Institution, must ensure healthy and safe learning and working environments that promote resident well-being and provide for: (Core)

I.D.2.a) access to food while on duty; (Core)

I.D.2.b) safe, quiet, clean, and private sleep/rest facilities available and accessible for residents with proximity appropriate for safe patient care; (Core)

Background and Intent: Care of patients within a hospital or health system occurs continually through the day and night. Such care requires that residents function at their peak abilities, which requires the work environment to provide them with the ability to meet their basic needs within proximity of their clinical responsibilities. Access to food and rest are examples of these basic needs, which must be met while residents are working. Residents should have access to refrigeration where food may be stored. Food should be available when residents are required to be in the hospital overnight. Rest facilities are necessary, even when overnight call is not required, to accommodate the fatigued resident.

I.D.2.c) clean and private facilities for lactation that have refrigeration capabilities, with proximity appropriate for safe patient care; (Core)

Background and Intent: Sites must provide private and clean locations where residents may lactate and store the milk within a refrigerator. These locations should be in close proximity to clinical responsibilities. It would be helpful to have additional support within these locations that may assist the resident with the continued care of patients, such as a computer and a phone. While space is important, the time required for lactation is also critical for the well-being of the resident and the resident's family, as outlined in VI.C.1.d).(1).

I.D.2.d) security and safety measures appropriate to the participating site; and, (Core)

I.D.2.e) accommodations for residents with disabilities consistent with the Sponsoring Institution’s policy. (Core)

I.D.3. Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. This

must include access to electronic medical literature databases with full text capabilities. (Core)

I.D.4. The program's educational and clinical resources must be adequate to support the number of residents appointed to the program. (Core)

I.D.4.a) Patient Population

I.D.4.a).(1) The program must ensure a sufficient volume and variety of pediatric and adult patients for residents to gain experience in the full spectrum of radiological and interventional radiological examinations, procedures, interpretations, outpatient clinic visits, and inpatient consultations. (Core)

I.D.4.a).(1).(a) For integrated programs, the program must have at least 7,000 radiological examinations per year per resident in both the diagnostic radiology program and in the PGY-2-4 years of the integrated interventional radiology program, if applicable. (Core)

I.D.4.a).(2) The patient population must provide a diversity of illnesses from which a broad experience in interventional radiology can be obtained. (Core)

I.D.4.a).(2).(a) This must include patients with, arterial disease~~s~~, cancer, gastrointestinal disease~~s~~, gynecologic disorder~~s~~, hepatobiliary disease~~s~~, endocrine disease~~s~~, musculoskeletal disease~~s~~, pulmonary disease~~s~~, venous disease~~s~~, and urologic disorder~~s~~. (Core)

I.E. The presence of other learners and other care providers, including, but not limited to, residents from other programs, subspecialty fellows, and advanced practice providers, must enrich the appointed residents' education. (Core)

I.E.1. The program must report circumstances when the presence of other learners has interfered with the residents' education to the DIO and Graduate Medical Education Committee (GMEC). (Core)

Background and Intent: The clinical learning environment has become increasingly complex and often includes care providers, students, and post-graduate residents and fellows from multiple disciplines. The presence of these practitioners and their learners enriches the learning environment. Programs have a responsibility to monitor the learning environment to ensure that residents' education is not compromised by the presence of other providers and learners.

Specialty-Specific Background and Intent: In providing oversight of the clinical resources available to the residents, programs have a responsibility to ensure that the educational

opportunities available to interventional radiology residents are not diluted or detracted by the presence of diagnostic radiology residents.

297
298 **II. Personnel**
299
300 **II.A. Program Director**
301
302 **II.A.1.** **There must be one faculty member appointed as program director**
303 **with authority and accountability for the overall program, including**
304 **compliance with all applicable program requirements.** (Core)
305
306 **II.A.1.a)** **The Sponsoring Institution's GMEC must approve a change in**
307 **program director.** (Core)
308
309 **II.A.1.b)** **Final approval of the program director resides with the**
310 **Review Committee.** (Core)
311

Background and Intent: While the ACGME recognizes the value of input from numerous individuals in the management of a residency, a single individual must be designated as program director and made responsible for the program. This individual will have dedicated time for the leadership of the residency, and it is this individual's responsibility to communicate with the residents, faculty members, DIO, GMEC, and the ACGME. The program director's nomination is reviewed and approved by the GMEC. Final approval of program directors resides with the Review Committee.

312
313 **II.A.1.c)** **The program must demonstrate retention of the program**
314 **director for a length of time adequate to maintain continuity**
315 **of leadership and program stability.** (Core)
316

Background and Intent: The success of residency programs is generally enhanced by continuity in the program director position. The professional activities required of a program director are unique and complex and take time to master. All programs are encouraged to undertake succession planning to facilitate program stability when there is necessary turnover in the program director position.

317
318 **II.A.2.** **At a minimum, the program director must be provided with the**
319 **salary support required to devote 20 percent FTE of non-clinical**
320 **time to the administration of the program.** (Core)
321
322 II.A.2.a) Program directors who oversee both independent and integrated
323 interventional radiology programs at the same institution must be
324 provided protected time for administration of the independent
325 program according to the following: (Core)
326

Number of Approved Interventional Radiology-independent Resident Positions	Minimum Additional Program Director FTE
1-3 residents	0.05
4 or more residents	0.10

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327
328 II.A.2.b) In addition to the support requirements above, program directors
329 of 72-month integrated programs must be provided additional
330 support for the administration and oversight of the clinical year as
331 follows: (Core)
332

Number of Clinical Year Positions	Minimum Additional Program Director FTE
1-3 residents	0.10
4 or more residents	0.15

333

Background and Intent: Twenty percent FTE is defined as one day per week.

"Administrative time" is defined as non-clinical time spent meeting the responsibilities of the program director as detailed in requirements II.A.4.-II.A.4.a).(16).

The requirement does not address the source of funding required to provide the specified salary support.

334
335 **II.A.3. Qualifications of the program director:**
336
337 **II.A.3.a) must include specialty expertise and at least three years of**
338 **documented educational and/or administrative experience, or**
339 **qualifications acceptable to the Review Committee; (Core)**
340

Background and Intent: Leading a program requires knowledge and skills that are established during residency and subsequently further developed. The time period from completion of residency until assuming the role of program director allows the individual to cultivate leadership abilities while becoming professionally established. The three-year period is intended for the individual's professional maturation.

The broad allowance for educational and/or administrative experience recognizes that strong leaders arise through diverse pathways. These areas of expertise are important when identifying and appointing a program director. The choice of a program director should be informed by the mission of the program and the needs of the community.

In certain circumstances, the program and Sponsoring Institution may propose and the Review Committee may accept a candidate for program director who fulfills these goals but does not meet the three-year minimum.

341

Specialty-Specific Background and Intent: The Review Committee considers three years of educational and/or administrative experience an important quality for new program director candidates. Examples of educational and/or administrative experiences may include previous participation as an active faculty member in an ACGME-accredited or AOA-approved diagnostic radiology residency, interventional radiology residency, or vascular and interventional radiology fellowship program. In submitting a new program director request in ADS, the Review Committee will additionally request a letter of support from the DIO and a copy of the candidate's full CV for review.

342

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343 **II.A.3.b)** **must include current certification in the specialty for which they are the program director by the American Board of** Radiology (ABR) **or by the American Osteopathic Board of** Radiology**, or specialty qualifications that are acceptable to the Review Committee;** **(Core)**

349 II.A.3.b).(1) The program director must have certification by either the ABR or the American Osteopathic Board of Radiology (AOBR) in interventional radiology/diagnostic radiology, or in diagnostic radiology with subspecialty certification in vascular and interventional radiology. (Core)

355 II.A.3.b).(2) The Review Committee accepts only ABMS and AOA certification as acceptable qualifications for program director certification. (Core)

359 **II.A.3.c)** **must include current medical licensure and appropriate medical staff appointment;** **(Core)**

362 **II.A.3.d)** **must include ongoing clinical activity; and,** **(Core)**

Background and Intent: A program director is a role model for faculty members and residents. The program director must participate in clinical activity consistent with the specialty. This activity will allow the program director to role model the Core Competencies for the faculty members and residents.

365 II.A.3.e) must include demonstration of commitment of at least 80 percent of his or her clinical time in the specialty and to the administrative and educational activities of the interventional radiology program; (Core)

370 **II.A.4.** **Program Director Responsibilities**

372 **The program director must have responsibility, authority, and accountability for: administration and operations; teaching and scholarly activity; resident recruitment and selection, evaluation, and promotion of residents, and disciplinary action; supervision of residents; and resident education in the context of patient care.** **(Core)**

378 **II.A.4.a)** **The program director must:**

380 **II.A.4.a).(1)** **be a role model of professionalism;** **(Core)**

Background and Intent: The program director, as the leader of the program, must serve as a role model to residents in addition to fulfilling the technical aspects of the role. As residents are expected to demonstrate compassion, integrity, and respect for others, they must be able to look to the program director as an exemplar. It is of utmost importance, therefore, that the program director model outstanding professionalism, high quality patient care, educational excellence, and a scholarly approach to work. The program director creates an environment where respectful

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discussion is welcome, with the goal of continued improvement of the educational experience.

382
383 **II.A.4.a).(2)** **design and conduct the program in a fashion**
384 **consistent with the needs of the community, the**
385 **mission(s) of the Sponsoring Institution, and the**
386 **mission(s) of the program;** (Core)
387

Background and Intent: The mission of institutions participating in graduate medical education is to improve the health of the public. Each community has health needs that vary based upon location and demographics. Programs must understand the social determinants of health of the populations they serve and incorporate them in the design and implementation of the program curriculum, with the ultimate goal of addressing these needs and health disparities.

388
389 **II.A.4.a).(3)** **administer and maintain a learning environment**
390 **conducive to educating the residents in each of the**
391 **ACGME Competency domains;** (Core)
392

Background and Intent: The program director may establish a leadership team to assist in the accomplishment of program goals. Residency programs can be highly complex. In a complex organization, the leader typically has the ability to delegate authority to others, yet remains accountable. The leadership team may include physician and non-physician personnel with varying levels of education, training, and experience.

393

Specialty-Specific Background and Intent: Due to the intricate relationship between the interventional radiology program(s) and the diagnostic radiology program, routine collaboration between the leadership of these programs is essential in administering and maintaining a learning environment that ensures a cohesive educational experience for all diagnostic and interventional radiology residents.

394
395 **II.A.4.a).(4)** **develop and oversee a process to evaluate candidates**
396 **prior to approval as program faculty members for**
397 **participation in the residency program education and**
398 **at least annually thereafter, as outlined in V.B.;** (Core)
399
400 **II.A.4.a).(5)** **have the authority to approve program faculty**
401 **members for participation in the residency program**
402 **education at all sites;** (Core)
403
404 **II.A.4.a).(6)** **have the authority to remove program faculty**
405 **members from participation in the residency program**
406 **education at all sites;** (Core)
407
408 **II.A.4.a).(7)** **have the authority to remove residents from**
409 **supervising interactions and/or learning environments**
410 **that do not meet the standards of the program;** (Core)
411

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Background and Intent: The program director has the responsibility to ensure that all who educate residents effectively role model the Core Competencies. Working with a resident is a privilege that is earned through effective teaching and professional role modeling. This privilege may be removed by the program director when the standards of the clinical learning environment are not met.

There may be faculty in a department who are not part of the educational program, and the program director controls who is teaching the residents.

412

413 **II.A.4.a).(8)** **submit accurate and complete information required**
414 **and requested by the DIO, GMEC, and ACGME;** (Core)
415

416 **II.A.4.a).(9)** **provide applicants who are offered an interview with**
417 **information related to the applicant's eligibility for the**
418 **relevant specialty board examination(s);** (Core)
419

420 **II.A.4.a).(10)** **provide a learning and working environment in which**
421 **residents have the opportunity to raise concerns and**
422 **provide feedback in a confidential manner as**
423 **appropriate, without fear of intimidation or retaliation;**
424 (Core)
425

426 **II.A.4.a).(11)** **ensure the program's compliance with the Sponsoring**
427 **Institution's policies and procedures related to**
428 **grievances and due process;** (Core)
429

430 **II.A.4.a).(12)** **ensure the program's compliance with the Sponsoring**
431 **Institution's policies and procedures for due process**
432 **when action is taken to suspend or dismiss, not to**
433 **promote, or not to renew the appointment of a**
434 **resident;** (Core)
435

Background and Intent: A program does not operate independently of its Sponsoring Institution. It is expected that the program director will be aware of the Sponsoring Institution's policies and procedures, and will ensure they are followed by the program's leadership, faculty members, support personnel, and residents.

436

437 **II.A.4.a).(13)** **ensure the program's compliance with the Sponsoring**
438 **Institution's policies and procedures on employment**
439 **and non-discrimination;** (Core)
440

441 **II.A.4.a).(13).(a)** **Residents must not be required to sign a non-**
442 **competition guarantee or restrictive covenant.**
443 (Core)
444

445 **II.A.4.a).(14)** **document verification of program completion for all**
446 **graduating residents within 30 days;** (Core)
447

448 **II.A.4.a).(15)** **provide verification of an individual resident's**
449 **completion upon the resident's request, within 30**
450 **days; and,** (Core)

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451

Background and Intent: Primary verification of graduate medical education is important to credentialing of physicians for further training and practice. Such verification must be accurate and timely. Sponsoring Institution and program policies for record retention are important to facilitate timely documentation of residents who have previously completed the program. Residents who leave the program prior to completion also require timely documentation of their summative evaluation.

452
453 **II.A.4.a).(16)** **obtain review and approval of the Sponsoring**
454 **Institution's DIO before submitting information or**
455 **requests to the ACGME, as required in the Institutional**
456 **Requirements and outlined in the ACGME Program**
457 **Director's Guide to the Common Program**
458 **Requirements.** **(Core)**
459
460 **II.B. Faculty**
461
462 ***Faculty members are a foundational element of graduate medical education***
463 ***– faculty members teach residents how to care for patients. Faculty***
464 ***members provide an important bridge allowing residents to grow and***
465 ***become practice-ready, ensuring that patients receive the highest quality of***
466 ***care. They are role models for future generations of physicians by***
467 ***demonstrating compassion, commitment to excellence in teaching and***
468 ***patient care, professionalism, and a dedication to lifelong learning. Faculty***
469 ***members experience the pride and joy of fostering the growth and***
470 ***development of future colleagues. The care they provide is enhanced by***
471 ***the opportunity to teach. By employing a scholarly approach to patient***
472 ***care, faculty members, through the graduate medical education system,***
473 ***improve the health of the individual and the population.***
474
475 ***Faculty members ensure that patients receive the level of care expected***
476 ***from a specialist in the field. They recognize and respond to the needs of***
477 ***the patients, residents, community, and institution. Faculty members***
478 ***provide appropriate levels of supervision to promote patient safety. Faculty***
479 ***members create an effective learning environment by acting in a***
480 ***professional manner and attending to the well-being of the residents and***
481 ***themselves.***
482

Background and Intent: "Faculty" refers to the entire teaching force responsible for educating residents. The term "faculty," including "core faculty," does not imply or require an academic appointment or salary support.

483
484 **II.B.1.** **At each participating site, there must be a sufficient number of**
485 **faculty members with competence to instruct and supervise all**
486 **residents at that location.** **(Core)**
487
488 II.B.1.a) There must be a minimum of one physician faculty member for
489 every resident in the program. (Core)
490
491 II.B.1.b) The faculty must include, in aggregate, at least two FTE
492 interventional radiologists, including the program director. (Core)

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493
494 II.B.1.b).(1) While the expertise of any one interventional radiology faculty member may be limited to a particular aspect of interventional radiology, the program must ensure that appropriately qualified faculty members are available to provide an experience that includes all aspects of interventional radiology. (Core)
500
501 II.B.1.b).(2) Integrated programs with greater than four residents must maintain a ratio of no less than one interventional radiologist faculty member for every two residents in the final 24 months of residency according to the following: (Core)
506

Total Number of PGY-5-6 Integrated Residents	Minimum Number of Interventional Radiologists
5 residents	3
6 residents	3
7 residents	4
8 residents	4
9 residents	5
10 residents	5

507
508 II.B.1.b).(3) Independent programs with greater than four residents must maintain a ratio of no less than one interventional radiologist for every two residents. (Core)
511
512 II.B.1.c) Integrated Programs
513
514 II.B.1.c).(1) In addition to the practice domains, there should be designated physician faculty members with expertise in and responsibility for developing didactic content in the following educational content areas:
518
519 II.B.1.c).(1).(a) computed tomography (CT); (Core)(Detail)
520
521 II.B.1.c).(1).(b) magnetic resonance imaging (MRI); (Core)(Detail)
522
523 II.B.1.c).(1).(c) radiography/fluoroscopy; and, (Core)(Detail)
524
525 II.B.1.c).(1).(d) reproductive/endocrine imaging; (Detail)
526
527 II.B.1.c).(1).(e) ultrasonography.; and, (Core)(Detail)
528
529 II.B.1.c).(1).(f) vascular imaging. (Detail)
530

Specialty-Specific Background and Intent: Programs do not need to have additional faculty members to provide the didactic content for the educational content areas of CT, MRI, radiography/fluoroscopy, and ultrasonography. Any of the required eight core faculty

members with additional expertise in any of the educational content areas may also provide education in these areas to fulfill this requirement and develop the didactic content for the related area.

II.B.1.c).(2) There should be physician faculty, non-physician faculty, or other staff members available to the program, within the institution, with expertise in quality, safety, and informatics. (Core)~~(Detail)~~

II.B.1.c).(2).(a) These faculty or staff members should develop didactic content related to their areas of expertise. (Core)~~(Detail)~~

Specialty-Specific Background and Intent: The faculty or staff members who fulfill the roles for expertise in quality, safety, and informatics are not required to have formal certification in their respective area(s) of expertise. It is not the Committee's expectation that there be dedicated staff members for each area of expertise. For example, programs may have an information technology staff member or administrator with relevant expertise in informatics, and this would satisfy the requirement as long as the individual was available to the program to dedicate the time to develop the necessary didactic content related to the area of expertise. The Committee's expectation is that there be some resident education in each area.

II.B.1.c).(3) Faculty members for all other educational experiences should be active teaching faculty members in ACGME-accredited programs. (Core)~~(Detail)~~

II.B.1.c).(4) An assistant or associate program director that is clinically active in diagnostic radiology should be appointed. (Detail)

II.B.2. Faculty members must:

II.B.2.a) be role models of professionalism; (Core)

II.B.2.b) demonstrate commitment to the delivery of safe, quality, cost-effective, patient-centered care; (Core)

Background and Intent: Patients have the right to expect quality, cost-effective care with patient safety at its core. The foundation for meeting this expectation is formed during residency and fellowship. Faculty members model these goals and continually strive for improvement in care and cost, embracing a commitment to the patient and the community they serve.

