

# ACGME Program Requirements for Graduate Medical Education in Radiation Oncology

Common Program Requirements are in BOLD

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## Introduction

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

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

Int.B. Definition

Int.B.1. Radiation oncology is that branch of clinical medicine concerned with the causes, prevention, and treatment of cancer and certain nonneoplastic conditions utilizing ionizing radiation. Radiation oncologists are an integral part of the multidisciplinary management of the cancer patient, and must collaborate closely with physicians in related disciplines in the management of the patient.

Int.B.2. The objective of the residency program is to educate and train physicians to be skillful in the practice of radiation oncology, and to be caring and compassionate in the treatment of patients. To accomplish this goal, adequate structure, facilities, faculty, patient resources, and an educational environment must be provided.

Int.C. Duration and Scope of Training

Int.C.1. Resident education in radiation oncology must include five years of accredited, clinically-oriented graduate medical education. The first year

of postgraduate clinical training must be spent in internal medicine, family medicine, obstetrics/gynecology, surgery or surgical specialties, pediatrics, or a transitional-year program. This PGY-1 year must include at least nine months of direct patient care in medical and/or surgical specialties other than radiation oncology. This clinical experience must then be followed by four years focused in radiation oncology.

- Int.C.2. No fewer than 36 months of the four-year program must be spent in clinical radiation oncology. (Residents enrolled in the Holman Pathway, a research track designed by the American Board of Radiology to promote a commitment to basic science or clinical research, must complete 27 months in clinical radiation oncology). In addition, the program must provide a two-month rotation in medical oncology to include adult and pediatric patients, as well as a one-month rotation in both oncologic pathology and diagnostic imaging. The medical oncology requirement may be met by documented attendance at regularly-scheduled multidisciplinary conferences (at least four hours per month during the clinical rotations). The pathology and diagnostic imaging requirements may be satisfied through multidisciplinary conferences if pathology and imaging material for both pediatric and adult patients are shown and discussed (at least one hour per month during the clinical rotations for each discipline). The remaining months must allow for in-depth experience in individually-selected areas applicable to clinical radiation oncology, as described in Section IV.A.5.

## I. Institutions

### I.A. Sponsoring Institution

**One sponsoring institution must assume ultimate responsibility for the program, as described in the Institutional Requirements, and this responsibility extends to resident assignments at all participating sites.**

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

- I.A.1. The program director's minimum administrative time commitment during the work week should be 10%.
- I.A.2. The administration of the institution sponsoring the program in radiation oncology must provide funding for space, equipment, staff, nonprofessional personnel, and residents.
- I.A.3. Education in radiation oncology must occur in an environment that encourages the exchange of knowledge and experience among residents both in the program and in other oncology specialties within the sponsoring institution. There should be other relevant oncology-related graduate medical education programs accredited by the Accreditation Council for Graduate Medical Education (ACGME) in the institution. These programs should include residencies or fellowships in surgical,

medical, gynecological, and/or pediatric oncology.

- I.A.4. A minimum number of faculty and residents is essential to provide an opportunity for meaningful interaction throughout the program. Each program must be structured to include a minimum of four full-time-equivalent clinical faculty assigned to the primary clinical site. Other participating sites may have smaller numbers of faculty and staff.

**I.B. Participating Sites**

- I.B.1. There must be a program letter of agreement (PLA) between the program and each participating site providing a required assignment. The PLA must be renewed at least every five years.**

**The PLA should:**

- I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for residents;
- I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of residents, as specified later in this document;
- I.B.1.c) specify the duration and content of the educational experience; and,
- I.B.1.d) state the policies and procedures that will govern resident education during the assignment.
- I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all residents, of one month full time equivalent (FTE) or more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS).**
- I.B.3. Assignment to a participating site must be based on a clear educational rationale, integral to the program curriculum, with clearly-stated activities and objectives, and should provide resources not otherwise available to the program. The preponderance of the educational experience should take place in the primary clinical site. When multiple participating sites are used, there should be assurance of the continuity of the educational experience.
- I.B.3.a) The number and types of patients and procedures available to the residents should be specified.
- I.B.4. Integrated Sites
- I.B.4.a) A site is considered *integrated* when the program director determines all rotations and assignments of residents, and is responsible for the overall conduct of the educational program in

the integrated site.

