

1 **ACGME Program Requirements for Graduate Medical Education**
2 **in Radiation Oncology**

3
4 ***Common Program Requirements are in BOLD***

5
6 *Effective: January 1, 2009*
7

8 Introduction

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10 Int.A. Definition

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12 Int.A.1. Radiation oncology is that branch of clinical medicine concerned with the causes,
13 prevention, and treatment of cancer and certain nonneoplastic conditions utilizing
14 ionizing radiation. Radiation oncologists are an integral part of the
15 multidisciplinary management of the cancer patient, and must collaborate closely
16 with physicians in related disciplines in the management of the patient.
17

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

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26 Int.B.1. Resident education in radiation oncology must include five years of accredited,
27 clinically-oriented graduate medical education. The first year of postgraduate
28 clinical training must be spent in internal medicine, family medicine,
29 obstetrics/gynecology, surgery or surgical specialties, pediatrics, or a transitional-
30 year program. This PGY-1 year must include at least nine months of direct
31 patient care in medical and/or surgical specialties other than radiation oncology.
32 This clinical experience must then be followed by four years focused in radiation
33 oncology.
34

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

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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,

- 103 **I.B.1.d)** **state the policies and procedures that will govern resident**
104 **education during the assignment.**
105
- 106 **I.B.2.** **The program director must submit any additions or deletions of**
107 **participating sites routinely providing an educational experience,**
108 **required for all residents, of one month full time equivalent (FTE) or**
109 **more through the Accreditation Council for Graduate Medical**
110 **Education (ACGME) Accreditation Data System (ADS).**
111
- 112 I.B.3. Assignment to a participating site must be based on a clear educational
113 rationale, integral to the program curriculum, with clearly-stated activities
114 and objectives, and should provide resources not otherwise available to
115 the program. The preponderance of the educational experience should
116 take place in the primary clinical site. When multiple participating sites are
117 used, there should be assurance of the continuity of the educational
118 experience.
119
- 120 I.B.3.a) The number and types of patients and procedures available to the
121 residents should be specified.
122
- 123 I.B.4. Integrated Sites
124
- 125 I.B.4.a) A site is considered *integrated* when the program director
126 determines all rotations and assignments of residents, and is
127 responsible for the overall conduct of the educational program in
128 the integrated site.
129
- 130 I.B.4.b) Teaching clinical faculty at the integrated site should have faculty
131 appointments from the sponsoring institution or primary clinical
132 site.
133
- 134 I.B.4.c) Integrated sites must provide a means for direct participation in
135 joint conferences; such participation may be by attendance when
136 institutions are in geographic proximity to the primary clinical site,
137 or by electronic transmission.
138
- 139 I.B.4.d) Rotations to integrated sites are not limited in duration, though it is
140 expected that the preponderance of education should be at the
141 primary clinical site.
142
- 143 I.B.4.e) Prior approval must be obtained by the Review Committee for an
144 integrated participating site, regardless of the duration of rotations.
145
- 146 I.B.5. Participating sites that do not meet the requirements for integrated sites
147 must meet the following requirements:
148
- 149 I.B.5.a) Sites that are not considered a primary clinical site or integrated
150 site may be used to complement the residents' educational
151 experience and/or for elective rotations.
152
- 153 I.B.5.b) Elective rotations, which are outside the primary clinical site or

154 integrated sites, must not exceed a total of six months during the
155 residency.

156
157 I.B.5.c) Participating sites do not require prior Review Committee
158 approval. A program letter of agreement, however, must be
159 developed (Section I.B.1).

160
161 **II. Program Personnel and Resources**

162
163 **II.A. Program Director**

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165 **II.A.1. There must be a single program director with authority and**
166 **accountability for the operation of the program. The sponsoring**
167 **institution's GMEC must approve a change in program director.**
168 **After approval, the program director must submit this change to the**
169 **ACGME via the ADS.**

170
171 II.A.1.a) The program director should be a member of the staff of the
172 sponsoring institution or integrated site.