II.B.2.c) demonstrate a strong interest in the education of residents; (Core)

II.B.2.d) devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; (Core)

II.B.2.e) administer and maintain an educational environment conducive to educating residents; (Core)

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II.B.2.f) **regularly participate in organized clinical discussions, rounds, journal clubs, and conferences; and,** **(Core)**

II.B.2.g) **pursue faculty development designed to enhance their skills at least annually:** **(Core)**

> **Background and Intent: Faculty development is intended to describe structured programming developed for the purpose of enhancing transference of knowledge, skill, and behavior from the educator to the learner. Faculty development may occur in a variety of configurations (lecture, workshop, etc.) using internal and/or external resources. Programming is typically needs-based (individual or group) and may be specific to the institution or the program. Faculty development programming is to be reported for the residency program faculty in the aggregate.**

II.B.2.g).(1) **as educators;** **(Core)**

II.B.2.g).(2) **in quality improvement and patient safety;** **(Core)**

II.B.2.g).(3) **in fostering their own and their residents' well-being; and,** **(Core)**

II.B.2.g).(4) **in patient care based on their practice-based learning and improvement efforts.** **(Core)**

> **Background and Intent: Practice-based learning serves as the foundation for the practice of medicine. Through a systematic analysis of one's practice and review of the literature, one is able to make adjustments that improve patient outcomes and care. Thoughtful consideration to practice-based analysis improves quality of care, as well as patient safety. This allows faculty members to serve as role models for residents in practice-based learning.**

II.B.2.h) At least one interventional radiology faculty member must have hospital admitting privileges. (Core)

II.B.2.i) For programs not affiliated with a medical school, all physician faculty members should be members of the medical staff of at least one of the participating sites. (Core)~~(Detail)~~

II.B.2.j) Faculty members must always be available when residents are on call after hours, on weekends, or on holidays. (Core)

II.B.2.k) Faculty members must review all resident-interpreted studies. (Core)

II.B.2.k).(1) Faculty members should sign and verify these reports within 24 hours. (Detail)

II.B.2.l) Faculty members must provide didactic teaching and direct supervision of resident performance in peri-procedural patient management, and of the procedural, interpretative, and consultative aspects of interventional radiology. (Core)

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603
604 II.B.2.m) Faculty members must supervise all percutaneous image-guided
605 invasive procedures. (Core)
606
607 II.B.2.m).(1) Faculty members should determine the appropriate level of
608 direct or indirect supervision for all procedures based on
609 demonstrated resident competence. (Core)~~(Detail)~~
610
611 II.B.2.n) The interventional radiology division must participate in dedicated
612 interventional radiology outpatient clinics. (Core)
613
614 II.B.2.o) Faculty members representing each practice domain must be
615 responsible for the educational content of his/her respective
616 practice domain, and must organize conferences that cover topics
617 in that domain. (Core)
618
619 II.B.2.p) Faculty members representing each practice domain must not
620 have primary responsibility for the educational content of more
621 than one practice domain, but may have clinical responsibilities
622 and/or teaching responsibilities in multiple practice domains. (Core)
623
624 II.B.2.q) Faculty members representing each practice domain must devote
625 at least 0.50 FTE in their practice domain. (Core)
626
627 II.B.2.r) Faculty members responsible for the educational content of
628 ~~his/her~~ their respective practice domain must demonstrate a
629 commitment to the his or her respective practice domain by any
630 two of the following:
631
632 II.B.2.r).(1) specialty/subspecialty certification in the practice domain,
633 fellowship ~~training~~ education, or three years of practice in
634 the domain; (Core)~~(Detail)~~
635
636 II.B.2.r).(2) active participation in specialty/subspecialty societies,
637 including CME activities in the practice domain; (Core)~~(Detail)~~
638
639 II.B.2.r).(3) publications or presentations in the specialty/subspecialty
640 practice domain; or, (Core)~~(Detail)~~
641
642 II.B.2.r).(4) participation in Maintenance of Certification with emphasis
643 on the specialty/subspecialty practice domain. (Core)~~(Detail)~~
644
645 **II.B.3. Faculty Qualifications**
646
647 **II.B.3.a) Faculty members must have appropriate qualifications in**
648 **their field and hold appropriate institutional appointments.**
649 **(Core)**
650
651 II.B.3.a).(1) At least two FTE interventional radiology physician faculty
652 members, including the program director, must have
653 certification by the ABR or the AOBR in interventional

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654 radiology/diagnostic radiology, or in diagnostic radiology
655 with subspecialty certification in vascular and interventional
656 radiology. (Core)
657
658 **II.B.3.b)** **Physician faculty members must:**
659
660 **II.B.3.b).(1)** **have current certification in the specialty by the**
661 **American Board of** Radiology **or the American**
662 **Osteopathic Board of** Radiology**, or possess**
663 **qualifications judged acceptable to the Review**
664 **Committee.** **(Core)**
665
666 II.B.3.b).(2) Other faculty qualifications acceptable to the Review
667 Committee include certification by other American Board of
668 Medical Specialties (ABMS) member boards, ~~the AOBR,~~ or
669 other American Osteopathic Association (AOA) certifying
670 boards. (Core)
671
672 **II.B.3.c)** **Any non-physician faculty members who participate in**
673 **residency program education must be approved by the**
674 **program director.** **(Core)**
675

Background and Intent: The provision of optimal and safe patient care requires a team approach. The education of residents by non-physician educators enables the resident to better manage patient care and provides valuable advancement of the residents' knowledge. Furthermore, other individuals contribute to the education of the resident in the basic science of the specialty or in research methodology. If the program director determines that the contribution of a non-physician individual is significant to the education of the residents, the program director may designate the individual as a program faculty member or a program core faculty member.

676
677 **II.B.4.** **Core Faculty**
678
679 **Core faculty members must have a significant role in the education**
680 **and supervision of residents and must devote a significant portion**
681 **of their entire effort to resident education and/or administration, and**
682 **must, as a component of their activities, teach, evaluate, and**
683 **provide formative feedback to residents.** **(Core)**
684

Background and Intent: Core faculty members are critical to the success of resident education. They support the program leadership in developing, implementing, and assessing curriculum and in assessing residents' progress toward achievement of competence in the specialty. Core faculty members should be selected for their broad knowledge of and involvement in the program, permitting them to effectively evaluate the program, including completion of the annual ACGME Faculty Survey.

685
686 **II.B.4.a)** **Core faculty members must be designated by the program**
687 **director.** **(Core)**
688
689 **II.B.4.b)** **Core faculty members must complete the annual ACGME**
690 **Faculty Survey.** **(Core)**

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691
692 II.B.4.c) Integrated Programs
693
694 II.B.4.c).(1) There must be at least eight core physician faculty
695 members to represent each of the following practice
696 domains: (Core)
697
698 II.B.4.c).(1).(a) abdominal (gastrointestinal and genitourinary)
699 radiology; (Core)
700
701 II.B.4.c).(1).(b) breast radiology; (Core)
702
703 II.B.4.c).(1).(c) cardiothoracic (cardiac and thoracic) radiology; (Core)
704
705 II.B.4.c).(1).(d) interventional radiology; (Core)
706
707 II.B.4.c).(1).(e) musculoskeletal radiology; (Core)
708
709 II.B.4.c).(1).(f) neuroradiology; (Core)
710
711 II.B.4.c).(1).(g) nuclear radiology and molecular imaging; and, (Core)
712
713 II.B.4.c).(1).(h) pediatric radiology. (Core)
714

Specialty-Specific Background and Intent: A pediatric radiologist may have a primary appointment at another site and still be the designated faculty member supervising pediatric radiologic education for the program.

715
716 **II.C. Program Coordinator**
717
718 **II.C.1. There must be a program coordinator. (Core)**
719
720 **II.C.2. At a minimum, the program coordinator must be supported at 50**
721 **percent FTE for the administration of the program. (Core)**
722
723 II.C.2.a) Additional support must be provided based on program size as
724 follows for integrated programs: (Core)
725

Number of Approved Resident Positions	Minimum FTE Coordinator(s) Required
1-10	0.5
11-15	0.6
16-20	0.8
More than 20	1.0

726
727 II.C.2.b) Program coordinators who are responsible for the administration
728 of both independent and integrated interventional radiology
729 programs at the same institution must be provided an additional
730 20 percent FTE protected time for administration of the
731 independent program. (Core)

732
733 II.C.2.c) ~~For integrated programs, there must be additional support as~~
734 ~~follows: (Core)~~
735
736 ~~II.C.2.c).(1) Programs approved for 11-15 residents must have at least~~
737 ~~0.6 FTE program coordinator support. (Core)~~
738
739 ~~II.C.2.c).(2) Programs approved for 16-20 residents must have at least~~
740 ~~0.8 FTE program coordinator support. (Core)~~
741
742 ~~II.C.2.c).(3) Programs approved for more than 20 residents must have~~
743 ~~at least 1.0 FTE program coordinator support. (Core)~~
744

Background and Intent: Fifty percent FTE is defined as two-and-a-half (2.5) days per week.

The requirement does not address the source of funding required to provide the specified salary support.

Each program requires a lead administrative person, frequently referred to as a program coordinator, administrator, or as titled by the institution. This person will frequently manage the day-to-day operations of the program and serve as an important liaison with learners, faculty and other staff members, and the ACGME. Individuals serving in this role are recognized as program coordinators by the ACGME.

The program coordinator is a member of the leadership team and is critical to the success of the program. As such, the program coordinator must possess skills in leadership and personnel management. Program coordinators are expected to develop unique knowledge of the ACGME and Program Requirements, policies, and procedures. Program coordinators assist the program director in accreditation efforts, educational programming, and support of residents.

Programs, in partnership with their Sponsoring Institutions, should encourage the professional development of their program coordinators and avail them of opportunities for both professional and personal growth. Programs with fewer residents may not require a full-time coordinator; one coordinator may support more than one program.

745
746 **II.D. Other Program Personnel**
747
748 **The program, in partnership with its Sponsoring Institution, must jointly**
749 **ensure the availability of necessary personnel for the effective**
750 **administration of the program. (Core)**
751
752 II.D.1. At least one qualified interventional radiology technologist must be on
753 duty or available at all times. (Core)
754
755 II.D.2. Nursing support adequate to prepare, monitor, and recover patients must
756 be available. (Core)
757

758 II.D.2.a) Nurses competent to administer moderate sedation must also be
759 available. (Core)
760

Background and Intent: Multiple personnel may be required to effectively administer a program. These may include staff members with clerical skills, project managers, education experts, and staff members to maintain electronic communication for the program. These personnel may support more than one program in more than one discipline.

761
762 **III. Resident Appointments**
763
764 **III.A. Eligibility Requirements**
765
766 **III.A.1. An applicant must meet one of the following qualifications to be**
767 **eligible for appointment to an ACGME-accredited program: (Core)**
768
769 **III.A.1.a) graduation from a medical school in the United States or**
770 **Canada, accredited by the Liaison Committee on Medical**
771 **Education (LCME) or graduation from a college of**
772 **osteopathic medicine in the United States, accredited by the**
773 **American Osteopathic Association Commission on**
774 **Osteopathic College Accreditation (AOACOCA); or, (Core)**
775
776 **III.A.1.b) graduation from a medical school outside of the United**
777 **States or Canada, and meeting one of the following additional**
778 **qualifications: (Core)**
779
780 **III.A.1.b).(1) holding a currently valid certificate from the**
781 **Educational Commission for Foreign Medical**
782 **Graduates (ECFMG) prior to appointment; or, (Core)**
783
784 **III.A.1.b).(2) holding a full and unrestricted license to practice**
785 **medicine in the United States licensing jurisdiction in**
786 **which the ACGME-accredited program is located. (Core)**
787
788 **III.A.2. All prerequisite post-graduate clinical education required for initial**
789 **entry or transfer into ACGME-accredited residency programs must**
790 **be completed in ACGME-accredited residency programs, AOA-**
791 **approved residency programs, Royal College of Physicians and**
792 **Surgeons of Canada (RCPSC)-accredited or College of Family**
793 **Physicians of Canada (CFPC)-accredited residency programs**
794 **located in Canada, or in residency programs with ACGME**
795 **International (ACGME-I) Advanced Specialty Accreditation. (Core)**
796
797 **III.A.2.a) Residency programs must receive verification of each**
798 **resident's level of competency in the required clinical field**
799 **using ACGME, CanMEDS, or ACGME-I Milestones evaluations**
800 **from the prior training program upon matriculation. (Core)**
801
802 III.A.2.b) Prerequisite Postgraduate Clinical Education
803

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III.A.2.b).(1) Independent Programs

III.A.2.b).(1).(a) Prior to appointment in the independent program, residents must complete a diagnostic radiology program that satisfies the requirements in III.A.2. (Core)

III.A.2.b).(1).(b) All entering residents must be eligible to take the ABR Core Examination or the AOBR Diagnostic Radiology Combined Physics and Diagnostic Imaging Written Exam. (Core)

III.A.2.b).(1).(c) To be eligible for appointment in the second year of education in an independent program, residents must have completed an Early Specialization in Interventional Radiology (ESIR) curriculum in a diagnostic radiology program that has prior approval from the Review Committee for ESIR participation. (Core)

III.A.2.b).(1).(c).(i) Residents must have completed 11 interventional radiology or interventional radiology-related rotations, one ICU rotation, and at least 500 image-guided procedures within the domain of interventional radiology during their diagnostic radiology residency (a rotation is defined as an experience of at least four weeks in duration). (Core)

III.A.2.b).(1).(c).(ii) A Milestones assessment of resident competence~~y~~ must be completed by the program director after the first 12 weeks of the educational program. (Core)

III.A.2.b).(2) Integrated Programs

III.A.2.b).(2).(a) To be eligible for appointment to the 60-month integrated program, residents must have successfully completed a prerequisite year of direct patient care in a program that satisfies the requirements in III.A.2. in anesthesiology, emergency medicine, family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, surgery or surgical specialties, the transitional year, or any combination of these. (Core)

III.A.2.b).(2).(a).(i) The prerequisite year must include a minimum of 36 weeks in direct patient care. (Core)

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855 III.A.2.b).(2).(a).(ii) During the prerequisite year, elective rotations in interventional radiology, ~~or~~ diagnostic radiology, or nuclear medicine must occur only in radiology departments with a diagnostic radiology, ~~or~~ interventional radiology, or nuclear medicine residency program that satisfies the requirements in III.A.2., and must not exceed a combined total of eight weeks. (Core)

865 III.A.2.b).(2).(a).(ii).(a) The elective rotations in radiology should involve active resident participation and must not be observational only. (Detail)

870 III.A.2.b).(2).(a).(ii).(b) The elective rotations in radiology should be supervised by a radiology program faculty member. (Detail)

Specialty-Specific Background and Intent: When considering whether to count a resident's participation in elective rotations in interventional radiology, diagnostic radiology, or nuclear medicine taken during the resident's prerequisite clinical year in radiology departments without an accredited diagnostic radiology, interventional radiology, or nuclear medicine program, it is up to the receiving diagnostic radiology program director to determine whether the elective experience will count toward the resident's required 12 months of diagnostic radiology experience for call responsibilities or interpreting exams without direct supervision.

Background and Intent: Programs with ACGME-I Foundational Accreditation or from institutions with ACGME-I accreditation do not qualify unless the program has also achieved ACGME-I Advanced Specialty Accreditation. To ensure entrants into ACGME-accredited programs from ACGME-I programs have attained the prerequisite milestones for this training, they must be from programs that have ACGME-I Advanced Specialty Accreditation.

877 **III.A.3.** **A physician who has completed a residency program that was not accredited by ACGME, AOA, RCPSC, CFPC, or ACGME-I (with Advanced Specialty Accreditation) may enter an ACGME-accredited residency program in the same specialty at the PGY-1 level and, at the discretion of the program director of the ACGME-accredited program and with approval by the GMEC, may be advanced to the PGY-2 level based on ACGME Milestones evaluations at the ACGME-accredited program. This provision applies only to entry into residency in those specialties for which an initial clinical year is not required for entry.** **(Core)**

888 **III.A.4.** **Resident Eligibility Exception**

890 **The Review Committee for** Radiology **will allow the following exception to the resident eligibility requirements** (for residents entering the program via III.A.2.b).(1)**:** **(Core)**

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893

Specialty-Specific Background and Intent: The Review Committee will allow the eligibility exception for interventional radiology-independent programs only.

894
895 **III.A.4.a)** **An ACGME-accredited residency program may accept an**
896 **exceptionally qualified international graduate applicant who**
897 **does not satisfy the eligibility requirements listed in III.A.1.-**
898 **III.A.3., but who does meet all of the following additional**
899 **qualifications and conditions:** (Core)
900
901 **III.A.4.a).(1)** **evaluation by the program director and residency**
902 **selection committee of the applicant's suitability to**
903 **enter the program, based on prior training and review**
904 **of the summative evaluations of this training; and,** (Core)
905
906 **III.A.4.a).(2)** **review and approval of the applicant's exceptional**
907 **qualifications by the GMEC; and,** (Core)
908
909 **III.A.4.a).(3)** **verification of Educational Commission for Foreign**
910 **Medical Graduates (ECFMG) certification.** (Core)
911
912 **III.A.4.b)** **Applicants accepted through this exception must have an**
913 **evaluation of their performance by the Clinical Competency**
914 **Committee within 12 weeks of matriculation.** (Core)
915
916 **III.B.** **The program director must not appoint more residents than approved by**
917 **the Review Committee.** (Core)
918
919 **III.B.1.** **All complement increases must be approved by the Review**
920 **Committee.** (Core)
921
922 **III.C.** **Resident Transfers**
923
924 **The program must obtain verification of previous educational experiences**
925 **and a summative competency-based performance evaluation prior to**
926 **acceptance of a transferring resident, and Milestones evaluations upon**
927 **matriculation.** (Core)
928
929 III.C.1. Integrated Programs
930
931 III.C.1.a) The program director must conduct a Milestones assessment of a
932 resident's clinical competence in both interventional and
933 diagnostic radiology within 12 weeks of transfer into the program.
934 (Core)
935
936 III.C.1.b) Resident transfers from ACGME-accredited diagnostic radiology
937 programs into integrated interventional radiology programs must
938 be limited to transfers from within the same Sponsoring Institution
939 and must meet the following qualifications for transfer: (Core)
940

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941 III.C.1.b).(1) Transfers into the PGY-3 or PGY-4 must be from the
942 equivalent level in the diagnostic radiology program. (Core)
943
944 III.C.1.b).(2) Residents transferring into the PGY-5 must have taken or
945 be eligible to take the ABR Core Examination or the AOBR
946 Diagnostic Radiology Combined Physics and Diagnostic
947 Imaging Written Exam, and must have successfully
948 completed at least three rotations in interventional
949 radiology. (Core)
950
951 **IV. Educational Program**
952
953 ***The ACGME accreditation system is designed to encourage excellence and***
954 ***innovation in graduate medical education regardless of the organizational***
955 ***affiliation, size, or location of the program.***
956
957 ***The educational program must support the development of knowledgeable, skillful***
958 ***physicians who provide compassionate care.***
959
960 ***In addition, the program is expected to define its specific program aims consistent***
961 ***with the overall mission of its Sponsoring Institution, the needs of the community***
962 ***it serves and that its graduates will serve, and the distinctive capabilities of***
963 ***physicians it intends to graduate. While programs must demonstrate substantial***
964 ***compliance with the Common and specialty-specific Program Requirements, it is***
965 ***recognized that within this framework, programs may place different emphasis on***
966 ***research, leadership, public health, etc. It is expected that the program aims will***
967 ***reflect the nuanced program-specific goals for it and its graduates; for example, it***
968 ***is expected that a program aiming to prepare physician-scientists will have a***
969 ***different curriculum from one focusing on community health.***
970
971 **IV.A. The curriculum must contain the following educational components: (Core)**
972
973 **IV.A.1. a set of program aims consistent with the Sponsoring Institution's**
974 **mission, the needs of the community it serves, and the desired**
975 **distinctive capabilities of its graduates; (Core)**
976
977 **IV.A.1.a) The program's aims must be made available to program**
978 **applicants, residents, and faculty members. (Core)**
979
980 **IV.A.2. competency-based goals and objectives for each educational**
981 **experience designed to promote progress on a trajectory to**
982 **autonomous practice. These must be distributed, reviewed, and**
983 **available to residents and faculty members; (Core)**
984

Background and Intent: The trajectory to autonomous practice is documented by Milestones evaluation. The Milestones detail the progress of a resident in attaining skill in each competency domain. They are developed by each specialty group and allow evaluation based on observable behaviors. Milestones are considered formative and should be used to identify learning needs. This may lead to focused or general curricular revision in any given program or to individualized learning plans for any specific resident.