- I.B.4.b) Teaching clinical faculty at the integrated site should have faculty appointments from the sponsoring institution or primary clinical site.
- I.B.4.c) Integrated sites must provide a means for direct participation in joint conferences; such participation may be by attendance when institutions are in geographic proximity to the primary clinical site, or by electronic transmission.
- I.B.4.d) Rotations to integrated sites are not limited in duration, though it is expected that the preponderance of education should be at the primary clinical site.
- I.B.4.e) Prior approval must be obtained by the Review Committee for an integrated participating site, regardless of the duration of rotations.
- I.B.5. Participating sites that do not meet the requirements for integrated sites must meet the following requirements:
  - I.B.5.a) Sites that are not considered a primary clinical site or integrated site may be used to complement the residents' educational experience and/or for elective rotations.
  - I.B.5.b) Elective rotations, which are outside the primary clinical site or integrated sites, must not exceed a total of six months during the residency.
  - I.B.5.c) Participating sites do not require prior Review Committee approval. A program letter of agreement, however, must be developed (Section I.B.1).

## **II. Program Personnel and Resources**

### **II.A. Program Director**

- II.A.1. There must be a single program director with authority and accountability for the operation of the program. The sponsoring institution's GMEC must approve a change in program director. After approval, the program director must submit this change to the ACGME via the ADS.**
  - II.A.1.a) The program director should be a member of the staff of the sponsoring institution or integrated site.
- II.A.2. The program director should continue in his or her position for a length of time adequate to maintain continuity of leadership and program stability.**
  - II.A.2.a) A minimum of three years is desirable.

- II.A.3. Qualifications of the program director must include:**
- II.A.3.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;**
  - II.A.3.b) current certification in the specialty by the American Board of Radiology, or specialty qualifications that are acceptable to the Review Committee; and,**
  - II.A.3.c) current medical licensure and appropriate medical staff appointment.**
- II.A.4. The program director must administer and maintain an educational environment conducive to educating the residents in each of the ACGME competency areas. The program director must:**
- II.A.4.a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program;**
  - II.A.4.b) approve a local director at each participating site who is accountable for resident education;**
  - II.A.4.c) approve the selection of program faculty as appropriate;**
  - II.A.4.d) evaluate program faculty and approve the continued participation of program faculty based on evaluation;**
  - II.A.4.e) monitor resident supervision at all participating sites;**
  - II.A.4.f) prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program resident updates to the ADS, and ensure that the information submitted is accurate and complete;**
  - II.A.4.g) provide each resident with documented semiannual evaluation of performance with feedback;**
  - II.A.4.h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;**
  - II.A.4.i) provide verification of residency education for all residents, including those who leave the program prior to completion;**
  - II.A.4.j) implement policies and procedures consistent with the institutional and program requirements for resident duty hours and the working environment, including moonlighting, and, to that end, must:**

- II.A.4.j).(1)** distribute these policies and procedures to the residents and faculty;
- II.A.4.j).(2)** monitor resident duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;
- II.A.4.j).(3)** adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,
- II.A.4.j).(4)** if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.
- II.A.4.k)** monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;
- II.A.4.l)** comply with the sponsoring institution's written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of residents, disciplinary action, and supervision of residents;
- II.A.4.m)** be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;
- II.A.4.n)** obtain review and approval of the sponsoring institution's GMEC/DIO before submitting to the ACGME information or requests for the following:
  - II.A.4.n).(1)** all applications for ACGME accreditation of new programs;
  - II.A.4.n).(2)** changes in resident complement;
  - II.A.4.n).(3)** major changes in program structure or length of training;
  - II.A.4.n).(4)** progress reports requested by the Review Committee;
  - II.A.4.n).(5)** responses to all proposed adverse actions;
  - II.A.4.n).(6)** requests for increases or any change to resident duty hours;
  - II.A.4.n).(7)** voluntary withdrawals of ACGME-accredited programs;
  - II.A.4.n).(8)** requests for appeal of an adverse action;