173
174 **II.A.2. The program director should continue in his or her position for a**
175 **length of time adequate to maintain continuity of leadership and**
176 **program stability.**

177
178 II.A.2.a) A minimum of three years is desirable.

179
180 **II.A.3. Qualifications of the program director must include:**

181
182 **II.A.3.a) requisite specialty expertise and documented educational**
183 **and administrative experience acceptable to the Review**
184 **Committee;**

185
186 **II.A.3.b) current certification in the specialty by the American Board of**
187 **Radiology, or specialty qualifications that are acceptable to**
188 **the Review Committee; and,**

189
190 **II.A.3.c) current medical licensure and appropriate medical staff**
191 **appointment.**

192
193 **II.A.4. The program director must administer and maintain an educational**
194 **environment conducive to educating the residents in each of the**
195 **ACGME competency areas. The program director must:**

196
197 **II.A.4.a) oversee and ensure the quality of didactic and clinical**
198 **education in all sites that participate in the program;**

199
200 **II.A.4.b) approve a local director at each participating site who is**
201 **accountable for resident education;**

202
203 **II.A.4.c) approve the selection of program faculty as appropriate;**
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205	II.A.4.d)	evaluate program faculty and approve the continued participation of program faculty based on evaluation;
206		
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208	II.A.4.e)	monitor resident supervision at all participating sites;
209		
210	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;
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216	II.A.4.g)	provide each resident with documented semiannual evaluation of performance with feedback;
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219	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;
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223	II.A.4.i)	provide verification of residency education for all residents, including those who leave the program prior to completion;
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226	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:
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231	II.A.4.j).(1)	distribute these policies and procedures to the residents and faculty;
232		
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234	II.A.4.j).(2)	monitor resident duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;
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238	II.A.4.j).(3)	adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,
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241	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.
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245	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;
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249	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;
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253		
254	II.A.4.m)	be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME
255		

256		Manual of Policies and Procedures;
257		
258	II.A.4.n)	obtain review and approval of the sponsoring institution's
259		GMEC/DIO before submitting to the ACGME information or
260		requests for the following:
261		
262	II.A.4.n).(1)	all applications for ACGME accreditation of new
263		programs;
264		
265	II.A.4.n).(2)	changes in resident complement;
266		
267	II.A.4.n).(3)	major changes in program structure or length of
268		training;
269		
270	II.A.4.n).(4)	progress reports requested by the Review Committee;
271		
272	II.A.4.n).(5)	responses to all proposed adverse actions;
273		
274	II.A.4.n).(6)	requests for increases or any change to resident duty
275		hours;
276		
277	II.A.4.n).(7)	voluntary withdrawals of ACGME-accredited
278		programs;
279		
280	II.A.4.n).(8)	requests for appeal of an adverse action;
281		
282	II.A.4.n).(9)	appeal presentations to a Board of Appeal or the
283		ACGME; and,
284		
285	II.A.4.n).(10)	proposals to ACGME for approval of innovative
286		educational approaches.
287		
288	II.A.4.o)	obtain DIO review and co-signature on all program
289		information forms, as well as any correspondence or
290		document submitted to the ACGME that addresses:
291		
292	II.A.4.o).(1)	program citations, and/or
293		
294	II.A.4.o).(2)	request for changes in the program that would have
295		significant impact, including financial, on the program
296		or institution.
297		
298	II.A.4.p)	ensure that conferences and teaching rounds provide for
299		progressive participation of residents. There must be adequate
300		frequency of conferences, with attendance by residents, radiation
301		oncologists, and other staff;
302		
303	II.A.4.q)	ensure that there are intradepartmental clinical oncology
304		conferences, including new patient conferences, weekly chart
305		reviews, problem case conferences, continuous quality
306		improvement, morbidity and mortality, physics, dosimetry,