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985
986 **IV.A.3.** **delineation of resident responsibilities for patient care, progressive**
987 **responsibility for patient management, and graded supervision; (Core)**
988

Background and Intent: These responsibilities may generally be described by PGY level and specifically by Milestones progress as determined by the Clinical Competency Committee. This approach encourages the transition to competency-based education. An advanced learner may be granted more responsibility independent of PGY level and a learner needing more time to accomplish a certain task may do so in a focused rather than global manner.

989
990 **IV.A.4.** **a broad range of structured didactic activities; (Core)**
991
992 **IV.A.4.a)** **Residents must be provided with protected time to participate**
993 **in core didactic activities. (Core)**
994

Background and Intent: It is intended that residents will participate in structured didactic activities. It is recognized that there may be circumstances in which this is not possible. Programs should define core didactic activities for which time is protected and the circumstances in which residents may be excused from these didactic activities. Didactic activities may include, but are not limited to, lectures, conferences, courses, labs, asynchronous learning, simulations, drills, case discussions, grand rounds, didactic teaching, and education in critical appraisal of medical evidence.

995
996 **IV.A.5.** **advancement of residents' knowledge of ethical principles**
997 **foundational to medical professionalism; and, (Core)**
998
999 **IV.A.6.** **advancement in the residents' knowledge of the basic principles of**
1000 **scientific inquiry, including how research is designed, conducted,**
1001 **evaluated, explained to patients, and applied to patient care. (Core)**
1002
1003 **IV.B.** **ACGME Competencies**
1004

Background and Intent: The Competencies provide a conceptual framework describing the required domains for a trusted physician to enter autonomous practice. These Competencies are core to the practice of all physicians, although the specifics are further defined by each specialty. The developmental trajectories in each of the Competencies are articulated through the Milestones for each specialty.

1005
1006 **IV.B.1.** **The program must integrate the following ACGME Competencies**
1007 **into the curriculum: (Core)**
1008
1009 **IV.B.1.a)** **Professionalism**
1010
1011 **Residents must demonstrate a commitment to**
1012 **professionalism and an adherence to ethical principles. (Core)**
1013
1014 **IV.B.1.a).(1)** **Residents must demonstrate competence in:**
1015

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1016 **IV.B.1.a).(1).(a)** **compassion, integrity, and respect for others;** **(Core)**
1017
1018
1019 **IV.B.1.a).(1).(b)** **responsiveness to patient needs that**
1020 **supersedes self-interest;** **(Core)**
1021

> **Background and Intent: This includes the recognition that under certain circumstances, the interests of the patient may be best served by transitioning care to another provider. Examples include fatigue, conflict or duality of interest, not connecting well with a patient, or when another physician would be better for the situation based on skill set or knowledge base.**

1022
1023 **IV.B.1.a).(1).(c)** **respect for patient privacy and autonomy;** **(Core)**
1024
1025 **IV.B.1.a).(1).(d)** **accountability to patients, society, and the**
1026 **profession;** **(Core)**
1027
1028 **IV.B.1.a).(1).(e)** **respect and responsiveness to diverse patient**
1029 **populations, including but not limited to**
1030 **diversity in gender, age, culture, race, religion,**
1031 **disabilities, national origin, socioeconomic**
1032 **status, and sexual orientation;** **(Core)**
1033
1034 **IV.B.1.a).(1).(f)** **ability to recognize and develop a plan for one's**
1035 **own personal and professional well-being; and,**
1036 **(Core)**
1037
1038 **IV.B.1.a).(1).(g)** **appropriately disclosing and addressing**
1039 **conflict or duality of interest.** **(Core)**
1040
1041 **IV.B.1.b)** **Patient Care and Procedural Skills**
1042

> **Background and Intent: Quality patient care is safe, effective, timely, efficient, patient-centered, equitable, and designed to improve population health, while reducing per capita costs. (See the Institute of Medicine [IOM]'s *Crossing the Quality Chasm: A New Health System for the 21st Century*, 2001 and Berwick D, Nolan T, Whittington J. *The Triple Aim: care, cost, and quality. Health Affairs.* 2008; 27(3):759-769.). In addition, there should be a focus on improving the clinician's well-being as a means to improve patient care and reduce burnout among residents, fellows, and practicing physicians.**
>
> **These organizing principles inform the Common Program Requirements across all Competency domains. Specific content is determined by the Review Committees with input from the appropriate professional societies, certifying boards, and the community.**

1043
1044 **IV.B.1.b).(1)** **Residents must be able to provide patient care that is**
1045 **compassionate, appropriate, and effective for the**
1046 **treatment of health problems and the promotion of**
1047 **health.** **(Core)**
1048

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IV.B.1.b).(1).(a) Residents must competently perform the following under close, graded responsibility and supervision:

IV.B.1.b).(1).(a).(i) provide patient care through safe, efficient, appropriately utilized, quality-controlled diagnostic and/or interventional radiological techniques; (Core)

IV.B.1.b).(1).(a).(ii) practice using standards of care in a safe environment, attempt to reduce errors, and improve patient outcomes; (Core)

IV.B.1.b).(1).(a).(iii) take a patient history and perform an appropriate physical exam; (Core)

IV.B.1.b).(1).(a).(iv) communicate indications for, contraindications for, and risks of radiologic and interventional procedures, and understand the medical and surgical alternatives to those procedures; (Core)

IV.B.1.b).(1).(a).(v) provide appropriate pre-procedural and follow-up care related to interventional radiology, including inpatient rounds and post-procedure follow-up management of outpatients via clinic visits; (Core)

IV.B.1.b).(1).(a).(vi) participate in the multidisciplinary approach to continuity of procedure-related care; (Core)

IV.B.1.b).(1).(a).(vii) apply radiation safety principles in performing interventional procedures; (Core)

IV.B.1.b).(1).(a).(viii) administer pharmacologic agents, including sedatives, analgesics, antibiotics, and other drugs commonly employed in conjunction with endovascular, invasive, and non-vascular procedures; (Core)

IV.B.1.b).(1).(a).(ix) consult with patients and referring physicians regarding the indications for, and risks, expected outcomes, and appropriateness of interventional radiology procedures; (Core)

IV.B.1.b).(1).(a).(x) formulate a treatment plan, including appropriate additional work-up, consultations, and procedural recommendations, to include risk assessment, consideration of other

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1099 treatments, and delivery of care in a
1100 collaborative model, when appropriate; (Core)
1101
1102 IV.B.1.b).(1).(a).(xi) provide follow-up communications with
1103 referring physicians; and, (Core)
1104
1105 IV.B.1.b).(1).(a).(xii) recognize and treat or refer for treatment of
1106 complications of interventional radiology
1107 procedures, including contrast reactions.
1108 (Core)
1109
1110 IV.B.1.b).(1).(b) Residents must demonstrate the ability to interpret
1111 imaging appropriate for their educational level,
1112 including demonstration of competence in: (Core)
1113
1114 IV.B.1.b).(1).(b).(i) planning, executing, and assessing the
1115 adequacy of interventions based on
1116 independent review of plain film, ultrasound,
1117 CT, MR, and nuclear medicine studies; (Core)
1118
1119 IV.B.1.b).(1).(b).(ii) interpreting images obtained during the
1120 performance of interventional procedures,
1121 and skillfully integrating the imaging findings
1122 into the procedure; and, (Core)
1123
1124 IV.B.1.b).(1).(b).(iii) modifying and directing the intervention
1125 based on these interpretations, and
1126 demonstrating their use in aiding the
1127 determination of procedural endpoints. (Core)
1128
1129 IV.B.1.b).(1).(c) Integrated 72-Month Programs
1130
1131 IV.B.1.b).(1).(c).(i) Residents must demonstrate competence in
1132 fundamental clinical skills of medicine,
1133 including: (Core)
1134
1135 IV.B.1.b).(1).(c).(i).(a) obtaining a comprehensive medical
1136 history; (Core)
1137
1138 IV.B.1.b).(1).(c).(i).(b) performing a comprehensive
1139 physical examination; (Core)
1140
1141 IV.B.1.b).(1).(c).(i).(c) assessing a patient's medical
1142 conditions; (Core)
1143
1144 IV.B.1.b).(1).(c).(i).(d) making appropriate use of diagnostic
1145 studies and tests; (Core)
1146
1147 IV.B.1.b).(1).(c).(i).(e) integrating information to develop a
1148 differential diagnosis; and, (Core)
1149

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IV.B.1.b).(1).(c).(i).(f) implementing a treatment plan. (Core)

IV.B.1.b).(2) **Residents must be able to perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. (Core)**

IV.B.1.b).(2).(a) Residents must demonstrate competence in the interpretation of CT, MRI, radiography, and radionuclide imaging of the cardiovascular system (heart and great vessels); (Core)

IV.B.1.b).(2).(b) Residents must demonstrate competence in the management of contrast reactions; (Core)

IV.B.1.b).(2).(c) Residents must demonstrate competence in the ongoing awareness of radiation exposure, protection, and safety, and the application of these principles in practice; (Core)

IV.B.1.b).(2).(d) Residents must competently apply low-dose radiation techniques for both adults and children; (Core)

IV.B.1.b).(2).(e) Residents must demonstrate competence in the use of needles, catheters, guide wires, balloons, stents, stent-grafts, vascular filters, embolic agents, biopsy devices, ablative technologies, and other interventional devices; (Core)

IV.B.1.b).(2).(f) Residents must demonstrate the clinical judgment and technical ability to perform complex vascular and non-vascular image-guided interventions on a sufficient variety of patients and pathological conditions to allow for competent post-graduate practice; (Core)

IV.B.1.b).(2).(f).(i) Residents must participate in a minimum of 1000 invasive imaging and image-guided vascular and non-vascular interventional procedures (Core)

IV.B.1.b).(2).(f).(i).(a) This should include both adult and pediatric interventional procedures. (Core)~~(Detail)~~

IV.B.1.b).(2).(f).(i).(b) Vascular procedures must include at least: arteriography; venography; arterial and venous angioplasty; arterial and venous stenting; arterial and venous percutaneous revascularization procedures;

percutaneous embolization; transcatheter infusion therapy; intravascular foreign body removal; hemodialysis interventions; percutaneous placement of endovascular prostheses such as stent grafts and vena cava filters; transvascular biopsy; and insertion and removal of vascular access devices. (Core)

IV.B.1.b).(2).(f).(i).(b).(i) Vascular procedures ~~may~~ should also include neurovascular interventions. (Detail)

IV.B.1.b).(2).(f).(i).(c) Non-vascular procedures must include at least: percutaneous imaging-guided biopsy; percutaneous gastrointestinal access and interventions; percutaneous urinary tract access and interventions; percutaneous biliary access and interventions; percutaneous drainage for diagnosis and treatment of infections and other fluid collections; and percutaneous imaging-guided ablative procedures such as ablation of neoplasms. (Core)

IV.B.1.b).(2).(f).(i).(c).(i) Non-vascular procedures may also include musculoskeletal, spine, and pain management interventions. (Detail)

IV.B.1.b).(2).(g) Residents must demonstrate procedural competence in:

IV.B.1.b).(2).(g).(i) performance of basic image-guided procedures; (Core)

IV.B.1.b).(2).(g).(ii) invasive diagnostic venous and arterial imaging; (Core)

IV.B.1.b).(2).(g).(iii) endovascular revascularization procedures, to include: angioplasty; stent placement; endograft placement; pharmacologic and/or mechanical thrombolysis and/or thrombectomy; and intravascular foreign body retrieval; (Core)

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1252
1253 IV.B.1.b).(2).(g).(iv) endovascular embolization therapy; (Core)
1254
1255 IV.B.1.b).(2).(g).(v) invasive diagnostic imaging and
1256 interventions in the hepatobiliary and urinary
1257 systems; and, (Core)
1258
1259 IV.B.1.b).(2).(g).(vi) non-vascular interventions, to include: solid
1260 and hollow organ access; non-vascular
1261 angioplasty/stent/stent graft placement;
1262 biopsy; drainage; and tissue ablation. (Core)
1263
1264 IV.B.1.b).(2).(h) Integrated Programs
1265
1266 IV.B.1.b).(2).(h).(i) Residents must demonstrate competence in
1267 the generation of ultrasound images using
1268 the transducer and imaging system, and in
1269 the interpretation of ultrasonographic
1270 examinations of various types. (Core)
1271
1272 IV.B.1.b).(2).(h).(i).(a) Residents should have sufficient
1273 hands-on scanning experience.
1274 (Core)~~(Detail)~~
1275
1276 IV.B.1.b).(2).(h).(i).(a).(i) This should include the
1277 performance of 75 hands-on
1278 scans. (Core)
1279
1280 IV.B.1.b).(2).(h).(i).(b) Programs should incorporate a
1281 process to document resident
1282 proficiency in ultrasonographic skills.
1283 (Core)~~(Detail)~~
1284

Specialty-Specific Background and Intent: The Review Committee has defined "sufficient" hands-on ultrasound scanning experience to mean that residents are to experience the basic aspects of ultrasound, such as ultrasound physics, knobology, image generation, and interpretation. Examples of the types of routine ultrasound examinations that could provide these opportunities include, but are not limited to, abdominal ultrasound, obstetrical/gynecological ultrasound, pediatric ultrasound, musculoskeletal ultrasound, vascular ultrasound, and breast ultrasound. Ultrasound-guided interventional procedures also qualify.

1285
1286 **IV.B.1.c) Medical Knowledge**
1287
1288 **Residents must demonstrate knowledge of established and**
1289 **evolving biomedical, clinical, epidemiological and social-**
1290 **behavioral sciences, as well as the application of this**
1291 **knowledge to patient care. (Core)**
1292
1293 IV.B.1.c).(1) Residents must demonstrate knowledge of:
1294

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IV.B.1.c).(1).(a) interventional radiology clinical and general didactic content; (Core)

IV.B.1.c).(1).(b) clinical and basic sciences related to interventional radiology, including: (Core)

IV.B.1.c).(1).(b).(i) anatomy; (Core)

IV.B.1.c).(1).(b).(ii) physiology; (Core)

IV.B.1.c).(1).(b).(iii) pathophysiology of the hematological, circulatory, respiratory, gastrointestinal, genitourinary, musculoskeletal, and neurologic systems; (Core)

IV.B.1.c).(1).(b).(iv) relevant pharmacology; (Core)

IV.B.1.c).(1).(b).(v) patient evaluation; (Core)

IV.B.1.c).(1).(b).(vi) management skills; and, (Core)

IV.B.1.c).(1).(b).(vii) diagnostic techniques. (Core)

IV.B.1.c).(1).(c) non-interpretive skills, including health care economics, coding and billing compliance, and the business of medicine; (Core)

IV.B.1.c).(1).(d) appropriate and patient-centered imaging utilization; (Core)

IV.B.1.c).(1).(e) quality improvement techniques; (Core)

IV.B.1.c).(1).(f) radiologic/pathologic correlation; and, (Core)

IV.B.1.c).(1).(g) physiology, utilization, and safety of contrast agents and pharmaceuticals. (Core)

IV.B.1.c).(2) Integrated Programs – Diagnostic Radiology

IV.B.1.c).(2).(a) the principles of medical imaging physics including: CT, dual-energy X-ray absorptiometry, fluoroscopy, gamma camera and hybrid imaging technologies, MRI, radiography, and ultrasonography. (Core)

IV.B.1.d) Practice-based Learning and Improvement

Residents 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 lifelong learning. (Core)

Background and Intent: Practice-based learning and improvement is one of the defining characteristics of being a physician. It is the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning.

The intention of this Competency is to help a physician develop the habits of mind required to continuously pursue quality improvement, well past the completion of residency.

1346
1347 **IV.B.1.d).(1)** **Residents must demonstrate competence in:**
1348
1349 **IV.B.1.d).(1).(a)** **identifying strengths, deficiencies, and limits in**
1350 **one's knowledge and expertise; (Core)**
1351
1352 **IV.B.1.d).(1).(b)** **setting learning and improvement goals; (Core)**
1353
1354 **IV.B.1.d).(1).(c)** **identifying and performing appropriate learning**
1355 **activities; (Core)**
1356
1357 **IV.B.1.d).(1).(d)** **systematically analyzing practice using quality**
1358 **improvement methods, and implementing**
1359 **changes with the goal of practice improvement;**
1360 **(Core)**
1361
1362 **IV.B.1.d).(1).(e)** **incorporating feedback and formative**
1363 **evaluation into daily practice; (Core)**
1364
1365 **IV.B.1.d).(1).(f)** **locating, appraising, and assimilating evidence**
1366 **from scientific studies related to their patients'**
1367 **health problems; and, (Core)**
1368
1369 **IV.B.1.d).(1).(g)** **using information technology to optimize**
1370 **learning. (Core)**
1371
1372 **IV.B.1.e)** **Interpersonal and Communication Skills**
1373
1374 **Residents must demonstrate interpersonal and**
1375 **communication skills that result in the effective exchange of**
1376 **information and collaboration with patients, their families,**
1377 **and health professionals. (Core)**
1378
1379 **IV.B.1.e).(1)** **Residents must demonstrate competence in:**
1380
1381 **IV.B.1.e).(1).(a)** **communicating effectively with patients,**
1382 **families, and the public, as appropriate, across**
1383 **a broad range of socioeconomic and cultural**
1384 **backgrounds; (Core)**
1385
1386 IV.B.1.e).(1).(a).(i) Residents must demonstrate competence in
1387 obtaining informed consent and effectively

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1388 describing imaging appropriateness, safety
1389 issues, and the results of diagnostic imaging
1390 and procedures to patients. (Core)
1391
1392 **IV.B.1.e).(1).(b)** **communicating effectively with physicians,**
1393 **other health professionals, and health-related**
1394 **agencies; (Core)**
1395
1396 IV.B.1.e).(1).(b).(i) Residents must demonstrate competence in
1397 communicating the results of examinations
1398 and procedures to the referring provider
1399 and/or other appropriate individuals
1400 effectively and in a timely manner. (Core)
1401
1402 **IV.B.1.e).(1).(c)** **working effectively as a member or leader of a**
1403 **health care team or other professional group;**
1404 **(Core)**
1405
1406 **IV.B.1.e).(1).(d)** **educating patients, families, students,**
1407 **residents, and other health professionals; (Core)**
1408
1409 **IV.B.1.e).(1).(e)** **acting in a consultative role to other physicians**
1410 **and health professionals; (Core)**
1411
1412 **IV.B.1.e).(1).(f)** **maintaining comprehensive, timely, and legible**
1413 **medical records, if applicable; and, (Core)**
1414
1415 IV.B.1.e).(1).(g) supervising, providing consultation to, and teaching
1416 medical students and/or residents. (Core)
1417
1418 **IV.B.1.e).(2)** **Residents must learn to communicate with patients**
1419 **and families to partner with them to assess their care**
1420 **goals, including, when appropriate, end-of-life goals.**
1421 **(Core)**
1422

Background and Intent: When there are no more medications or interventions that can achieve a patient's goals or provide meaningful improvements in quality or length of life, a discussion about the patient's goals, values, and choices surrounding the end of life is one of the most important conversations that can occur. Residents must learn to participate effectively and compassionately in these meaningful human interactions, for the sake of their patients and themselves.