- II.A.4.n).(9)** **appeal presentations to a Board of Appeal or the ACGME; and,**
- II.A.4.n).(10)** **proposals to ACGME for approval of innovative educational approaches.**
- II.A.4.o)** **obtain DIO review and co-signature on all program information forms, as well as any correspondence or document submitted to the ACGME that addresses:**
- II.A.4.o).(1)** **program citations, and/or**
- II.A.4.o).(2)** **request for changes in the program that would have significant impact, including financial, on the program or institution.**
- II.A.4.p) ensure that conferences and teaching rounds provide for progressive participation of residents. There must be adequate frequency of conferences, with attendance by residents, radiation oncologists, and other staff;
- II.A.4.q) ensure that there are intradepartmental clinical oncology conferences, including new patient conferences, weekly chart reviews, problem case conferences, continuous quality improvement, morbidity and mortality, physics, dosimetry, radiation and cancer biology, and/or journal review;
- II.A.4.r) ensure that the resident keep a detailed, well-organized, and accurate electronic log of those procedures noted in section IV.A.5.a. below. The log should include patients simulated, procedures performed, and modalities used, for semiannual review by the program director;
- II.A.4.s) review the logs with all residents at least semiannually to ensure accuracy and to verify that the case distribution meets the standards specified;
- II.A.4.t) provide documentation of these discussions for the resident's record maintained by the institution; and,
- II.A.4.u) submit the cumulative experience of graduating residents to the Review Committee office annually in accordance with the format and the due date specified by the Review Committee.

**II.B. Faculty**

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

**The faculty must:**

- II.B.1.a)** devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities; and to demonstrate a strong interest in the education of residents, and
- II.B.1.b)** administer and maintain an educational environment conducive to educating residents in each of the ACGME competency areas.
- II.B.1.c)** support the goals and objectives of the educational program.
- II.B.2.** **The physician faculty must have current certification in the specialty by the American Board of Radiology, or possess qualifications acceptable to the Review Committee.**
  - II.B.2.a)** The department chair must demonstrate an interest in and support for the training of residents in Radiation Oncology.
  - II.B.2.b)** The program must provide a minimum of four full-time-equivalent faculty radiation oncologists who devote their professional time to the program for the teaching of clinical radiation oncology. For programs with multiple sites, there must be at least four full-time equivalent clinical faculty members at the primary clinical site.
  - II.B.2.c)** The faculty must include at least one full-time radiation biologist or cancer biologist (PhD level or equivalent) who is on site to provide a scholarly environment of research, and to participate in the teaching of radiation and cancer biology.
  - II.B.2.d)** The faculty must include at least one full-time faculty medical physicist (PhD level or equivalent), who is on site to provide a scholarly environment of research, and to participate in the teaching of radiation physics.
- II.B.3.** **The physician faculty must possess current medical licensure and appropriate medical staff appointment.**
- II.B.4.** **The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.**
- II.B.5.** **The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.**
  - II.B.5.a)** **The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.**
  - II.B.5.b)** **Some members of the faculty should also demonstrate scholarship by one or more of the following:**

- II.B.5.b).(1) **peer-reviewed funding;**
- II.B.5.b).(2) **publication of original research or review articles in peer-reviewed journals, or chapters in textbooks;**
- II.B.5.b).(3) **publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,**
- II.B.5.b).(4) **participation in national committees or educational organizations.**
- II.B.5.c) **Faculty should encourage and support residents in scholarly activities.**
- II.B.5.d) The majority of both physician and PhD faculty should demonstrate scholarship as defined above.

## **II.C. Other Program Personnel**

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

## **II.D. Resources**

**The institution and the program must jointly ensure the availability of adequate resources for resident education, as defined in the specialty program requirements.**

### **II.D.1. Facilities**

- II.D.1.a) A training program in radiation oncology must have adequate space and equipment to train residents in state-of-the-art radiation oncology. At the primary clinical site there must be two or more megavoltage machines, a machine with a broad range of electron beam capabilities, CT-simulation capability, three-dimensional conformal computerized treatment planning, including IMRT, a system for the construction of treatment aids, and equipment to perform interstitial and intracavitary brachytherapy and radiosurgery.

- II.D.1.b) Adequate conference room and audiovisual facilities must be provided.

### **II.D.2. Other Services**

Adequate medical services must be available in the specialties of medical oncology, surgical oncology and its subspecialties, gynecologic oncology, and pediatric oncology. There must be access to current imaging techniques, nuclear medicine, pathology, a clinical laboratory, and a

tumor registry.

- II.D.3. The institution must assist the program director in teaching and in recruiting faculty, as well as in selecting, evaluating, and dismissing residents whose performance is unsatisfactory.

**II.E. Medical Information Access**

**Residents must have ready access to specialty-specific and other appropriate reference material in print or electronic format. Electronic medical literature databases with search capabilities should be available.**

**III. Resident Appointments**

**III.A. Eligibility Criteria**

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

**III.B. Number of Residents**

**The program director may not appoint more residents than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements. The program's educational resources must be adequate to support the number of residents appointed to the program.**

- III.B.1. The Review Committee recognizes the importance of peer interaction among residents, as well as the importance of interactions between faculty and residents in the context of conferences and patient care. A minimum number of residents is essential to provide an opportunity for meaningful interaction throughout the training period. Each program must be structured to have a minimum of four residents.

- III.B.2. The faculty (full-time equivalent staff radiation oncologist) to resident ratio must be a minimum of one faculty member for every one and a half residents during training in clinical radiation oncology.

- III.B.3. Prior approval must be obtained from the Review Committee to increase the number of resident positions. Such an increase must be based on educational considerations, not the fulfillment of service requirements.

**III.C. Resident Transfers**

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

- III.C.2. A program director must provide timely verification of residency education and summative performance evaluations for residents**

who leave the program prior to completion.

### **III.D. Appointment of Fellows and Other Learners**

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

## **IV. Educational Program**

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

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

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

**IV.A.3. Regularly scheduled didactic sessions;**

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

**IV.A.5. ACGME Competencies**

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

**IV.A.5.a) Patient Care**

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

**IV.A.5.a).(1)** must have adequate numbers and variety of patients for resident training. At least 600 patients must receive external beam irradiation yearly, including stereotactic radiosurgery procedures, in the primary clinical and integrated sites. The number of patients treated with external beam irradiation by each resident should approximate 150 per year (determined by the number of patients simulated) with an absolute minimum of 450 over the four years of residency. A resident should not treat more than 250 patients with external beam irradiation in

any one year. Only cases for which the resident has primary responsibility performing the simulation may be counted.

IV.A.5.a).(1).(a)

In certain circumstances, the procedures in radiation therapy and patient availabilities justify counting a patient twice for purposes of resident logs.

IV.A.5.a).(1).(b)

External beam patients may be counted twice when either of the following circumstances are met:

IV.A.5.a).(1).(b).(i)

a second resident participates actively in the simulation of a separate anatomic site or substantial volume reduction for a given course of therapy, requiring a separate simulation with a different isocenter that represents sequential, non-concurrent therapy (e.g., a posterior fossa boost planned by a second resident following the planning and initial treatment by another resident; or a boost to the primary tumor site in the pelvis when the initial whole pelvic treatment was planned by another resident.)

IV.A.5.a).(1).(b).(ii)

a second course of therapy to a different site, treated sequentially for a new indication, may be counted a second time if the new area is simulated by the same resident or by a different resident (e.g., a lung cancer patient treated with chest radiotherapy who subsequently develops brain metastases and is treated with cranial radiotherapy.)

IV.A.5.a).(2)

must perform no fewer than five interstitial implants and 15 intracavitary implants. Resident involvement should include planning, review of dosimetry, and hands-on participation in a significant portion of the implantation procedure. Separate applications of an implant in a given patient (such as two separate intracavitary applications) may be counted as two separate procedures. However, multiple fractions of a single application (such as multiple fractions of an interstitial implant) may be counted only once. Only one resident may count a specific application;

IV.A.5.a).(3)

must participate in the administration of no fewer than six procedures using radioimmunotherapy, other targeted therapeutic radiopharmaceuticals, or unsealed radioactive sources;