Programs may teach this skill through direct clinical experience, simulation, or other means of active learning.

1423
1424 **IV.B.1.f)** **Systems-based Practice**
1425
1426 **Residents must demonstrate an awareness of and**
1427 **responsiveness to the larger context and system of health**
1428 **care, including the social determinants of health, as well as**

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the ability to call effectively on other resources to provide optimal health care. (Core)

IV.B.1.f).(1) **Residents must demonstrate competence in:**

IV.B.1.f).(1).(a) **working effectively in various health care delivery settings and systems relevant to their clinical specialty;** (Core)

Background and Intent: Medical practice occurs in the context of an increasingly complex clinical care environment where optimal patient care requires attention to compliance with external and internal administrative and regulatory requirements.

IV.B.1.f).(1).(b) **coordinating patient care across the health care continuum and beyond as relevant to their clinical specialty;** (Core)

Background and Intent: Every patient deserves to be treated as a whole person. Therefore it is recognized that any one component of the health care system does not meet the totality of the patient's needs. An appropriate transition plan requires coordination and forethought by an interdisciplinary team. The patient benefits from proper care and the system benefits from proper use of resources.

IV.B.1.f).(1).(c) **advocating for quality patient care and optimal patient care systems;** (Core)

IV.B.1.f).(1).(d) **working in interprofessional teams to enhance patient safety and improve patient care quality;** (Core)

IV.B.1.f).(1).(e) **participating in identifying system errors and implementing potential systems solutions;** (Core)

IV.B.1.f).(1).(f) **incorporating considerations of value, cost awareness, delivery and payment, and risk-benefit analysis in patient and/or population-based care as appropriate;** (Core)

IV.B.1.f).(1).(g) **understanding health care finances and its impact on individual patients' health decisions; and,** (Core)

IV.B.1.f).(1).(h) compliance with institutional and departmental policies, such as ~~including~~ HIPAA, the Joint Commission, patient safety, and infection control. (Core)

IV.B.1.f).(2) **Residents must learn to advocate for patients within the health care system to achieve the patient's and family's care goals, including, when appropriate, end-of-life goals.** (Core)

1472
1473 **IV.C. Curriculum Organization and Resident Experiences**
1474
1475 **IV.C.1. The curriculum must be structured to optimize resident educational**
1476 **experiences, the length of these experiences, and supervisory**
1477 **continuity. (Core)**
1478
1479 IV.C.1.a) The assignment of educational experiences should be structured
1480 to minimize the frequency of transitions. (Detail)
1481
1482 IV.C.1.b) Educational experiences should be of sufficient length to provide a
1483 quality educational experience defined by ongoing supervision,
1484 longitudinal relationships with faculty members, and high-quality
1485 assessment and feedback. (Detail)
1486

Background and Intent: In some specialties, frequent rotational transitions, inadequate continuity of faculty member supervision, and dispersed patient locations within the hospital have adversely affected optimal resident education and effective team-based care. The need for patient care continuity varies from specialty to specialty and by clinical situation, and may be addressed by the individual Review Committee.

1487
1488 **IV.C.2. The program must provide instruction and experience in pain**
1489 **management if applicable for the specialty, including recognition of**
1490 **the signs of addiction. (Core)**
1491
1492 IV.C.3. Didactic Curriculum
1493
1494 IV.C.3.a) The core didactic curriculum must be documented. (Core)
1495
1496 IV.C.3.b) The core didactic curriculum must include the following core
1497 content areas of interventional radiology:
1498
1499 IV.C.3.b).(1) focused history and physical examination; (Core)
1500
1501 IV.C.3.b).(2) health care team coordination; (Core)
1502
1503 IV.C.3.b).(3) informed consent for interventional radiology procedures;
1504 (Core)
1505
1506 IV.C.3.b).(4) inpatient care; (Core)
1507
1508 IV.C.3.b).(5) interventional radiology clinic; (Core)
1509
1510 IV.C.3.b).(6) medical conditions relevant to interventional radiology
1511 procedures; (Core)
1512
1513 IV.C.3.b).(7) pharmacology relevant to interventional radiology; (Core)
1514
1515 IV.C.3.b).(8) procedural sedation for interventional radiology
1516 procedures; and, (Core)

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IV.C.3.b).(9) recognition and initial management of intra- and peri-procedural emergencies. (Core)

IV.C.3.c) The didactic curriculum must ~~should~~ include interactive conferences in addition to the core didactic series. (Core)~~(Detail)~~

IV.C.3.d) The didactic curriculum should include interdisciplinary ~~interdepartmental~~ conferences in which both residents and faculty members participate on a regular basis. (Core)~~(Detail)~~

Specialty-Specific Background and Intent: Interdisciplinary conferences include any clinical or didactic conferences at which representation from multiple clinical specialties is present. Examples include an oncology conference with representation from the medical, surgical, and/or radiation oncology departments, or a peripheral vascular conference with representation from the vascular surgery and/or cardiology departments.

IV.C.3.e) Conferences should provide for progressive resident participation. (Core)~~(Detail)~~

IV.C.3.f) Didactic conferences must be resident-level-specific, and must provide formal review of the topics in the curriculum. (Core)

IV.C.3.g) Residents must participate in ~~scheduled conferences~~ didactic activities on a regular basis. (Core)

IV.C.3.g).(1) Residents must be provided protected time to attend didactic activities ~~lectures and conferences~~ scheduled by the program. (Core)

IV.C.3.g).(2) The program must provide mechanisms for residents to participate in all didactic activities ~~scheduled lectures and conferences~~ either in-person or by electronic means. (Core)

IV.C.3.g).(3) Residents must be provided with:

IV.C.3.g).(3).(a) five hours of didactic activities ~~conferences/lectures~~ per week during the PGY-2-4 of an integrated program; and, (Core)

IV.C.3.g).(3).(b) two hours of didactic activities ~~conferences/lectures~~ per week during the PGY-5 and PGY-6 of an integrated program, and in all years of the independent program. (Core)

IV.C.3.g).(4) Residents' ~~attendance at~~ participation in didactic activities ~~conferences/lectures~~ should be documented throughout the duration of their ~~training~~ educational program. (Detail)

IV.C.3.g).(5) Residents' teaching experience should include active participation in educating diagnostic radiology residents,

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1563 and if appropriate, medical students and other professional
1564 personnel in the care and management of patients.
1565 (Core)(Detail)
1566
1567 IV.C.3.h) Interventional Radiology Didactic Content
1568
1569 IV.C.3.h).(1) Morbidity and mortality related to the performance of
1570 interventional procedures must be reviewed during a
1571 conference at least monthly and be documented. (Core)
1572
1573 IV.C.3.h).(1).(a) Residents must actively participate in this review.
1574 (Core)
1575
1576 IV.C.3.h).(2) Residents should participate in local or national vascular
1577 and interventional radiology societies. (Detail)
1578
1579 IV.C.3.h).(3) Residents should prepare and present clinically- or
1580 pathologically-proven cases at departmental conferences.
1581 (Core)(Outcome)
1582
1583 IV.C.3.i) Integrated Programs - Diagnostic Radiology Didactic Content
1584
1585 IV.C.3.i).(1) The core didactic curriculum must be repeated at least
1586 every two years. (Core)
1587

Specialty-Specific Background and Intent: While the core didactic curriculum must be repeated every two years at a minimum, programs are encouraged to repeat the didactic curriculum on a 1.5-year cycle so that residents can be exposed to all essential topics twice before the ABR Core Examination or the AOBR Combined Physics and Diagnostic Imaging written exam.

1588
1589 IV.C.3.i).(2) The core didactic curriculum must include the following
1590 diagnostic radiology content:
1591
1592 IV.C.3.i).(2).(a) anatomy, disease processes, imaging, and
1593 physiology; (Core)
1594
1595 IV.C.3.i).(2).(b) specialty/subspecialty clinical and general content;
1596 (Core)
1597
1598 IV.C.3.i).(2).(c) topics related to professionalism, physician well-
1599 being, diversity, and ethics; (Core)
1600
1601 IV.C.3.i).(2).(d) training in the clinical application of medical physics
1602 distributed throughout the 60 months of the
1603 educational program; and, (Core)
1604
1605 IV.C.3.i).(2).(d).(i) A medical physicist must oversee the
1606 development of the physics curriculum. (Core)
1607

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1608 IV.C.3.i).(2).(d).(ii) The curriculum should include real-time expert discussions and interactive educational experiences. (Core)(Detail)

1611

Specialty-Specific Background and Intent: It is not the Committee's expectation that all physics education be delivered in person by a physicist faculty member or a physicist on site; this resource could be an area physicist at another site or program. Programs can share this resource and collaborate on the curriculum and lectures. Essentially, the physics didactic curriculum should not consist entirely of online-recorded lectures for the residents to review without real-time interaction. While programs are free to use alternative educational tools such as online modules, these tools should provide a real-time and interactive component that allows residents to engage with the lecturer.

1612

1613 IV.C.3.i).(2).(e) a minimum of 80 hours of classroom and laboratory training in basic radionuclide handling techniques applicable to the medical use of unsealed byproduct material for imaging and localization studies (10 CFR 35.290) and oral administration of sodium iodide I-131 for procedures requiring a written directive (10 CFR 35.392, 10 CFR 35.394). (Core)

1621

1622 IV.C.3.i).(2).(e).(i) Integral to the practice of nuclear radiology, these didactics must include, at a minimum, the following subjects: (Core)

1625

1626 IV.C.3.i).(2).(e).(i).(a) radiation physics and instrumentation; (Core)

1628

1629 IV.C.3.i).(2).(e).(i).(b) radiation protection; (Core)

1630

1631 IV.C.3.i).(2).(e).(i).(c) mathematics pertaining to use and measurement of radioactivity; (Core)

1633

1634 IV.C.3.i).(2).(e).(i).(d) chemistry of byproduct material for medical use; and, (Core)

1636

1637 IV.C.3.i).(2).(e).(i).(e) radiation biology. (Core)

1638

1639 IV.C.4. Resident Experiences

1640

1641 IV.C.4.a) Resident participation in patient care and radiology-related activities must occur throughout all levels of education. (Core)

1643

1644 IV.C.4.b) Resident participation in on-call activities, including being on duty after-hours and on weekends or holidays, should occur throughout the PGY-3-6 years of the integrated program and both years of the independent program. (Core)(Detail)

1648

1649 IV.C.4.b).(1) Resident competence must be assessed and documented
1650 prior to assuming independent responsibilities. (Core)
1651
1652 IV.C.4.b).(2) Resident supervision during on-call activities must be
1653 provided by a senior resident, fellow, or radiology faculty
1654 member. (Core)
1655
1656 IV.C.4.b).(2).(a) A radiology faculty member must be available for
1657 direct or indirect supervision. (Core)
1658
1659 IV.C.4.b).(3) Resident on-call experiences must include interpretation,
1660 reporting, and management of active cases, and must not
1661 include administrative roles or duties consisting primarily of
1662 re-review of previously reported cases. (Core)
1663
1664 IV.C.4.b).(4) Integrated Programs - Relief from after-hours duty granted
1665 to residents, at the program director's discretion, must not
1666 exceed 12 weeks preceding the ABR Core Examination or
1667 the AOBR Diagnostic Radiology Combined Physics and
1668 Diagnostic Imaging Written Exam. (Core)
1669
1670 IV.C.4.b).(5) Integrated Programs - Residents, as an individual or group,
1671 must not be provided protected study time for the ABR
1672 Core Examination or the AOBR Diagnostic Radiology
1673 Combined Physics and Diagnostic Imaging Written Exam.
1674 (Core)
1675

Specialty-Specific Background and Intent: The Review Committee expects residents to be engaged in clinical (or research-related) work throughout all 60 months of residency. Examination preparation or other non-research-related activities that do not interfere with clinical training are permitted. Specifically, in preparation for the ABR Core Examination or AOBR Combined Physics and Diagnostic Imaging Exam, faculty member-run review sessions or faculty member-directed conferences are acceptable activities, if this time away from clinical service for these activities does not adversely affect other interventional radiology residents on the clinical services. Residents' protected time away from clinical duties during normal workdays for independent or unsupervised examination preparation is not allowed.

1676
1677 IV.C.4.c) Residents must be provided with education and specific clinical
1678 time dedicated to the performance and interpretation of non-
1679 invasive vascular testing, including vascular ultrasound studies,
1680 physiologic vascular tests, MR angiograms, and CT angiograms.
1681 (Core)
1682
1683 IV.C.4.c).(1) These studies must be documented in the residents' Case
1684 Logs. (Core)
1685
1686 IV.C.4.d) Residents should be instructed in proper use and interpretation of
1687 laboratory tests and methods that are adjunctive to vascular and
1688 interventional procedures, including the use of physiologic
1689 monitoring devices, non-invasive vascular testing, and non-
1690 invasive vascular imaging. (Core)~~(Detail)~~

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1691
1692 IV.C.4.e) Residents must have supervised progressive responsibility in a dedicated interventional radiology clinic, the admission and routine procedure-related inpatient care of interventional radiology patients, discharge planning, and procedure-related follow-up. (Core)

1698 IV.C.4.f) Residents' patient care experience must be of sufficient duration to provide continuity of care that enables residents to attain competencey in the peri-procedural management of patients. (Core)

Specialty-Specific Background and Intent: "Continuity of care" refers to residents' active participation in the full gamut of clinical care, including pre-clinical evaluation, procedural patient care, and post-clinical care. Just observing an interventional radiology attending is inadequate. If not logistically possible, interventional radiology residents do not need to see the same patient throughout each clinical stage, so long as they see similar types of patients and/or similar disease states within each clinical stage. For example, within a single clinic day, the interventional radiology resident may evaluate and care for a new patient with a diagnosis of peripheral vascular disease, assess a patient who recently underwent a limb revascularization procedure two weeks prior; and see three-month, six-month, and 12-month post-intervention follow-up patients. This type of clinic experience, while it does not constitute continuity of care for one single patient, does provide a continuity of care experience within a disease state and provides a meaningful experience for the resident.

1703 IV.C.4.g) Residents must maintain current certification in advanced cardiac life-support (ACLS). (Core)

1706 IV.C.4.h) Residents should have experience in sedation analgesia. (Detail)

1708 IV.C.4.i) Residents' procedural experiences must be tracked using the ACGME Case Log System, and must at least meet the procedural minimums defined by the Review Committee. (Core)

1712 IV.C.4.j) Residents must maintain a Resident Learning Portfolio which must include, at a minimum, documentation of the following: (Core)

1715 IV.C.4.j).(1) Patient Care – Integrated Programs

1717 IV.C.4.j).(1).(a) participation in therapies involving oral administration of sodium iodide I-131, to include the date, diagnosis, and dosage; (Core)

1721 IV.C.4.j).(1).(b) interpretation/multi-reading of mammograms; and, (Core)

1724 IV.C.4.j).(1).(c) ~~participation in~~ performance of 75 hands-on ultrasonographic examinations of various types. (Core)

1728 IV.C.4.j).(2) Case/Procedure Logs – All Programs
1729

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IV.C.4.j).(2).(a) resident experience in the performance, interpretation, and complications of vascular, interventional, and invasive procedures, including image-guided biopsies, drainage procedures, angioplasty, embolization and infusion procedures, and other percutaneous interventional procedures. (Core)

IV.C.4.j).(3) Medical Knowledge – All Programs

IV.C.4.j).(3).(a) conferences, courses/meetings attended, and self-assessment modules completed; and, (Core)

IV.C.4.j).(3).(b) performance on rotation-specific and/or annual objective examinations. (Core)

IV.C.4.j).(4) Practice-based Learning and Improvement – All Programs

IV.C.4.j).(4).(a) evidence of a reflective process that must result in the annual documentation of an individual learning plan and self-assessment; and, (Core)

IV.C.4.j).(4).(b) scholarly activity, such as publications and/or presentations. (Core)

IV.C.4.j).(5) Interpersonal and Communication Skills – All Programs

IV.C.4.j).(5).(a) formal documented assessment of oral and written communication. (Core)

IV.C.4.j).(6) Professionalism – All Programs

IV.C.4.j).(6).(a) compliance with institutional and departmental policies such as ~~including,~~ but not limited to HIPAA, Joint Commission, patient safety, infection control, and dress code; and, (Core)

IV.C.4.j).(6).(b) status of medical license, if appropriate. (Core)

IV.C.4.j).(7) Systems-based Practice – All Programs

IV.C.4.j).(7).(a) a learning activity that involves deriving a solution to a system problem at the departmental, institutional, local, regional, national, or international level. (Core)

IV.C.5. Curriculum

IV.C.5.a) By the completion of the program, residents must have completed at least 23 interventional radiology or interventional radiology-related rotations. (Core)

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1781
1782 IV.C.5.a).(1) Of these, at least 18 rotations must be core interventional
1783 radiology rotations in the interventional radiology division
1784 under the supervision of an interventional radiologist. (Core)
1785
1786 IV.C.5.b) Residents must complete one rotation in critical care medicine.
1787 (Core)
1788
1789 IV.C.5.b).(1) For integrated programs, the critical care experience
1790 should occur during the PGY-5 or PGY-6. (Detail)
1791
1792 IV.C.5.b).(2) The critical care experience must be completed on a
1793 continuous full-time basis in a critical care setting under the
1794 supervision of a critical care specialist. (Core)
1795

Specialty-Specific Background and Intent: The critical care experience is not intended to provide residents with sufficient skills and knowledge to assume primary responsibility for ICU patients. Rather, it is intended to provide adequate skills to allow for the peri-procedural care of ICU patients during procedures, and to provide a background of knowledge regarding the ways in which ICU and interventional radiology physicians can complement each other in the care of patients they have in common.