- IV.A.5.a).(4) must treat at least 12 pediatric patients of whom a minimum of nine have solid tumors;
- IV.A.5.a).(5) must follow-up with irradiated patients, including pediatric patients, on an inpatient or outpatient basis as a required part of resident training; and, this must be demonstrated by the program to ensure that residents have the opportunity to learn about the problems of recurrent and disseminated tumors and of late aftereffects and complications of radiation therapy;
- IV.A.5.a).(6) must participate in the treatment planning and administration of at least 10 cases of stereotactic radiosurgery of the brain and at least 5 cases of stereotactic body radiation therapy of the liver, lung, spine or other extracranial sites.
- IV.A.5.a).(6).(a) Stereotactic radiosurgery may be delivered by a variety of available technologies using image guided stereotactic localization procedures and may be either intracranial or extracranial. As defined, radiosurgery may be administered in a single fraction or extended to a maximum of five fractions. More protracted courses of stereotactic radiation should be classified as external beam radiation cases.
- IV.A.5.a).(7) must have experience with lymphomas and leukemias; gastrointestinal, gynecologic, genitourinary, breast, soft tissue and bone, skin, head and neck, lung, pediatric, and central nervous system tumors; and treatment of benign diseases for which radiation is utilized. In addition, the training program must provide instruction in the physics, radiation and cancer biology, and clinical applicability of the following areas: radiosurgery, intraoperative radiation therapy, three-dimensional conformal treatment planning and delivery, radioimmunotherapy, unsealed sources, total body irradiation as used in stem-cell transplantation, total skin irradiation, high- and low-dose rate brachytherapy, hyperthermia, kilovoltage irradiation, plaque therapy, particle therapy, and any other components that may be developed as they apply to the core curriculum.

#### **IV.A.5.b)**

#### **Medical Knowledge**

**Residents must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents:**

- IV.A.5.b).(1) must have instruction in the basic sciences essential to

radiation oncology, including medical physics and radiation and cancer biology;

IV.A.5.b).(2)

must have a curriculum in medical physics that includes instruction and practical demonstrations of radiation safety procedures, calibration of radiation therapy machines, the use of state-of-the-art treatment planning systems, the construction of treatment aids, and the safe handling of sealed and unsealed radionuclides. Safe handling of unsealed sources should address quality control procedures for instruments used to determine the activity of radiopharmaceuticals for human administration and procedures used to perform checks for proper operation of survey meters. The radiation and cancer biology curriculum must include instruction in classical and molecular effects of ionizing radiation, radiation effects on normal and neoplastic tissues, as well as the fundamental biology of the causes, prevention, and treatment of cancer;

IV.A.5.b).(3)

must have instruction in medical statistics;

IV.A.5.b).(4)

must have instruction in the potential value and limitations of other oncologic disciplines such as medical oncology (both adult and pediatric), and surgical oncology and the various surgical specialties, which play a role in the management of the patient. This may be accomplished by attendance at multidisciplinary and departmental conferences or by clinical rotations;

IV.A.5.b).(5)

will gain in-depth knowledge of clinical radiation oncology, including the indications for irradiation and special therapeutic considerations unique to each site and stage of disease. The resident must be educated in standard radiation techniques, as well as the use of treatment aids and treatment planning to optimize the distribution of the radiation dose. Residents must be taught the principles of normal tissue tolerance to radiation and tumor dose-response. The use of combined modality therapy and altered fractionation schemes should also be part of the clinical curriculum. Education in pain management and palliative care should be provided;

IV.A.5.b).(6)

must be educated in the use of external beam modalities including megavoltage irradiation, electron beam, simulation using conventional and CT simulators to localize anatomy, and computerized treatment planning. The faculty must ensure that the resident personally performs technical procedures, including treatment setups as well as intracavitary and interstitial placement of radiation sources.

**IV.A.5.c)**

**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 life-long learning. Residents are expected to develop skills and habits to be able to meet the following goals:**

- IV.A.5.c).(1) identify strengths, deficiencies, and limits in one's knowledge and expertise;**
- IV.A.5.c).(2) set learning and improvement goals;**
- IV.A.5.c).(3) identify and perform appropriate learning activities;**
- IV.A.5.c).(4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;**
- IV.A.5.c).(5) incorporate formative evaluation feedback into daily practice;**
- IV.A.5.c).(6) locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;**
- IV.A.5.c).(7) use information technology to optimize learning; and,**
- IV.A.5.c).(8) participate in the education of patients, families, students, residents and other health professionals.**

**IV.A.5.d) Interpersonal and Communication Skills**

**Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. Residents are expected to:**

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

**IV.A.5.d).(5) maintain comprehensive, timely, and legible medical records, if applicable.**

**IV.A.5.e) Professionalism**

**Residents must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. Residents are expected to demonstrate:**

**IV.A.5.e).(1) compassion, integrity, and respect for others;**

**IV.A.5.e).(2) responsiveness to patient needs that supersedes self-interest;**

**IV.A.5.e).(3) respect for patient privacy and autonomy;**

**IV.A.5.e).(4) accountability to patients, society and the profession; and,**

**IV.A.5.e).(5) sensitivity and responsiveness to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.**

**IV.A.5.f) Systems-based Practice**

**Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents are expected to:**

**IV.A.5.f).(1) work effectively in various health care delivery settings and systems relevant to their clinical specialty;**

**IV.A.5.f).(2) coordinate patient care within the health care system relevant to their clinical specialty;**

**IV.A.5.f).(3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;**

**IV.A.5.f).(4) advocate for quality patient care and optimal patient care systems;**

**IV.A.5.f).(5) work in interprofessional teams to enhance patient safety and improve patient care quality; and,**

**IV.A.5.f).(6) participate in identifying system errors and implementing potential systems solutions.**

**IV.B. Residents' Scholarly Activities**

**IV.B.1. The curriculum must advance residents' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.**

**IV.B.2. Residents should participate in scholarly activity.**

**IV.B.2.a)** During their training, residents shall be required to complete an investigative project under faculty supervision. This may take the form of biological laboratory research, clinical research, translational research, medical physics research, or other research approved by the program director. The results of such projects shall be suitable for publication in peer-reviewed scholarly journals or presentation at scientific meetings.

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

**V. Evaluation**

**V.A. Resident Evaluation**

**V.A.1. Formative Evaluation**

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

**V.A.1.b) The program must:**

**V.A.1.b).(1) provide objective assessments of competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice;**

**V.A.1.b).(2) use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);**

**V.A.1.b).(3) document progressive resident performance improvement appropriate to educational level; and,**

**V.A.1.b).(4) provide each resident with documented semiannual evaluation of performance with feedback.**

**V.A.1.c) The evaluations of resident performance must be accessible for review by the resident, in accordance with institutional**

policy.

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

The program director must provide a summative evaluation for each resident upon completion of the program. This evaluation must 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. This evaluation must:

- V.A.2.a) document the resident's performance during the final period of education, and
- V.A.2.b) verify that the resident has demonstrated sufficient competence to enter practice without direct supervision.

**V.B. Faculty Evaluation**

- V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program.
- V.B.2. These evaluations should include a review of the faculty's clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities.
- V.B.3. This evaluation must include at least annual written confidential evaluations by the residents.

**V.C. Program Evaluation and Improvement**

- V.C.1. The program must document formal, systematic evaluation of the curriculum at least annually. The program must monitor and track each of the following areas:
  - V.C.1.a) resident performance;
  - V.C.1.b) faculty development;
  - V.C.1.c) graduate performance, including performance of program graduates on the certification examination; and,
  - V.C.1.d) program quality. Specifically:
    - V.C.1.d).(1) Residents and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and
    - V.C.1.d).(2) The program must use the results of residents' assessments of the program together with other program evaluation results to improve the program.

V.C.1.e) The Review Committee will use graduate performance data for the most recent five- and ten-year periods in its assessments, and will take into consideration notable improvements or declines during the period considered. Poor performance will be cited if the proportion of candidates passing both the written and oral board examinations on the first opportunity is consistently low.

**V.C.2. If deficiencies are found, the program should prepare a written plan of action to document initiatives to improve performance in the areas listed in section V.C.1. The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes.**

## **VI. Resident Duty Hours in the Learning and Working Environment**

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

**VI.A.1. Programs and sponsoring institutions must educate residents and faculty members concerning the professional responsibilities of physicians to appear for duty appropriately rested and fit to provide the services required by their patients.**

**VI.A.2. The program must be committed to and responsible for promoting patient safety and resident well-being in a supportive educational environment.**

**VI.A.3. The program director must ensure that residents are integrated and actively participate in interdisciplinary clinical quality improvement and patient safety programs.**

**VI.A.4. The learning objectives of the program must:**

**VI.A.4.a) be accomplished through an appropriate blend of supervised patient care responsibilities, clinical teaching, and didactic educational events; and,**