1796
1797 IV.C.5.c) Independent Programs
1798
1799 IV.C.5.c).(1) The independent program curriculum must consist of 24
1800 months of interventional radiology education under the
1801 direction of the program director. (Core)
1802
1803 IV.C.5.d) Integrated 72-Month Programs
1804
1805 IV.C.5.d).(1) Programs using the 72-month format must provide a
1806 clinical experience during the first 12 months of the
1807 program, including: (Core)
1808
1809 IV.C.5.d).(1).(a) at least nine months of rotations designed to
1810 provide the fundamental clinical skills of medicine,
1811 which must include: (Core)
1812
1813 IV.C.5.d).(1).(a).(i) six months of inpatient care, which must
1814 include at least one month of critical care;
1815 (Core)
1816
1817 IV.C.5.d).(1).(a).(ii) one month of emergency medicine; and,
1818 (Core)
1819
1820 IV.C.5.d).(1).(a).(iii) two months of additional inpatient or
1821 outpatient care. (Core)
1822
1823 IV.C.5.d).(1).(b) The nine months of fundamental clinical skills of
1824 medicine should occur in the disciplines of
1825 anesthesiology, emergency medicine, family

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1826 medicine, internal medicine or internal medicine
1827 subspecialties, neurology, obstetrics and
1828 gynecology, pediatrics, surgery or surgical
1829 specialties, or any combination of these. (Core)
1830
1831 IV.C.5.d).(1).(c) Elective rotations in diagnostic radiology,
1832 interventional radiology, or nuclear medicine must
1833 only occur in radiology departments with a
1834 diagnostic radiology, interventional radiology, or
1835 nuclear medicine residency program accredited by
1836 the ACGME, AOA, RCPSC or College of Family
1837 Physicians of Canada, or in ACGME International
1838 (ACGME-I)-accredited programs with Advanced
1839 Specialty accreditation. (Core)
1840
1841 IV.C.5.d).(1).(c).(i) These electives must not exceed a
1842 combined total of two months. (Core)
1843
1844 IV.C.5.d).(1).(c).(ii) The elective rotations in radiology should
1845 involve active resident participation and
1846 must not be observational only. (Core)
1847
1848 IV.C.5.d).(1).(c).(iii) The electives rotations in radiology should
1849 be supervised by a radiology program
1850 faculty member. (Core)
1851
1852 IV.C.5.d).(2) The program director must maintain oversight of resident
1853 education in fundamental clinical skills of medicine. (Core)
1854
1855 IV.C.5.e) All Integrated Programs
1856
1857 IV.C.5.e).(1) The program must demonstrate collaboration with the
1858 ACGME-accredited diagnostic radiology program, if
1859 applicable, to ensure a cohesive curriculum and
1860 educational experience for all diagnostic radiology and
1861 interventional radiology residents. (Core) [Previously
1862 IV.C.5.d).(1)]
1863
1864 IV.C.5.e).(2) The integrated curriculum must consist of 60 months of
1865 diagnostic and interventional radiology education under the
1866 direction of the program director. (Core) [Previously
1867 IV.C.5.d).(2)]
1868
1869 IV.C.5.e).(2).(a) During the PGY-2-4, 36 months must be
1870 concentrated in diagnostic radiology education.
1871 (Core) [Previously IV.C.5.d).(2).(a)]
1872
1873 IV.C.5.e).(2).(a).(i) This should, includeing at least three
1874 rotations in interventional radiology. (DetailCore)
1875

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1876 IV.C.5.e).(2).(b) PGY-2-4 residents on interventional radiology
1877 rotations must: [Previously IV.C.5.d).(2).(b)]
1878
1879 IV.C.5.e).(2).(b).(i) fully participate in all of the clinical and
1880 educational activities, including non-
1881 procedural patient care; and, (Core)
1882 [Previously IV.C.5.d).(2).(b).(i)]
1883
1884 IV.C.5.e).(2).(b).(ii) be provided responsibilities and supervision
1885 commensurate with their level of education
1886 and experience. (Core) [Previously
1887 IV.C.5.d).(2).(b).(ii)]
1888
1889 IV.C.5.e).(2).(c) The final 24 months of the program should be
1890 focused primarily on interventional radiology
1891 training and education. (Core)(Detail) [Previously
1892 IV.C.5.d).(2).(c)]
1893
1894 IV.C.5.e).(2).(c).(i) Diagnostic radiology educational content
1895 during the final 24 months should be limited
1896 to a maximum of four rotations. (Core)(Detail)
1897 [Previously IV.C.5.d).(2).(c).(i)]
1898
1899 IV.C.5.e).(2).(d) Residents must not interpret examinations without
1900 direct supervision until they have completed at least
1901 12 months of diagnostic radiology rotations. (Core)
1902 [Previously IV.C.5.d).(2).(d)]
1903
1904 IV.C.5.e).(2).(e) Each residents must complete have a minimum of
1905 700 hours of training and work experience under
1906 the supervision of an Authorized User (AU) in basic
1907 radionuclide handling techniques and radiation
1908 safety applicable to the medical use of unsealed
1909 byproduct material for imaging and localization
1910 studies (10 CFR 35.290) and oral administration of
1911 sodium iodide I-131 for procedures requiring a
1912 written directive (10 CFR 35.392, 10 CFR 35.394).
1913 (Core) [Previously IV.C.5.d).(2).(e)]
1914

Specialty-Specific Background and Intent: According to Nuclear Regulatory Commission (NRC) guidelines § 35.290 Training for imaging and localization studies, the NRC requires "700 hours of training and experience, including a minimum of 80 hours of classroom and laboratory training." Thus, there is the option to count the 80 hours of classroom and laboratory training toward the 700-hour total. In any case, the 80-hour requirement (IV.C.3.i).(2).(e)) must be met, either in addition to the 700 hours (more than 700 hours total) or as part of the 700 hours.

1915
1916 IV.C.5.e).(2).(e).(i) Supervised work experience, at a minimum,
1917 must involve all operational and quality
1918 control procedures integral to the practice of

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nuclear radiology, including but not limited to: (Core) [Previously IV.C.5.d).(2).(e).(i)]

IV.C.5.e).(2).(e).(i).(a) receiving packages; (Core) [Previously IV.C.5.d).(2).(e).(i).(a)]

IV.C.5.e).(2).(e).(i).(b) using generator systems; (Core) [Previously IV.C.5.d).(2).(e).(i).(b)]

IV.C.5.e).(2).(e).(i).(c) calibrating and administering unsealed radioactive materials for diagnostic and therapeutic use; (Core) [Previously IV.C.5.d).(2).(e).(i).(c)]

IV.C.5.e).(2).(e).(i).(d) completing written directives; (Core) [Previously IV.C.5.d).(2).(e).(i).(d)]

IV.C.5.e).(2).(e).(i).(e) adhering to ALARA (as low as reasonably achievable) principles; (Core) [Previously IV.C.5.d).(2).(e).(i).(e)]

IV.C.5.e).(2).(e).(i).(f) ensuring radiation protection in practice, to include dosimeters, exposure limits, and signage; (Core) [Previously IV.C.5.d).(2).(e).(i).(f)]

IV.C.5.e).(2).(e).(i).(g) using radiation-measuring instruments; (Core) [Previously IV.C.5.d).(2).(e).(i).(g)]

IV.C.5.e).(2).(e).(i).(h) conducting area surveys; (Core) [Previously IV.C.5.d).(2).(e).(i).(h)]

IV.C.5.e).(2).(e).(i).(i) managing radioactive waste; (Core) [Previously IV.C.5.d).(2).(e).(i).(i)]

IV.C.5.e).(2).(e).(i).(j) preventing medical events; and, (Core) [Previously IV.C.5.d).(2).(e).(i).(j)]

IV.C.5.e).(2).(e).(i).(k) responding to radiation spills and accidents. (Core) [Previously IV.C.5.d).(2).(e).(i).(k)]

IV.C.5.e).(2).(e).(ii) Under AU preceptor supervision each resident~~s~~ must: [Previously IV.C.5.d).(2).(e).(ii)]

IV.C.5.e).(2).(e).(ii).(a) participate in at least three cases involving the oral administration of less than or equal to 1.22

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gigabecquerels (33 millicuries) of sodium iodide I-131 and at least three cases involving the oral administration of greater than 1.22 gigabecquerels (33 millicuries) of sodium iodide I-131; (Core) [Previously IV.C.5.d).(2).(e).(ii).(a)]

IV.C.5.e).(2).(e).(ii).(b) participate in patient selection and preparation; (Core) [Previously IV.C.5.d).(2).(e).(ii).(b)]

IV.C.5.e).(2).(e).(ii).(c) complete documentation, including the written directive and informed consent; (Core) [Previously IV.C.5.d).(2).(e).(ii).(c)]

IV.C.5.e).(2).(e).(ii).(d) understand and calculate the administered dosage; (Core) [Previously IV.C.5.d).(2).(e).(ii).(d)]

IV.C.5.e).(2).(e).(ii).(e) counsel patients and their families on radiation safety issues; (Core) [Previously IV.C.5.d).(2).(e).(ii).(e)]

IV.C.5.e).(2).(e).(ii).(f) determine release criteria; (Core) [Previously IV.C.5.d).(2).(e).(ii).(f)]

IV.C.5.e).(2).(e).(ii).(g) arrange patient follow-up; and, (Core) [Previously IV.C.5.d).(2).(e).(ii).(g)]

IV.C.5.e).(2).(e).(ii).(h) make pregnancy and breastfeeding recommendations. (Core) [Previously IV.C.5.d).(2).(e).(ii).(h)]

IV.C.5.e).(2).(f) Each resident~~s~~ must complete ~~have~~ a minimum of 12 weeks of clinical rotations in breast imaging. (Core) [Previously IV.C.5.d).(2).(f)]

IV.C.5.e).(2).(g) Each resident~~s~~ must interpret the minimum number of mammograms within the specified time period as designated by the US Food and Drug Administration's (FDA) Mammography Quality Standards Act (MQSA) regulations. (Core) [Previously IV.C.5.d).(2).(g)]

~~IV.C.5.e).(2).(h) Diagnostic radiology education must encompass image-based diagnosis and image-guided therapeutic techniques, and must include, but not limited to: CT; interventional procedures; MRI; medical physics; nuclear radiology and molecular~~

2021 ~~imaging; radiography/fluoroscopy; ultrasonography;~~
2022 ~~and radiology quality and safety. (Core)~~ [Previously
2023 IV.C.5.d).(2).(h)]
2024
2025 ~~IV.C.5.e).(2).(i)~~ ~~Residents must have clinical rotations and formal~~
2026 ~~instruction in the educational content areas of~~
2027 ~~diagnostic radiology, including, but not limited to:~~
2028 ~~diagnostic imaging and related image-guided~~
2029 ~~interventions in the following 10 categories: breast,~~
2030 ~~cardiac, gastrointestinal, musculoskeletal,~~
2031 ~~neurologic, pediatric, reproductive and endocrine,~~
2032 ~~thoracic, urinary, and vascular. (Core)~~ [Previously
2033 IV.C.5.d).(2).(i)]
2034
2035 **IV.D. Scholarship**
2036
2037 ***Medicine is both an art and a science. The physician is a humanistic***
2038 ***scientist who cares for patients. This requires the ability to think critically,***
2039 ***evaluate the literature, appropriately assimilate new knowledge, and***
2040 ***practice lifelong learning. The program and faculty must create an***
2041 ***environment that fosters the acquisition of such skills through resident***
2042 ***participation in scholarly activities. Scholarly activities may include***
2043 ***discovery, integration, application, and teaching.***
2044
2045 ***The ACGME recognizes the diversity of residencies and anticipates that***
2046 ***programs prepare physicians for a variety of roles, including clinicians,***
2047 ***scientists, and educators. It is expected that the program's scholarship will***
2048 ***reflect its mission(s) and aims, and the needs of the community it serves.***
2049 ***For example, some programs may concentrate their scholarly activity on***
2050 ***quality improvement, population health, and/or teaching, while other***
2051 ***programs might choose to utilize more classic forms of biomedical***
2052 ***research as the focus for scholarship.***
2053
2054 **IV.D.1. Program Responsibilities**
2055
2056 **IV.D.1.a) The program must demonstrate evidence of scholarly**
2057 **activities consistent with its mission(s) and aims. (Core)**
2058
2059 **IV.D.1.b) The program, in partnership with its Sponsoring Institution,**
2060 **must allocate adequate resources to facilitate resident and**
2061 **faculty involvement in scholarly activities. (Core)**
2062
2063 **IV.D.1.c) The program must advance residents' knowledge and**
2064 **practice of the scholarly approach to evidence-based patient**
2065 **care. (Core)**
2066

Background and Intent: The scholarly approach can be defined as a synthesis of teaching, learning, and research with the aim of encouraging curiosity and critical thinking based on an understanding of physiology, pathophysiology, differential diagnosis, treatments, treatment alternatives, efficiency of care, and patient safety. While some faculty members are responsible for fulfilling the traditional elements of

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scholarship through research, integration, and teaching, all faculty members are responsible for advancing residents' scholarly approach to patient care.

Elements of a scholarly approach to patient care include:

- **Asking meaningful questions to stimulate residents to utilize learning resources to create a differential diagnosis, a diagnostic algorithm, and treatment plan**
- **Challenging the evidence that the residents use to reach their medical decisions so that they understand the benefits and limits of the medical literature**
- **When appropriate, dissemination of scholarly learning in a peer-reviewed manner (publication or presentation)**
- **Improving resident learning by encouraging them to teach using a scholarly approach**

The scholarly approach to patient care begins with curiosity, is grounded in the principles of evidence-based medicine, expands the knowledge base through dissemination, and develops the habits of lifelong learning by encouraging residents to be scholarly teachers.

2067
2068 **IV.D.2. Faculty Scholarly Activity**
2069
2070 **IV.D.2.a)** **Among their scholarly activity, programs must demonstrate**
2071 **accomplishments in at least three of the following domains:**
2072 **(Core)**
2073
2074 - **Research in basic science, education, translational**
2075 **science, patient care, or population health**
2076 - **Peer-reviewed grants**
2077 - **Quality improvement and/or patient safety initiatives**
2078 - **Systematic reviews, meta-analyses, review articles,**
2079 **chapters in medical textbooks, or case reports**
2080 - **Creation of curricula, evaluation tools, didactic**
2081 **educational activities, or electronic educational**
2082 **materials**
2083 - **Contribution to professional committees, educational**
2084 **organizations, or editorial boards**
2085 - **Innovations in education**
2086
2087 **IV.D.2.b)** **The program must demonstrate dissemination of scholarly**
2088 **activity within and external to the program by the following**
2089 **methods:**
2090

Background and Intent: For the purposes of education, metrics of scholarly activity represent one of the surrogates for the program's effectiveness in the creation of an environment of inquiry that advances the residents' scholarly approach to patient care. The Review Committee will evaluate the dissemination of scholarship for the program as a whole, not for individual faculty members, for a five-year interval, for both core and non-core faculty members, with the goal of assessing the effectiveness of the creation of such an environment. The ACGME recognizes that there may be differences in scholarship requirements between different specialties and between residencies and fellowships in the same specialty.

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2091
2092 **IV.D.2.b).(1)** **faculty participation in grand rounds, posters, workshops, quality improvement presentations, podium presentations, grant leadership, non-peer-reviewed print/electronic resources, articles or publications, book chapters, textbooks, webinars, service on professional committees, or serving as a journal reviewer, journal editorial board member, or editor; (Outcome)‡**
2093
2094
2095
2096
2097
2098
2099
2100
2101 **IV.D.2.b).(2)** **peer-reviewed publication. (Outcome)**
2102
2103 **IV.D.3. Resident Scholarly Activity**
2104
2105 **IV.D.3.a)** **Residents must participate in scholarship. (Core)**
2106
2107 IV.D.3.b) Residents must have training in critical thinking skills and research design. (Core)
2108
2109
2110 IV.D.3.c) All residents must engage in a scholarly project under faculty member supervision. (Core)
2111
2112
2113 IV.D.3.c).(1) The results of such projects must be published or presented at institutional, local, regional, national, or international meetings, and must be included in each resident's Learning Portfolio. (Core)~~(Outcome)~~
2114
2115
2116
2117
2118 IV.D.3.c).(2) The program should specify how each project will be evaluated. (Detail)
2119
2120
2121 IV.D.3.d) All graduating residents should have submitted at least one scholarly work to a national, regional, or local meeting, or for publication. (Core)
2122
2123
2124
2125 **V. Evaluation**
2126
2127 **V.A. Resident Evaluation**
2128
2129 **V.A.1. Feedback and Evaluation**
2130

Background and Intent: Feedback is ongoing information provided regarding aspects of one's performance, knowledge, or understanding. The faculty empower residents to provide much of that feedback themselves in a spirit of continuous learning and self-reflection. Feedback from faculty members in the context of routine clinical care should be frequent, and need not always be formally documented.

Formative and summative evaluation have distinct definitions. Formative evaluation is *monitoring resident learning* and providing ongoing feedback that can be used by residents to improve their learning in the context of provision of patient care or other educational opportunities. More specifically, formative evaluations help:

- **residents identify their strengths and weaknesses and target areas that need work**
- **program directors and faculty members recognize where residents are struggling and address problems immediately**

Summative evaluation is *evaluating a resident's learning* by comparing the residents against the goals and objectives of the rotation and program, respectively. Summative evaluation is utilized to make decisions about promotion to the next level of training, or program completion.

End-of-rotation and end-of-year evaluations have both summative and formative components. Information from a summative evaluation can be used formatively when residents or faculty members use it to guide their efforts and activities in subsequent rotations and to successfully complete the residency program.

Feedback, formative evaluation, and summative evaluation compare intentions with accomplishments, enabling the transformation of a neophyte physician to one with growing expertise.

V.A.1.a) **Faculty members must directly observe, evaluate, and frequently provide feedback on resident performance during each rotation or similar educational assignment.** (Core)

Background and Intent: Faculty members should provide feedback frequently throughout the course of each rotation. Residents require feedback from faculty members to reinforce well-performed duties and tasks, as well as to correct deficiencies. This feedback will allow for the development of the learner as they strive to achieve the Milestones. More frequent feedback is strongly encouraged for residents who have deficiencies that may result in a poor final rotation evaluation.