**VI.A.4.b) not be compromised by excessive reliance on residents to fulfill non-physician service obligations.**

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

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

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

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

- VI.A.5.d) management of their time before, during, and after clinical assignments;
- VI.A.5.e) recognition of impairment, including illness and fatigue, in themselves and in their peers;
- VI.A.5.f) attention to lifelong learning;
- VI.A.5.g) the monitoring of their patient care performance improvement indicators; and,
- VI.A.5.h) honest and accurate reporting of duty hours, patient outcomes, and clinical experience data.
- VI.A.6. All residents and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. Physicians must recognize that under certain circumstances, the best interests of the patient may be served by transitioning that patient's care to another qualified and rested provider.
- VI.B. Transitions of Care
  - VI.B.1. Programs must design clinical assignments to minimize the number of transitions in patient care.
  - VI.B.2. Sponsoring institutions and programs must ensure and monitor effective, structured hand-over processes to facilitate both continuity of care and patient safety.
  - VI.B.3. Programs must ensure that residents are competent in communicating with team members in the hand-over process.
  - VI.B.4. The sponsoring institution must ensure the availability of schedules that inform all members of the health care team of attending physicians and residents currently responsible for each patient's care.
- VI.C. Alertness Management/Fatigue Mitigation
  - VI.C.1. The program must:
    - VI.C.1.a) educate all faculty members and residents to recognize the signs of fatigue and sleep deprivation;
    - VI.C.1.b) educate all faculty members and residents in alertness management and fatigue mitigation processes; and,
    - VI.C.1.c) adopt fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning, such as naps or back-up call schedules.

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

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

**VI.D. Supervision of Residents**

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

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

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

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

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

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

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

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

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

**VI.D.3.b).(1)** with direct supervision immediately available – the supervising physician is physically within the hospital or other site of patient care, and is immediately

available to provide Direct Supervision.

- VI.D.3.b).(2)** with direct supervision available – the supervising physician is not physically present within the hospital or other site of patient care, but is immediately available by means of telephonic and/or electronic modalities, and is available to provide Direct Supervision.
- VI.D.3.c)** Oversight – the supervising physician is available to provide review of procedures/encounters with feedback provided after care is delivered.
- VI.D.4.** The privilege of progressive authority and responsibility, conditional independence, and a supervisory role in patient care delegated to each resident must be assigned by the program director and faculty members.
- VI.D.4.a)** The program director must evaluate each resident’s abilities based on specific criteria. When available, evaluation should be guided by specific national standards-based criteria.
- VI.D.4.b)** Faculty members functioning as supervising physicians should delegate portions of care to residents, based on the needs of the patient and the skills of the residents.
- VI.D.4.c)** Senior residents or fellows should serve in a supervisory role of junior residents in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow.
- VI.D.5.** Programs must set guidelines for circumstances and events in which residents must communicate with appropriate supervising faculty members, such as the transfer of a patient to an intensive care unit, or end-of-life decisions.
- VI.D.5.a)** Each resident must know the limits of his/her scope of authority, and the circumstances under which he/she is permitted to act with conditional independence.
- VI.D.5.a).(1)** In particular, PGY-1 residents should be supervised either directly or indirectly with direct supervision immediately available.
- VI.D.6.** Faculty supervision assignments should be of sufficient duration to assess the knowledge and skills of each resident and delegate to him/her the appropriate level of patient care authority and responsibility.
- VI.E.** Clinical Responsibilities

**The clinical responsibilities for each resident must be based on PGY-level, patient safety, resident education, severity and complexity of patient illness/condition and available support services.**

**VI.F. Teamwork**

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

VI.F.1. Radiation oncology requires effective communication and teamwork both within the department (intramural) and outside of the department (extramural).

VI.F.1.a) Intramural interprofessional teams include radiation oncologists, medical physicists, radiation therapists, dosimetrists, nurses, dietitians and social workers.

VI.F.1.b) Extramural interprofessional teams include surgical oncologists, medical oncologists, radiologists, pathologists and primary care physicians.