V.A.1.b) **Evaluation must be documented at the completion of the assignment.** (Core)

V.A.1.b).(1) **For block rotations of greater than three months in duration, evaluation must be documented at least every three months.** (Core)

V.A.1.b).(2) **Longitudinal experiences, such as continuity clinic in the context of other clinical responsibilities, must be evaluated at least every three months and at completion.** (Core)

V.A.1.b).(3) Written end-of-rotation evaluations by faculty members must be provided to the residents within one month of completion of each ~~the~~ rotation. (Core)

V.A.1.c) **The program must provide an objective performance evaluation based on the Competencies and the specialty-specific Milestones, and must:** (Core)

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V.A.1.c).(1) **use multiple evaluators (e.g., faculty members, peers, patients, self, and other professional staff members);** **(Core)**

V.A.1.c).(2) **provide that information to the Clinical Competency Committee for its synthesis of progressive resident performance and improvement toward unsupervised practice;** **(Core)**

V.A.1.c).(3) ensure that assessment for progressive resident responsibility or independence is based upon knowledge, skills, and experience; and, (Core)

V.A.1.c).(4) ensure that resident assessment includes: (Core)

V.A.1.c).(4).(a) global faculty evaluations (all competencies); (Core)

V.A.1.c).(4).(b) multi-source evaluations (for Interpersonal and Communication Skills and Professionalism); (Core)

V.A.1.c).(4).(c) resident ability to take independent call; and, (Core)

V.A.1.c).(4).(d) the Resident Learning Portfolio. (Core)

V.A.1.d) **The program director or their designee, with input from the Clinical Competency Committee, must:**

V.A.1.d).(1) **meet with and review with each resident their documented semi-annual evaluation of performance, including progress along the specialty-specific Milestones;** **(Core)**

V.A.1.d).(2) **assist residents in developing individualized learning plans to capitalize on their strengths and identify areas for growth; and,** **(Core)**

V.A.1.d).(3) **develop plans for residents failing to progress, following institutional policies and procedures.** **(Core)**

V.A.1.d).(3).(a) The program must have a clearly defined process for remediation of resident underperformance. (Core)

V.A.1.d).(3).(a).(i) The program should provide more frequent performance reviews of residents experiencing difficulties or receiving unfavorable evaluations. (Core)~~(Detail)~~

V.A.1.d).(3).(a).(ii) When a resident fails to progress satisfactorily, the program should develop a written plan identifying the problems, and address how they can be corrected, and

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2208 then discuss this plan with the resident.
2209 (Core)~~(Detail)~~
2210
2211 V.A.1.d).(3).(a).(ii).(a) This plan should be signed by the
2212 resident and placed in his or her
2213 individual file. (Core)~~(Detail)~~
2214

Background and Intent: Learning is an active process that requires effort from the teacher and the learner. Faculty members evaluate a resident's performance at least at the end of each rotation. The program director or their designee will review those evaluations, including their progress on the Milestones, at a minimum of every six months. Residents should be encouraged to reflect upon the evaluation, using the information to reinforce well-performed tasks or knowledge or to modify deficiencies in knowledge or practice. Working together with the faculty members, residents should develop an individualized learning plan.

Residents who are experiencing difficulties with achieving progress along the Milestones may require intervention to address specific deficiencies. Such intervention, documented in an individual remediation plan developed by the program director or a faculty mentor and the resident, will take a variety of forms based on the specific learning needs of the resident. However, the ACGME recognizes that there are situations which require more significant intervention that may alter the time course of resident progression. To ensure due process, it is essential that the program director follow institutional policies and procedures.

2215
2216 **V.A.1.e)** **At least annually, there must be a summative evaluation of**
2217 **each resident that includes their readiness to progress to the**
2218 **next year of the program, if applicable. (Core)**
2219
2220 V.A.1.e).(1) This should include a review of the resident's procedural
2221 experiences to ensure complete and accurate tracking in
2222 the ACGME Case Log System throughout the duration of
2223 the educational program ~~resident training~~. (Core)
2224
2225 **V.A.1.f)** **The evaluations of a resident's performance must be**
2226 **accessible for review by the resident. (Core)**
2227
2228 **V.A.2.** **Final Evaluation**
2229
2230 **V.A.2.a)** **The program director must provide a final evaluation for each**
2231 **resident upon completion of the program. (Core)**
2232
2233 **V.A.2.a).(1)** **The specialty-specific Milestones, and when applicable**
2234 **the specialty-specific Case Logs, must be used as**
2235 **tools to ensure residents are able to engage in**
2236 **autonomous practice upon completion of the program.**
2237 **(Core)**
2238
2239 **V.A.2.a).(2)** **The final evaluation must:**
2240

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2241 **V.A.2.a).(2).(a)** **become part of the resident's permanent record maintained by the institution, and must be accessible for review by the resident in accordance with institutional policy;** **(Core)**
2242
2243
2244
2245
2246 **V.A.2.a).(2).(b)** **verify that the resident has demonstrated the knowledge, skills, and behaviors necessary to enter autonomous practice;** **(Core)**
2247
2248
2249
2250 **V.A.2.a).(2).(c)** **consider recommendations from the Clinical Competency Committee; and,** **(Core)**
2251
2252
2253 **V.A.2.a).(2).(d)** **be shared with the resident upon completion of the program.** **(Core)**
2254
2255
2256 **V.A.3.** **A Clinical Competency Committee must be appointed by the program director.** **(Core)**
2257
2258
2259 **V.A.3.a)** **At a minimum, the Clinical Competency Committee must include three members of the program faculty, at least one of whom is a core faculty member.** **(Core)**
2260
2261
2262
2263 **V.A.3.a).(1)** **Additional members must be faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program's residents.** **(Core)**
2264
2265
2266
2267

Background and Intent: The requirements regarding the Clinical Competency Committee do not preclude or limit a program director's participation on the Clinical Competency Committee. The intent is to leave flexibility for each program to decide the best structure for its own circumstances, but a program should consider: its program director's other roles as resident advocate, advisor, and confidante; the impact of the program director's presence on the other Clinical Competency Committee members' discussions and decisions; the size of the program faculty; and other program-relevant factors. The program director has final responsibility for resident evaluation and promotion decisions.

Program faculty may include more than the physician faculty members, such as other physicians and non-physicians who teach and evaluate the program's residents. There may be additional members of the Clinical Competency Committee. Chief residents who have completed core residency programs in their specialty may be members of the Clinical Competency Committee.

2268
2269 **V.A.3.b)** **The Clinical Competency Committee must:**
2270
2271 **V.A.3.b).(1)** **review all resident evaluations at least semi-annually;** **(Core)**
2272
2273
2274 **V.A.3.b).(2)** **determine each resident's progress on achievement of the specialty-specific Milestones; and,** **(Core)**
2275
2276

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2277 **V.A.3.b).(3)** **meet prior to the residents' semi-annual evaluations**
2278 **and advise the program director regarding each**
2279 **resident's progress.** **(Core)**
2280
2281 **V.B. Faculty Evaluation**
2282
2283 **V.B.1.** **The program must have a process to evaluate each faculty**
2284 **member's performance as it relates to the educational program at**
2285 **least annually.** **(Core)**
2286

Background and Intent: The program director is responsible for the education program and for whom delivers it. While the term "faculty" may be applied to physicians within a given institution for other reasons, it is applied to residency program faculty members only through approval by a program director. The development of the faculty improves the education, clinical, and research aspects of a program. Faculty members have a strong commitment to the resident and desire to provide optimal education and work opportunities. Faculty members must be provided feedback on their contribution to the mission of the program. All faculty members who interact with residents desire feedback on their education, clinical care, and research. If a faculty member does not interact with residents, feedback is not required. With regard to the diverse operating environments and configurations, the residency program director may need to work with others to determine the effectiveness of the program's faculty performance with regard to their role in the educational program. All teaching faculty members should have their educational efforts evaluated by the residents in a confidential and anonymous manner. Other aspects for the feedback may include research or clinical productivity, review of patient outcomes, or peer review of scholarly activity. The process should reflect the local environment and identify the necessary information. The feedback from the various sources should be summarized and provided to the faculty on an annual basis by a member of the leadership team of the program.

2287
2288 **V.B.1.a)** **This evaluation must include a review of the faculty member's**
2289 **clinical teaching abilities, engagement with the educational**
2290 **program, participation in faculty development related to their**
2291 **skills as an educator, clinical performance, professionalism,**
2292 **and scholarly activities.** **(Core)**
2293
2294 **V.B.1.b)** **This evaluation must include written, anonymous, and**
2295 **confidential evaluations by the residents.** **(Core)**
2296
2297 **V.B.2.** **Faculty members must receive feedback on their evaluations at least**
2298 **annually.** **(Core)**
2299
2300 **V.B.3.** **Results of the faculty educational evaluations should be**
2301 **incorporated into program-wide faculty development plans.** **(Core)**
2302

Background and Intent: The quality of the faculty's teaching and clinical care is a determinant of the quality of the program and the quality of the residents' future clinical care. Therefore, the program has the responsibility to evaluate and improve the program faculty members' teaching, scholarship, professionalism, and quality care. This section mandates annual review of the program's faculty members for this purpose, and can be used as input into the Annual Program Evaluation.

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2303
2304 **V.C. Program Evaluation and Improvement**
2305
2306 **V.C.1. The program director must appoint the Program Evaluation**
2307 **Committee to conduct and document the Annual Program**
2308 **Evaluation as part of the program's continuous improvement**
2309 **process.** (Core)
2310
2311 **V.C.1.a) The Program Evaluation Committee must be composed of at**
2312 **least two program faculty members, at least one of whom is a**
2313 **core faculty member, and at least one resident.** (Core)
2314
2315 **V.C.1.b) Program Evaluation Committee responsibilities must include:**
2316
2317 **V.C.1.b).(1) acting as an advisor to the program director, through**
2318 **program oversight;** (Core)
2319
2320 **V.C.1.b).(2) review of the program's self-determined goals and**
2321 **progress toward meeting them;** (Core)
2322
2323 **V.C.1.b).(3) guiding ongoing program improvement, including**
2324 **development of new goals, based upon outcomes;**
2325 **and,** (Core)
2326
2327 **V.C.1.b).(4) review of the current operating environment to identify**
2328 **strengths, challenges, opportunities, and threats as**
2329 **related to the program's mission and aims.** (Core)
2330

Background and Intent: In order to achieve its mission and train quality physicians, a program must evaluate its performance and plan for improvement in the Annual Program Evaluation. Performance of residents and faculty members is a reflection of program quality, and can use metrics that reflect the goals that a program has set for itself. The Program Evaluation Committee utilizes outcome parameters and other data to assess the program's progress toward achievement of its goals and aims.

2331
2332 **V.C.1.c) The Program Evaluation Committee should consider the**
2333 **following elements in its assessment of the program:**
2334
2335 **V.C.1.c).(1) curriculum;** (Core)
2336
2337 **V.C.1.c).(2) outcomes from prior Annual Program Evaluation(s);**
2338 (Core)
2339
2340 **V.C.1.c).(3) ACGME letters of notification, including citations,**
2341 **Areas for Improvement, and comments;** (Core)
2342
2343 **V.C.1.c).(4) quality and safety of patient care;** (Core)
2344
2345 **V.C.1.c).(5) aggregate resident and faculty:**
2346
2347 **V.C.1.c).(5).(a) well-being;** (Core)

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2348
2349 **V.C.1.c).(5).(b)** **recruitment and retention;** **(Core)**
2350
2351 **V.C.1.c).(5).(c)** **workforce diversity;** **(Core)**
2352
2353 **V.C.1.c).(5).(d)** **engagement in quality improvement and patient**
2354 **safety;** **(Core)**
2355
2356 **V.C.1.c).(5).(e)** **scholarly activity;** **(Core)**
2357
2358 **V.C.1.c).(5).(f)** **ACGME Resident and Faculty Surveys; and,**
2359 **(Core)**
2360
2361 **V.C.1.c).(5).(g)** **written evaluations of the program.** **(Core)**
2362
2363 **V.C.1.c).(6)** **aggregate resident:**
2364
2365 **V.C.1.c).(6).(a)** **achievement of the Milestones;** **(Core)**
2366
2367 **V.C.1.c).(6).(b)** **in-training examinations (where applicable);**
2368 **(Core)**
2369
2370 **V.C.1.c).(6).(c)** **board pass and certification rates; and,** **(Core)**
2371
2372 **V.C.1.c).(6).(d)** **graduate performance.** **(Core)**
2373
2374 **V.C.1.c).(7)** **aggregate faculty:**
2375
2376 **V.C.1.c).(7).(a)** **evaluation; and,** **(Core)**
2377
2378 **V.C.1.c).(7).(b)** **professional development.** **(Core)**
2379
2380 **V.C.1.d)** **The Program Evaluation Committee must evaluate the**
2381 **program's mission and aims, strengths, areas for**
2382 **improvement, and threats.** **(Core)**
2383
2384 **V.C.1.e)** **The annual review, including the action plan, must:**
2385
2386 **V.C.1.e).(1)** **be distributed to and discussed with the members of**
2387 **the teaching faculty and the residents; and,** **(Core)**
2388
2389 **V.C.1.e).(2)** **be submitted to the DIO.** **(Core)**
2390
2391 **V.C.2.** **The program must complete a Self-Study prior to its 10-Year**
2392 **Accreditation Site Visit.** **(Core)**
2393
2394 **V.C.2.a)** **A summary of the Self-Study must be submitted to the DIO.**
2395 **(Core)**
2396

Background and Intent: Outcomes of the documented Annual Program Evaluation can be integrated into the 10-year Self-Study process. The Self-Study is an objective,

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comprehensive evaluation of the residency program, with the aim of improving it. Underlying the Self-Study is this longitudinal evaluation of the program and its learning environment, facilitated through sequential Annual Program Evaluations that focus on the required components, with an emphasis on program strengths and self-identified areas for improvement. Details regarding the timing and expectations for the Self-Study and the 10-Year Accreditation Site Visit are provided in the *ACGME Manual of Policies and Procedures*. Additionally, a description of the Self-Study process, as well as information on how to prepare for the 10-Year Accreditation Site Visit, is available on the ACGME website.

2397
2398 ***V.C.3.*** ***One goal of ACGME-accredited education is to educate physicians***
2399 ***who seek and achieve board certification. One measure of the***
2400 ***effectiveness of the educational program is the ultimate pass rate.***
2401
2402 ***The program director should encourage all eligible program***
2403 ***graduates to take the certifying examination offered by the***
2404 ***applicable American Board of Medical Specialties (ABMS) member***
2405 ***board or American Osteopathic Association (AOA) certifying board.***
2406
2407 **V.C.3.a)** **For specialties in which the ABMS member board and/or AOA**
2408 **certifying board offer(s) an annual written exam, in the**
2409 **preceding three years, the program's aggregate pass rate of**
2410 **those taking the examination for the first time must be higher**
2411 **than the bottom fifth percentile of programs in that specialty.**
2412 **(Outcome)**
2413

Specialty-Specific Background and Intent: For interventional radiology programs, the annual written exam referenced in V.C.3.a) will be considered equivalent to the ABR's Core Exam or the AOBR's Combined Physics and Diagnostic Imaging Examination and will be the basis for the aggregate program pass rate.

2414
2415 **V.C.3.b)** **For specialties in which the ABMS member board and/or AOA**
2416 **certifying board offer(s) a biennial written exam, in the**
2417 **preceding six years, the program's aggregate pass rate of**
2418 **those taking the examination for the first time must be higher**
2419 **than the bottom fifth percentile of programs in that specialty.**
2420 **(Outcome)**
2421
2422 **V.C.3.c)** **For specialties in which the ABMS member board and/or AOA**
2423 **certifying board offer(s) an annual oral exam, in the preceding**
2424 **three years, the program's aggregate pass rate of those**
2425 **taking the examination for the first time must be higher than**
2426 **the bottom fifth percentile of programs in that specialty.**
2427 **(Outcome)**
2428

Specialty-Specific Background and Intent: For interventional radiology programs, the annual oral exam referenced in V.C.3.c) will be equivalent to both the ABR's oral component and computer-based component or the AOBR's oral Certification of Added Qualifications (CAQ) in interventional radiology.

2429

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2430 **V.C.3.d)** **For specialties in which the ABMS member board and/or AOA certifying board offer(s) a biennial oral exam, in the preceding six years, the program's aggregate pass rate of those taking the examination for the first time must be higher than the bottom fifth percentile of programs in that specialty.** (Outcome)

2436 **V.C.3.e)** **For each of the exams referenced in V.C.3.a)-d), any program whose graduates over the time period specified in the requirement have achieved an 80 percent pass rate will have met this requirement, no matter the percentile rank of the program for pass rate in that specialty.** (Outcome)

Background and Intent: Setting a single standard for pass rate that works across specialties is not supportable based on the heterogeneity of the psychometrics of different examinations. By using a percentile rank, the performance of the lower five percent (fifth percentile) of programs can be identified and set on a path to curricular and test preparation reform.

There are specialties where there is a very high board pass rate that could leave successful programs in the bottom five percent (fifth percentile) despite admirable performance. These high-performing programs should not be cited, and V.C.3.e) is designed to address this.

2443 **V.C.3.f)** **Programs must report, in ADS, board certification status annually for the cohort of board-eligible residents that graduated seven years earlier.** (Core)

Background and Intent: It is essential that residency programs demonstrate knowledge and skill transfer to their residents. One measure of that is the qualifying or initial certification exam pass rate. Another important parameter of the success of the program is the ultimate board certification rate of its graduates. Graduates are eligible for up to seven years from residency graduation for initial certification. The ACGME will calculate a rolling three-year average of the ultimate board certification rate at seven years post-graduation, and the Review Committees will monitor it.

The Review Committees will track the rolling seven-year certification rate as an indicator of program quality. Programs are encouraged to monitor their graduates' performance on board certification examinations.

In the future, the ACGME may establish parameters related to ultimate board certification rates.

2448 VI. The Learning and Working Environment

2450 ***Residency education must occur in the context of a learning and working environment that emphasizes the following principles:***

2453
- ***Excellence in the safety and quality of care rendered to patients by residents today***

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- ***Excellence in the safety and quality of care rendered to patients by today's residents in their future practice***

- ***Excellence in professionalism through faculty modeling of:***

  - ***the effacement of self-interest in a humanistic environment that supports the professional development of physicians***

  - ***the joy of curiosity, problem-solving, intellectual rigor, and discovery***

- ***Commitment to the well-being of the students, residents, faculty members, and all members of the health care team***

Background and Intent: The revised requirements are intended to provide greater flexibility within an established framework, allowing programs and residents more discretion to structure clinical education in a way that best supports the above principles of professional development. With this increased flexibility comes the responsibility for programs and residents to adhere to the 80-hour maximum weekly limit (unless a rotation-specific exception is granted by a Review Committee), and to utilize flexibility in a manner that optimizes patient safety, resident education, and resident well-being. The requirements are intended to support the development of a sense of professionalism by encouraging residents to make decisions based on patient needs and their own well-being, without fear of jeopardizing their program's accreditation status. In addition, the proposed requirements eliminate the burdensome documentation requirement for residents to justify clinical and educational work hour variations.

Clinical and educational work hours represent only one part of the larger issue of conditions of the learning and working environment, and Section VI has now been expanded to include greater attention to patient safety and resident and faculty member well-being. The requirements are intended to support programs and residents as they strive for excellence, while also ensuring ethical, humanistic training. Ensuring that flexibility is used in an appropriate manner is a shared responsibility of the program and residents. With this flexibility comes a responsibility for residents and faculty members to recognize the need to hand off care of a patient to another provider when a resident is too fatigued to provide safe, high quality care and for programs to ensure that residents remain within the 80-hour maximum weekly limit.

VI.A. Patient Safety, Quality Improvement, Supervision, and Accountability

VI.A.1. Patient Safety and Quality Improvement

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

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knowledge and experience; and seek assistance as required to provide optimal patient care.

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

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

VI.A.1.a) Patient Safety

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

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

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

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

VI.A.1.a).(2) Education on Patient Safety

Programs must provide formal educational activities that promote patient safety-related goals, tools, and techniques. (Core)

Background and Intent: Optimal patient safety occurs in the setting of a coordinated interprofessional learning and working environment.

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

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

2530 ***based changes to ameliorate patient safety***
2531 ***vulnerabilities.***
2532
2533 **VI.A.1.a).(3).(a)** **Residents, fellows, faculty members, and other**
2534 **clinical staff members must:**
2535
2536 **VI.A.1.a).(3).(a).(i)** **know their responsibilities in reporting**
2537 **patient safety events at the clinical site;**
2538 **(Core)**
2539
2540 **VI.A.1.a).(3).(a).(ii)** **know how to report patient safety**
2541 **events, including near misses, at the**
2542 **clinical site; and, (Core)**
2543
2544 **VI.A.1.a).(3).(a).(iii)** **be provided with summary information**
2545 **of their institution's patient safety**
2546 **reports. (Core)**
2547
2548 **VI.A.1.a).(3).(b)** **Residents must participate as team members in**
2549 **real and/or simulated interprofessional clinical**
2550 **patient safety activities, such as root cause**
2551 **analyses or other activities that include**
2552 **analysis, as well as formulation and**
2553 **implementation of actions. (Core)**
2554
2555 **VI.A.1.a).(4)** **Resident Education and Experience in Disclosure of**
2556 **Adverse Events**
2557
2558 ***Patient-centered care requires patients, and when***
2559 ***appropriate families, to be apprised of clinical***
2560 ***situations that affect them, including adverse events.***
2561 ***This is an important skill for faculty physicians to***
2562 ***model, and for residents to develop and apply.***
2563
2564 **VI.A.1.a).(4).(a)** **All residents must receive training in how to**
2565 **disclose adverse events to patients and**
2566 **families. (Core)**
2567
2568 **VI.A.1.a).(4).(b)** **Residents should have the opportunity to**
2569 **participate in the disclosure of patient safety**
2570 **events, real or simulated. (Detail)**
2571
2572 **VI.A.1.b)** **Quality Improvement**
2573
2574 **VI.A.1.b).(1)** **Education in Quality Improvement**
2575
2576 ***A cohesive model of health care includes quality-***
2577 ***related goals, tools, and techniques that are necessary***
2578 ***in order for health care professionals to achieve***
2579 ***quality improvement goals.***
2580

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2581 **VI.A.1.b).(1).(a)** **Residents must receive training and experience in quality improvement processes, including an understanding of health care disparities.** (Core)

2585 **VI.A.1.b).(2)** **Quality Metrics**

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

2591 **VI.A.1.b).(2).(a)** **Residents and faculty members must receive data on quality metrics and benchmarks related to their patient populations.** (Core)

2595 **VI.A.1.b).(3)** **Engagement in Quality Improvement Activities**

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

2601 **VI.A.1.b).(3).(a)** **Residents must have the opportunity to participate in interprofessional quality improvement activities.** (Core)

2605 **VI.A.1.b).(3).(a).(i)** **This should include activities aimed at reducing health care disparities.** (Detail)

2608 **VI.A.2.** **Supervision and Accountability**

2610 **VI.A.2.a)** ***Although the attending physician is ultimately responsible for the care of the patient, every physician shares in the responsibility and accountability for their efforts in the provision of care. Effective programs, in partnership with their Sponsoring Institutions, define, widely communicate, and monitor a structured chain of responsibility and accountability as it relates to the supervision of all patient care.***

Supervision in the setting of graduate medical education provides safe and effective care to patients; ensures each resident's development of the skills, knowledge, and attitudes required to enter the unsupervised practice of medicine; and establishes a foundation for continued professional growth.

2625 **VI.A.2.a).(1)** **Each patient must have an identifiable and appropriately-credentialed and privileged attending physician (or licensed independent practitioner as specified by the applicable Review Committee) who is responsible and accountable for the patient's care.** (Core)

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2632 **VI.A.2.a).(1).(a)** **This information must be available to residents, faculty members, other members of the health care team, and patients.** (Core)

2636 **VI.A.2.a).(1).(b)** **Residents and faculty members must inform each patient of their respective roles in that patient's care when providing direct patient care.** (Core)

2641 **VI.A.2.b)** ***Supervision may be exercised through a variety of methods. For many aspects of patient care, the supervising physician may be a more advanced resident or fellow. Other portions of care provided by the resident can be adequately supervised by the appropriate availability of the supervising faculty member, fellow, or senior resident physician, either on site or by means of telecommunication technology. Some activities require the physical presence of the supervising faculty member. In some circumstances, supervision may include post-hoc review of resident-delivered care with feedback.***

2651

Background and Intent: Appropriate supervision is essential for patient safety and high-quality teaching. Supervision is also contextual. There is tremendous diversity of resident patient interactions, education and training locations, and resident skills and abilities even at the same level of the educational program. The degree of supervision is expected to evolve progressively as a resident gains more experience, even with the same patient condition or procedure. All residents have a level of supervision commensurate with their level of autonomy in practice; this level of supervision may be enhanced based on factors such as patient safety, complexity, acuity, urgency, risk of serious adverse events, or other pertinent variables.

2652

2653 **VI.A.2.b).(1)** **The program must demonstrate that the appropriate level of supervision in place for all residents is based on each resident's level of training and ability, as well as patient complexity and acuity. Supervision may be exercised through a variety of methods, as appropriate to the situation.** (Core)

2660 **VI.A.2.b).(2)** **The program must define when physical presence of a supervising physician is required.** (Core)

2663 **VI.A.2.c)** **Levels of Supervision**

2665 **To promote appropriate resident supervision while providing for graded authority and responsibility, the program must use the following classification of supervision:** (Core)

2669 **VI.A.2.c).(1)** **Direct Supervision:**

2671 **VI.A.2.c).(1).(a)** **the supervising physician is physically present with the resident during the key portions of the patient interaction; or,** (Core)

2674
2675 **VI.A.2.c).(1).(a).(i)** **PGY-1 residents must initially be supervised directly, only as described in VI.A.2.c).(1).(a).** (Core)

2679 **VI.A.2.c).(1).(b)** **the supervising physician and/or patient is not physically present with the resident and the supervising physician is concurrently monitoring the patient care through appropriate telecommunication technology.** (Core)

2685 VI.A.2.c).(1).(b).(i) The program must have clear guidelines that delineate which competencies must be demonstrated to determine when a resident can progress to indirect supervision. (Core)

2690 VI.A.2.c).(1).(b).(ii) The program director must ensure that clear expectations exist and are communicated to the residents, and that these expectations outline specific situations in which a resident would still require direct supervision. (Core)

2696 **VI.A.2.c).(2)** **Indirect Supervision: the supervising physician is not providing physical or concurrent visual or audio supervision but is immediately available to the resident for guidance and is available to provide appropriate direct supervision.** (Core)

2702 **VI.A.2.c).(3)** **Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.** (Core)

2706 **VI.A.2.d)** **The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.** (Core)

2711 **VI.A.2.d).(1)** **The program director must evaluate each resident's abilities based on specific criteria, guided by the Milestones.** (Core)

2715 **VI.A.2.d).(2)** **Faculty members functioning as supervising physicians must delegate portions of care to residents based on the needs of the patient and the skills of each resident.** (Core)

2720 **VI.A.2.d).(3)** **Senior residents or fellows should serve in a supervisory role to 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.** (Detail)

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2725
2726 **VI.A.2.e)** **Programs must set guidelines for circumstances and events in which residents must communicate with the supervising faculty member(s).** (Core)
2727
2728
2729
2730 **VI.A.2.e).(1)** **Each resident must know the limits of their scope of authority, and the circumstances under which the resident is permitted to act with conditional independence.** (Outcome)
2731
2732
2733
2734

Background and Intent: The ACGME Glossary of Terms defines conditional independence as: Graded, progressive responsibility for patient care with defined oversight.

2735
2736 **VI.A.2.f)** **Faculty supervision assignments must be of sufficient duration to assess the knowledge and skills of each resident and to delegate to the resident the appropriate level of patient care authority and responsibility.** (Core)
2737
2738
2739
2740
2741 **VI.B. Professionalism**
2742
2743 **VI.B.1.** **Programs, in partnership with their Sponsoring Institutions, must educate residents and faculty members concerning the professional responsibilities of physicians, including their obligation to be appropriately rested and fit to provide the care required by their patients.** (Core)
2744
2745
2746
2747
2748
2749 **VI.B.2.** **The learning objectives of the program must:**
2750
2751 **VI.B.2.a)** **be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events;** (Core)
2752
2753
2754
2755 **VI.B.2.b)** **be accomplished without excessive reliance on residents to fulfill non-physician obligations; and,** (Core)
2756
2757

Background and Intent: Routine reliance on residents to fulfill non-physician obligations increases work compression for residents and does not provide an optimal educational experience. Non-physician obligations are those duties which in most institutions are performed by nursing and allied health professionals, transport services, or clerical staff. Examples of such obligations include transport of patients from the wards or units for procedures elsewhere in the hospital; routine blood drawing for laboratory tests; routine monitoring of patients when off the ward; and clerical duties, such as scheduling. While it is understood that residents may be expected to do any of these things on occasion when the need arises, these activities should not be performed by residents routinely and must be kept to a minimum to optimize resident education.

2758
2759 **VI.B.2.c)** **ensure manageable patient care responsibilities.** (Core)
2760

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Background and Intent: The Common Program Requirements do not define "manageable patient care responsibilities" as this is variable by specialty and PGY level. Review Committees will provide further detail regarding patient care responsibilities in the applicable specialty-specific Program Requirements and accompanying FAQs. However, all programs, regardless of specialty, should carefully assess how the assignment of patient care responsibilities can affect work compression, especially at the PGY-1 level.

2761
2762 **VI.B.3.** **The program director, in partnership with the Sponsoring Institution,**
2763 **must provide a culture of professionalism that supports patient**
2764 **safety and personal responsibility.** (Core)
2765
2766 **VI.B.4.** **Residents and faculty members must demonstrate an understanding**
2767 **of their personal role in the:**
2768
2769 **VI.B.4.a)** **provision of patient- and family-centered care;** (Outcome)
2770
2771 **VI.B.4.b)** **safety and welfare of patients entrusted to their care,**
2772 **including the ability to report unsafe conditions and adverse**
2773 **events;** (Outcome)
2774

Background and Intent: This requirement emphasizes that responsibility for reporting unsafe conditions and adverse events is shared by all members of the team and is not solely the responsibility of the resident.

2775
2776 **VI.B.4.c)** **assurance of their fitness for work, including:** (Outcome)
2777

Background and Intent: This requirement emphasizes the professional responsibility of faculty members and residents to arrive for work adequately rested and ready to care for patients. It is also the responsibility of faculty members, residents, and other members of the care team to be observant, to intervene, and/or to escalate their concern about resident and faculty member fitness for work, depending on the situation, and in accordance with institutional policies.

2778
2779 **VI.B.4.c).(1)** **management of their time before, during, and after**
2780 **clinical assignments; and,** (Outcome)
2781
2782 **VI.B.4.c).(2)** **recognition of impairment, including from illness,**
2783 **fatigue, and substance use, in themselves, their peers,**
2784 **and other members of the health care team.** (Outcome)
2785
2786 **VI.B.4.d)** **commitment to lifelong learning;** (Outcome)
2787
2788 **VI.B.4.e)** **monitoring of their patient care performance improvement**
2789 **indicators; and,** (Outcome)
2790
2791 **VI.B.4.f)** **accurate reporting of clinical and educational work hours,**
2792 **patient outcomes, and clinical experience data.** (Outcome)
2793

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2794 **VI.B.5.** **All residents and faculty members must demonstrate**
2795 **responsiveness to patient needs that supersedes self-interest. This**
2796 **includes the recognition that under certain circumstances, the best**
2797 **interests of the patient may be served by transitioning that patient's**
2798 **care to another qualified and rested provider.** **(Outcome)**
2799
2800 **VI.B.6.** **Programs, in partnership with their Sponsoring Institutions, must**
2801 **provide a professional, equitable, respectful, and civil environment**
2802 **that is free from discrimination, sexual and other forms of**
2803 **harassment, mistreatment, abuse, or coercion of students,**
2804 **residents, faculty, and staff.** **(Core)**
2805
2806 **VI.B.7.** **Programs, in partnership with their Sponsoring Institutions, should**
2807 **have a process for education of residents and faculty regarding**
2808 **unprofessional behavior and a confidential process for reporting,**
2809 **investigating, and addressing such concerns.** **(Core)**
2810
2811 **VI.C.** **Well-Being**
2812
2813 ***Psychological, emotional, and physical well-being are critical in the***
2814 ***development of the competent, caring, and resilient physician and require***
2815 ***proactive attention to life inside and outside of medicine. Well-being***
2816 ***requires that physicians retain the joy in medicine while managing their***
2817 ***own real-life stresses. Self-care and responsibility to support other***
2818 ***members of the health care team are important components of***
2819 ***professionalism; they are also skills that must be modeled, learned, and***
2820 ***nurtured in the context of other aspects of residency training.***
2821
2822 ***Residents and faculty members are at risk for burnout and depression.***
2823 ***Programs, in partnership with their Sponsoring Institutions, have the same***
2824 ***responsibility to address well-being as other aspects of resident***
2825 ***competence. Physicians and all members of the health care team share***
2826 ***responsibility for the well-being of each other. For example, a culture which***
2827 ***encourages covering for colleagues after an illness without the expectation***
2828 ***of reciprocity reflects the ideal of professionalism. A positive culture in a***
2829 ***clinical learning environment models constructive behaviors, and prepares***
2830 ***residents with the skills and attitudes needed to thrive throughout their***
2831 ***careers.***
2832

Background and Intent: The ACGME is committed to addressing physician well-being for individuals and as it relates to the learning and working environment. The creation of a learning and working environment with a culture of respect and accountability for physician well-being is crucial to physicians' ability to deliver the safest, best possible care to patients. The ACGME is leveraging its resources in four key areas to support the ongoing focus on physician well-being: education, influence, research, and collaboration. Information regarding the ACGME's ongoing efforts in this area is available on the ACGME website. **As these efforts evolve, information will be shared with programs seeking to develop and/or strengthen their own well-being initiatives. In addition, there are many activities that programs can utilize now to assess and support physician well-being. These**

include culture of safety surveys, ensuring the availability of counseling services, and attention to the safety of the entire health care team.

2833
2834 **VI.C.1. The responsibility of the program, in partnership with the**
2835 **Sponsoring Institution, to address well-being must include:**
2836
2837 **VI.C.1.a) efforts to enhance the meaning that each resident finds in the**
2838 **experience of being a physician, including protecting time**
2839 **with patients, minimizing non-physician obligations,**
2840 **providing administrative support, promoting progressive**
2841 **autonomy and flexibility, and enhancing professional**
2842 **relationships; (Core)**
2843
2844 **VI.C.1.b) attention to scheduling, work intensity, and work**
2845 **compression that impacts resident well-being; (Core)**
2846
2847 **VI.C.1.c) evaluating workplace safety data and addressing the safety of**
2848 **residents and faculty members; (Core)**
2849

Background and Intent: This requirement emphasizes the responsibility shared by the Sponsoring Institution and its programs to gather information and utilize systems that monitor and enhance resident and faculty member safety, including physical safety. Issues to be addressed include, but are not limited to, monitoring of workplace injuries, physical or emotional violence, vehicle collisions, and emotional well-being after adverse events.

2850
2851 **VI.C.1.d) policies and programs that encourage optimal resident and**
2852 **faculty member well-being; and, (Core)**
2853

Background and Intent: Well-being includes having time away from work to engage with family and friends, as well as to attend to personal needs and to one's own health, including adequate rest, healthy diet, and regular exercise.

2854
2855 **VI.C.1.d).(1) Residents must be given the opportunity to attend**
2856 **medical, mental health, and dental care appointments,**
2857 **including those scheduled during their working hours.**
2858 **(Core)**
2859

Background and Intent: The intent of this requirement is to ensure that residents have the opportunity to access medical and dental care, including mental health care, at times that are appropriate to their individual circumstances. Residents must be provided with time away from the program as needed to access care, including appointments scheduled during their working hours.

2860
2861 **VI.C.1.e) attention to resident and faculty member burnout,**
2862 **depression, and substance use disorders. The program, in**
2863 **partnership with its Sponsoring Institution, must educate**
2864 **faculty members and residents in identification of the**
2865 **symptoms of burnout, depression, and substance use**
2866 **disorders, including means to assist those who experience**

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2867 2868 2869 2870 2871

these conditions. Residents and faculty members must also be educated to recognize those symptoms in themselves and how to seek appropriate care. The program, in partnership with its Sponsoring Institution, must: (Core)

Background and Intent: Programs and Sponsoring Institutions are encouraged to review materials in order to create systems for identification of burnout, depression, and substance use disorders. Materials and more information are available on the Physician Well-being section of the ACGME website (http://www.acgme.org/What-We-Do/Initiatives/Physician-Well-Being).

2872 2873 2874 2875 2876 2877 2878 2879 2880

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

Background and Intent: Individuals experiencing burnout, depression, a substance use disorder, and/or suicidal ideation are often reluctant to reach out for help due to the stigma associated with these conditions, and are concerned that seeking help may have a negative impact on their career. Recognizing that physicians are at increased risk in these areas, it is essential that residents and faculty members are able to report their concerns when another resident or faculty member displays signs of any of these conditions, so that the program director or other designated personnel, such as the department chair, may assess the situation and intervene as necessary to facilitate access to appropriate care. Residents and faculty members must know which personnel, in addition to the program director, have been designated with this responsibility; those personnel and the program director should be familiar with the institution's impaired physician policy and any employee health, employee assistance, and/or wellness programs within the institution. In cases of physician impairment, the program director or designated personnel should follow the policies of their institution for reporting.

2881 2882 2883 2884

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

2885 2886 2887 2888 2889

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

Background and Intent: The intent of this requirement is to ensure that residents have immediate access at all times to a mental health professional (psychiatrist, psychologist, Licensed Clinical Social Worker, Primary Mental Health Nurse Practitioner, or Licensed Professional Counselor) for urgent or emergent mental health issues. In-person, telemedicine, or telephonic means may be utilized to satisfy this requirement. Care in the Emergency Department may be necessary in some cases, but not as the primary or sole means to meet the requirement.

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The reference to affordable counseling is intended to require that financial cost not be a barrier to obtaining care.