**VI.G. Resident Duty Hours**

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

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

**VI.G.1.a) Duty Hour Exceptions**

**A Review Committee may grant exceptions for up to 10% or a maximum of 88 hours to individual programs based on a sound educational rationale.**

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

VI.G.1.a).(1) **In preparing a request for an exception the program director must follow the duty hour exception policy from the ACGME Manual on Policies and Procedures.**

VI.G.1.a).(2) **Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution's GMEC and DIO.**

**VI.G.2. Moonlighting**

- VI.G.2.a)** Moonlighting must not interfere with the ability of the resident to achieve the goals and objectives of the educational program.
- VI.G.2.b)** Time spent by residents in Internal and External Moonlighting (as defined in the ACGME Glossary of Terms) must be counted towards the 80-hour Maximum Weekly Hour Limit.
- VI.G.2.c)** PGY-1 residents are not permitted to moonlight.
- VI.G.3.** **Mandatory Time Free of Duty**
- Residents must be scheduled for a minimum of one day free of duty every week (when averaged over four weeks). At-home call cannot be assigned on these free days.
- VI.G.4.** **Maximum Duty Period Length**
- VI.G.4.a)** Duty periods of PGY-1 residents must not exceed 16 hours in duration.
- VI.G.4.b)** Duty periods of PGY-2 residents and above may be scheduled to a maximum of 24 hours of continuous duty in the hospital. Programs must encourage residents to use alertness management strategies in the context of patient care responsibilities. Strategic napping, especially after 16 hours of continuous duty and between the hours of 10:00 p.m. and 8:00 a.m., is strongly suggested.
- VI.G.4.b).(1)** It is essential for patient safety and resident education that effective transitions in care occur. Residents may be allowed to remain on-site in order to accomplish these tasks; however, this period of time must be no longer than an additional four hours.
- VI.G.4.b).(2)** Residents must not be assigned additional clinical responsibilities after 24 hours of continuous in-house duty.
- VI.G.4.b).(3)** In unusual circumstances, residents, on their own initiative, may remain beyond their scheduled period of duty to continue to provide care to a single patient. Justifications for such extensions of duty are limited to reasons of required continuity for a severely ill or unstable patient, academic importance of the events transpiring, or humanistic attention to the needs of a patient or family.
- VI.G.4.b).(3).(a)** Under those circumstances, the resident must:
- VI.G.4.b).(3).(a).(i)** appropriately hand over the care of all

- other patients to the team responsible for their continuing care; and,**
- VI.G.4.b).(3).(a).(ii)** **document the reasons for remaining to care for the patient in question and submit that documentation in every circumstance to the program director.**
- VI.G.4.b).(3).(b)** **The program director must review each submission of additional service, and track both individual resident and program-wide episodes of additional duty.**
- VI.G.5. Minimum Time Off between Scheduled Duty Periods**
- VI.G.5.a)** **PGY-1 residents should have 10 hours, and must have eight hours, free of duty between scheduled duty periods.**
- VI.G.5.b)** **Intermediate-level residents should have 10 hours free of duty, and must have eight hours between scheduled duty periods. They must have at least 14 hours free of duty after 24 hours of in-house duty.**
- R1, R2, and R3 residents are considered to be at the intermediate level.
- VI.G.5.c)** **Residents in the final years of education must be prepared to enter the unsupervised practice of medicine and care for patients over irregular or extended periods.**
- R4 residents are considered to be in the final years of education.
- VI.G.5.c).(1)** **This preparation must occur within the context of the 80-hour, maximum duty period length, and one-day-off-in-seven standards. While it is desirable that residents in their final years of education have eight hours free of duty between scheduled duty periods, there may be circumstances when these residents must stay on duty to care for their patients or return to the hospital with fewer than eight hours free of duty.**
- VI.G.5.c).(1).(a)** **Circumstances of return-to-hospital activities with fewer than eight hours away from the hospital by residents in their final years of education must be monitored by the program director.**
- VI.G.6. Maximum Frequency of In-House Night Float**
- Residents must not be scheduled for more than six consecutive nights of night float.**

**VI.G.7. Maximum In-House On-Call Frequency**

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

**VI.G.8. At-Home Call**

**VI.G.8.a) Time spent in the hospital by residents on at-home call must count towards the 80-hour maximum weekly hour limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one-day-in-seven free of duty, when averaged over four weeks.**

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

**VI.G.8.b) Residents are permitted to return to the hospital while on at-home call to care for new or established patients. Each episode of this type of care, while it must be included in the 80-hour weekly maximum, will not initiate a new “off-duty period”.**

**VII. Innovative Projects**

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

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