2890
2891 **VI.C.2.** **There are circumstances in which residents may be unable to attend work, including but not limited to fatigue, illness, family emergencies, and parental leave. Each program must allow an appropriate length of absence for residents unable to perform their patient care responsibilities.** (Core)
2892
2893
2894
2895
2896
2897 **VI.C.2.a)** **The program must have policies and procedures in place to ensure coverage of patient care.** (Core)
2898
2899
2900 **VI.C.2.b)** **These policies must be implemented without fear of negative consequences for the resident who is or was unable to provide the clinical work.** (Core)
2901
2902
2903

Background and Intent: Residents may need to extend their length of training depending on length of absence and specialty board eligibility requirements. Teammates should assist colleagues in need and equitably reintegrate them upon return.

2904
2905 **VI.D.** **Fatigue Mitigation**
2906
2907 **VI.D.1.** **Programs must:**
2908
2909 **VI.D.1.a)** **educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;** (Core)
2910
2911
2912 **VI.D.1.b)** **educate all faculty members and residents in alertness management and fatigue mitigation processes; and,** (Core)
2913
2914
2915 **VI.D.1.c)** **encourage residents to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.** (Detail)
2916
2917
2918

Background and Intent: Providing medical care to patients is physically and mentally demanding. Night shifts, even for those who have had enough rest, cause fatigue. Experiencing fatigue in a supervised environment during training prepares residents for managing fatigue in practice. It is expected that programs adopt fatigue mitigation processes and ensure that there are no negative consequences and/or stigma for using fatigue mitigation strategies.

This requirement emphasizes the importance of adequate rest before and after clinical responsibilities. Strategies that may be used include, but are not limited to, strategic napping; the judicious use of caffeine; availability of other caregivers; time management to maximize sleep off-duty; learning to recognize the signs of fatigue, and self-monitoring performance and/or asking others to monitor performance; remaining active to promote alertness; maintaining a healthy diet; using relaxation techniques to fall

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asleep; maintaining a consistent sleep routine; exercising regularly; increasing sleep time before and after call; and ensuring sufficient sleep recovery periods.

2919

2920 **VI.D.2.** **Each program must ensure continuity of patient care, consistent**
2921 **with the program's policies and procedures referenced in VI.C.2–**
2922 **VI.C.2.b), in the event that a resident may be unable to perform their**
2923 **patient care responsibilities due to excessive fatigue.** (Core)

2924

2925 **VI.D.3.** **The program, in partnership with its Sponsoring Institution, must**
2926 **ensure adequate sleep facilities and safe transportation options for**
2927 **residents who may be too fatigued to safely return home.** (Core)

2928

2929 **VI.E. Clinical Responsibilities, Teamwork, and Transitions of Care**

2930

2931 **VI.E.1. Clinical Responsibilities**

2932

2933 **The clinical responsibilities for each resident must be based on PGY**
2934 **level, patient safety, resident ability, severity and complexity of**
2935 **patient illness/condition, and available support services.** (Core)

2936

Background and Intent: The changing clinical care environment of medicine has meant that work compression due to high complexity has increased stress on residents. Faculty members and program directors need to make sure residents function in an environment that has safe patient care and a sense of resident well-being. Some Review Committees have addressed this by setting limits on patient admissions, and it is an essential responsibility of the program director to monitor resident workload. Workload should be distributed among the resident team and interdisciplinary teams to minimize work compression.

2937

2938 **VI.E.2. Teamwork**

2939

2940 **Residents must care for patients in an environment that maximizes**
2941 **communication. This must include the opportunity to work as a**
2942 **member of effective interprofessional teams that are appropriate to**
2943 **the delivery of care in the specialty and larger health system.** (Core)

2944

2945 **VI.E.3. Transitions of Care**

2946

2947 **VI.E.3.a)** **Programs must design clinical assignments to optimize**
2948 **transitions in patient care, including their safety, frequency,**
2949 **and structure.** (Core)

2950

2951 **VI.E.3.b)** **Programs, in partnership with their Sponsoring Institutions,**
2952 **must ensure and monitor effective, structured hand-over**
2953 **processes to facilitate both continuity of care and patient**
2954 **safety.** (Core)

2955

2956 **VI.E.3.c)** **Programs must ensure that residents are competent in**
2957 **communicating with team members in the hand-over process.**
2958 (Outcome)

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2959
2960 **VI.E.3.d)** **Programs and clinical sites must maintain and communicate**
2961 **schedules of attending physicians and residents currently**
2962 **responsible for care.** (Core)
2963
2964 **VI.E.3.e)** **Each program must ensure continuity of patient care,**
2965 **consistent with the program's policies and procedures**
2966 **referenced in VI.C.2-VI.C.2.b), in the event that a resident may**
2967 **be unable to perform their patient care responsibilities due to**
2968 **excessive fatigue or illness, or family emergency.** (Core)
2969
2970 **VI.F. Clinical Experience and Education**
2971
2972 ***Programs, in partnership with their Sponsoring Institutions, must design***
2973 ***an effective program structure that is configured to provide residents with***
2974 ***educational and clinical experience opportunities, as well as reasonable***
2975 ***opportunities for rest and personal activities.***
2976

Background and Intent: In the new requirements, the terms "clinical experience and education," "clinical and educational work," and "clinical and educational work hours" replace the terms "duty hours," "duty periods," and "duty." These changes have been made in response to concerns that the previous use of the term "duty" in reference to number of hours worked may have led some to conclude that residents' duty to "clock out" on time superseded their duty to their patients.

2977
2978 **VI.F.1. Maximum Hours of Clinical and Educational Work per Week**
2979
2980 **Clinical and educational work hours must be limited to no more than**
2981 **80 hours per week, averaged over a four-week period, inclusive of all**
2982 **in-house clinical and educational activities, clinical work done from**
2983 **home, and all moonlighting.** (Core)
2984

Background and Intent: Programs and residents have a shared responsibility to ensure that the 80-hour maximum weekly limit is not exceeded. While the requirement has been written with the intent of allowing residents to remain beyond their scheduled work periods to care for a patient or participate in an educational activity, these additional hours must be accounted for in the allocated 80 hours when averaged over four weeks. ***Scheduling*** **While the ACGME acknowledges that, on rare occasions, a resident may work in excess of 80 hours in a given week, all programs and residents utilizing this flexibility will be required to adhere to the 80-hour maximum weekly limit when averaged over a four-week period. Programs that regularly schedule residents to work 80 hours per week and still permit residents to remain beyond their scheduled work period are likely to exceed the 80-hour maximum, which would not be in substantial compliance with the requirement. These programs should adjust schedules so that residents are scheduled to work fewer than 80 hours per week, which would allow residents to remain beyond their scheduled work period when needed without violating the 80-hour requirement. Programs may wish to consider using night float and/or making adjustments to the frequency of in-house call to ensure compliance with the 80-hour maximum weekly limit.**

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Oversight
With increased flexibility introduced into the Requirements, programs permitting this flexibility will need to account for the potential for residents to remain beyond their assigned work periods when developing schedules, to avoid exceeding the 80-hour maximum weekly limit, averaged over four weeks. The ACGME Review Committees will strictly monitor and enforce compliance with the 80-hour requirement. Where violations of the 80-hour requirement are identified, programs will be subject to citation and at risk for an adverse accreditation action.

Work from Home
While the requirement specifies that clinical work done from home must be counted toward the 80-hour maximum weekly limit, the expectation remains that scheduling be structured so that residents are able to complete most work on site during scheduled clinical work hours without requiring them to take work home. The new requirements acknowledge the changing landscape of medicine, including electronic health records, and the resulting increase in the amount of work residents choose to do from home. The requirement provides flexibility for residents to do this while ensuring that the time spent by residents completing clinical work from home is accomplished within the 80-hour weekly maximum. Types of work from home that must be counted include using an electronic health record and taking calls from home. Reading done in preparation for the following day's cases, studying, and research done from home do not count toward the 80 hours. Resident decisions to leave the hospital before their clinical work has been completed and to finish that work later from home should be made in consultation with the resident's supervisor. In such circumstances, residents should be mindful of their professional responsibility to complete work in a timely manner and to maintain patient confidentiality.

During the public comment period many individuals raised questions and concerns related to this change. Some questioned whether minute by minute tracking would be required; in other words, if a resident spends three minutes on a phone call and then a few hours later spends two minutes on another call, will the resident need to report that time. Others raised concerns related to the ability of programs and institutions to verify the accuracy of the information reported by residents. The new requirements are not an attempt to micromanage this process. Residents are to track the time they spend on clinical work from home and to report that time to the program. Decisions regarding whether to report infrequent phone calls of very short duration will be left to the individual resident. Programs will need to factor in time residents are spending on clinical work at home when schedules are developed to ensure that residents are not working in excess of 80 hours per week, averaged over four weeks. There is no requirement that programs assume responsibility for documenting this time. Rather, the program's responsibility is ensuring that residents report their time from home and that schedules are structured to ensure that residents are not working in excess of 80 hours per week, averaged over four weeks.

PGY-1 and PGY-2 Residents
PGY-1 and PGY-2 residents may not have the experience to make decisions about when it is appropriate to utilize flexibility or may feel pressured to use it when unnecessary. Programs are responsible for ensuring that residents are provided with manageable workloads that can be accomplished during scheduled work hours. This includes ensuring that a resident's assigned direct patient load is manageable, that residents

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have appropriate support from their clinical teams, and that residents are not overburdened with clerical work and/or other non-physician duties.

2985
2986 **VI.F.2. Mandatory Time Free of Clinical Work and Education**
2987
2988 **VI.F.2.a)** **The program must design an effective program structure that**
2989 **is configured to provide residents with educational**
2990 **opportunities, as well as reasonable opportunities for rest**
2991 **and personal well-being.** (Core)
2992
2993 **VI.F.2.b)** **Residents should have eight hours off between scheduled**
2994 **clinical work and education periods.** (Detail)
2995
2996 **VI.F.2.b).(1)** **There may be circumstances when residents choose**
2997 **to stay to care for their patients or return to the**
2998 **hospital with fewer than eight hours free of clinical**
2999 **experience and education. This must occur within the**
3000 **context of the 80-hour and the one-day-off-in-seven**
3001 **requirements.** (Detail)
3002

Background and Intent: While it is expected that resident schedules will be structured to ensure that residents are provided with a minimum of eight hours off between scheduled work periods, it is recognized that residents may choose to remain beyond their scheduled time, or return to the clinical site during this time-off period, to care for a patient. The requirement preserves the flexibility for residents to make those choices. It is also noted that the 80-hour weekly limit (averaged over four weeks) is a deterrent for scheduling fewer than eight hours off between clinical and education work periods, as it would be difficult for a program to design a schedule that provides fewer than eight hours off without violating the 80-hour rule.

3003
3004 **VI.F.2.c)** **Residents must have at least 14 hours free of clinical work**
3005 **and education after 24 hours of in-house call.** (Core)
3006

Background and Intent: Residents have a responsibility to return to work rested, and thus are expected to use this time away from work to get adequate rest. In support of this goal, residents are encouraged to prioritize sleep over other discretionary activities.

3007
3008 **VI.F.2.d)** **Residents must be scheduled for a minimum of one day in**
3009 **seven free of clinical work and required education (when**
3010 **averaged over four weeks). At-home call cannot be assigned**
3011 **on these free days.** (Core)
3012

Background and Intent: The requirement provides flexibility for programs to distribute days off in a manner that meets program and resident needs. It is strongly recommended that residents' preference regarding how their days off are distributed be considered as schedules are developed. It is desirable that days off be distributed throughout the month, but some residents may prefer to group their days off to have a "golden weekend," meaning a consecutive Saturday and Sunday free from work. The requirement for one free day in seven should not be interpreted as precluding a golden weekend. Where feasible, schedules may be designed to provide residents with a

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weekend, or two consecutive days, free of work. The applicable Review Committee will evaluate the number of consecutive days of work and determine whether they meet educational objectives. Programs are encouraged to distribute days off in a fashion that optimizes resident well-being, and educational and personal goals. It is noted that a day off is defined in the ACGME Glossary of Terms as "one (1) continuous 24-hour period free from all administrative, clinical, and educational activities."

3013
3014 **VI.F.3. Maximum Clinical Work and Education Period Length**
3015
3016 **VI.F.3.a) Clinical and educational work periods for residents must not**
3017 **exceed 24 hours of continuous scheduled clinical**
3018 **assignments.** (Core)
3019

Background and Intent: The Task Force examined the question of "consecutive time on task." It examined the research supporting the current limit of 16 consecutive hours of time on task for PGY-1 residents; the range of often conflicting impacts of this requirement on patient safety, clinical care, and continuity of care by resident teams; and resident learning found in the literature. Finally, it heard a uniform request by the specialty societies, certifying boards, membership societies and organizations, and senior residents to repeal this requirement. It heard conflicting perspectives from resident unions, a medical student association, and a number of public advocacy groups, some arguing for continuation of the requirement, others arguing for extension of the requirement to all residents.

Of greatest concern to the Task Force were the observations of disruption of team care and patient care continuity brought about with residents beyond the PGY-1 level adhering to differing requirements. The graduate medical education community uniformly requested that the Task Force remove this requirement. The most frequently-cited reason for this request was the complete disruption of the team, separating the PGY-1 from supervisory faculty members and residents who were best able to judge the ability of the resident and customize the supervision of patient care for each PGY-1. Cited nearly as frequently was the separation of the PGY-1 from the team, delaying maturation of clinical skills, and threatening to create a "shift" mentality in disciplines where overnight availability to patients is essential in delivery of care.

The Task Force examined the impact of the request to consider 16-consecutive-hour limits for all residents, and rejected the proposition. It found that model incompatible with the actual practice of medicine and surgery in many specialties, excessively limiting in configuration of clinical services in many disciplines, and potentially disruptive of the inculcation of responsibility and professional commitment to altruism and placing the needs of patients above those of the physician.

After careful consideration of the information available, the testimony and position of all parties submitting information, and presentations to the Task Force, the Task Force removed the 16-hour-consecutive-time-on-task requirement for PGY-1 residents. It remains crucial that programs ensure that PGY-1 residents are supervised in compliance with the applicable Program Requirements, and that resident well-being is prioritized as described in Section VI.C. of these requirements.

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3021 **VI.F.3.a).(1)** **Up to four hours of additional time may be used for activities related to patient safety, such as providing effective transitions of care, and/or resident education.** **(Core)**

3026 **VI.F.3.a).(1).(a)** **Additional patient care responsibilities must not be assigned to a resident during this time.** **(Core)**

Background and Intent: The additional time referenced in VI.F.3.a).(1) should not be used for the care of new patients. It is essential that the resident continue to function as a member of the team in an environment where other members of the team can assess resident fatigue, and that supervision for post-call residents is provided. This 24 hours and up to an additional four hours must occur within the context of 80-hour weekly limit, averaged over four weeks.

3030 **VI.F.4.** **Clinical and Educational Work Hour Exceptions**

3032 **VI.F.4.a)** **In rare circumstances, after handing off all other responsibilities, a resident, on their own initiative, may elect to remain or return to the clinical site in the following circumstances:**

3037 **VI.F.4.a).(1)** **to continue to provide care to a single severely ill or unstable patient;** **(Detail)**

3040 **VI.F.4.a).(2)** **humanistic attention to the needs of a patient or family; or,** **(Detail)**

3043 **VI.F.4.a).(3)** **to attend unique educational events.** **(Detail)**

3045 **VI.F.4.b)** **These additional hours of care or education will be counted toward the 80-hour weekly limit.** **(Detail)**

Background and Intent: This requirement is intended to provide residents with some control over their schedules by providing the flexibility to voluntarily remain beyond the scheduled responsibilities under the circumstances described above. It is important to note that a resident may remain to attend a conference, or return for a conference later in the day, only if the decision is made voluntarily. Residents must not be required to stay. Programs allowing residents to remain or return beyond the scheduled work and clinical education period must ensure that the decision to remain is initiated by the resident and that residents are not coerced. This additional time must be counted toward the 80-hour maximum weekly limit.

3049 **VI.F.4.c)** **A Review Committee may grant rotation-specific exceptions for up to 10 percent or a maximum of 88 clinical and educational work hours to individual programs based on a sound educational rationale.**

3054 The Review Committee for Radiology will not consider requests for exceptions to the 80-hour limit to the residents' work week.

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3056 **VI.F.5.** **Moonlighting**
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3058 **VI.F.5.a)** **Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program, and must not interfere with the resident's fitness for work nor compromise patient safety.** (Core)
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3063 **VI.F.5.b)** **Time spent by residents in internal and external moonlighting (as defined in the ACGME Glossary of Terms) must be counted toward the 80-hour maximum weekly limit.** (Core)
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3067 **VI.F.5.c)** **PGY-1 residents are not permitted to moonlight.** (Core)
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Background and Intent: For additional clarification of the expectations related to moonlighting, please refer to the Common Program Requirement FAQs (available at http://www.acgme.org/What-We-Do/Accreditation/Common-Program-Requirements).

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3070 **VI.F.6.** **In-House Night Float**
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3072 **Night float must occur within the context of the 80-hour and one-day-off-in-seven requirements.** (Core)
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Background and Intent: The requirement for no more than six consecutive nights of night float was removed to provide programs with increased flexibility in scheduling.

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3076 **VI.F.7.** **Maximum In-House On-Call Frequency**
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3078 **Residents must be scheduled for in-house call no more frequently than every third night (when averaged over a four-week period).** (Core)
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3080 **VI.F.8.** **At-Home Call**
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3082 **VI.F.8.a)** **Time spent on patient care activities by residents on at-home call must count toward the 80-hour maximum weekly limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one day in seven free of clinical work and education, when averaged over four weeks.** (Core)
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3089 **VI.F.8.a).(1)** **At-home call must not be so frequent or taxing as to preclude rest or reasonable personal time for each resident.** (Core)
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3093 **VI.F.8.b)** **Residents are permitted to return to the hospital while on at-home call to provide direct care for new or established patients. These hours of inpatient patient care must be included in the 80-hour maximum weekly limit.** (Detail)
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Background and Intent: This requirement has been modified to specify that clinical work done from home when a resident is taking at-home call must count toward the 80-hour maximum weekly limit. This change acknowledges the often significant amount of time

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residents devote to clinical activities when taking at-home call, and ensures that taking at-home call does not result in residents routinely working more than 80 hours per week. At-home call activities that must be counted include responding to phone calls and other forms of communication, as well as documentation, such as entering notes in an electronic health record. Activities such as reading about the next day's case, studying, or research activities do not count toward the 80-hour weekly limit.

In their evaluation of residency/fellowship programs, Review Committees will look at the overall impact of at-home call on resident/fellow rest and personal time.

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3100 ***Core Requirements:** Statements that define structure, resource, or process elements
3101 essential to every graduate medical educational program.
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3103 †**Detail Requirements:** Statements that describe a specific structure, resource, or process, for
3104 achieving compliance with a Core Requirement. Programs and sponsoring institutions in
3105 substantial compliance with the Outcome Requirements may utilize alternative or innovative
3106 approaches to meet Core Requirements.
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3108 ‡**Outcome Requirements:** Statements that specify expected measurable or observable
3109 attributes (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their
3110 graduate medical education.
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3112 **Osteopathic Recognition**
3113 For programs with or applying for Osteopathic Recognition, the Osteopathic Recognition
3114 Requirements also apply (www.acgme.org/OsteopathicRecognition).

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