- 307 radiation and cancer biology, and/or journal review;
308
309 II.A.4.r) ensure that the resident keep a detailed, well-organized, and
310 accurate electronic log of those procedures noted in section
311 IV.A.5.a. below. The log should include patients simulated,
312 procedures performed, and modalities used, for semiannual
313 review by the program director;
314
315 II.A.4.s) review the logs with all residents at least semiannually to ensure
316 accuracy and to verify that the case distribution meets the
317 standards specified;
318
319 II.A.4.t) provide documentation of these discussions for the resident's
320 record maintained by the institution; and,
321
322 II.A.4.u) submit the cumulative experience of graduating residents to the
323 Review Committee office annually in accordance with the format
324 and the due date specified by the Review Committee.
325
326 **II.B. Faculty**
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328 **II.B.1. At each participating site, there must be a sufficient number of**
329 **faculty with documented qualifications to instruct and supervise all**
330 **residents at that location.**
331
332 **The faculty must:**
333
334 **II.B.1.a) devote sufficient time to the educational program to fulfill**
335 **their supervisory and teaching responsibilities; and to**
336 **demonstrate a strong interest in the education of residents,**
337 **and**
338
339 **II.B.1.b) administer and maintain an educational environment**
340 **conducive to educating residents in each of the ACGME**
341 **competency areas.**
342
343 II.B.1.c) support the goals and objectives of the educational program.
344
345 **II.B.2. The physician faculty must have current certification in the specialty**
346 **by the American Board of Radiology, or possess qualifications**
347 **acceptable to the Review Committee.**
348
349 II.B.2.a) The department chair must demonstrate an interest in and support
350 for the training of residents in Radiation Oncology.
351
352 II.B.2.b) The program must provide a minimum of four full-time-equivalent
353 faculty radiation oncologists who devote their professional time to
354 the program for the teaching of clinical radiation oncology. For
355 programs with multiple sites, there must be at least four full-time
356 equivalent clinical faculty members at the primary clinical site.
357

- 358 II.B.2.c) The faculty must include at least one full-time radiation biologist or
359 cancer biologist (PhD level or equivalent) who is on site to provide
360 a scholarly environment of research, and to participate in the
361 teaching of radiation and cancer biology.
362
- 363 II.B.2.d) The faculty must include at least one full-time faculty medical
364 physicist (PhD level or equivalent), who is on site to provide a
365 scholarly environment of research, and to participate in the
366 teaching of radiation physics.
367
- 368 **II.B.3. The physician faculty must possess current medical licensure and
369 appropriate medical staff appointment.**
370
- 371 **II.B.4. The nonphysician faculty must have appropriate qualifications in
372 their field and hold appropriate institutional appointments.**
373
- 374 **II.B.5. The faculty must establish and maintain an environment of inquiry
375 and scholarship with an active research component.**
376
- 377 **II.B.5.a) The faculty must regularly participate in organized clinical
378 discussions, rounds, journal clubs, and conferences.**
379
- 380 **II.B.5.b) Some members of the faculty should also demonstrate
381 scholarship by one or more of the following:**
382
- 383 **II.B.5.b).(1) peer-reviewed funding;**
384
- 385 **II.B.5.b).(2) publication of original research or review articles in
386 peer-reviewed journals, or chapters in textbooks;**
387
- 388 **II.B.5.b).(3) publication or presentation of case reports or clinical
389 series at local, regional, or national professional and
390 scientific society meetings; or,**
391
- 392 **II.B.5.b).(4) participation in national committees or educational
393 organizations.**
394
- 395 **II.B.5.c) Faculty should encourage and support residents in scholarly
396 activities.**
397
- 398 II.B.5.d) The majority of both physician and PhD faculty should
399 demonstrate scholarship as defined above.
400
- 401 **II.C. Other Program Personnel**
402
- 403 **The institution and the program must jointly ensure the availability of all
404 necessary professional, technical, and clerical personnel for the effective
405 administration of the program.**
406
- 407 **II.D. Resources**
408

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

412
413 II.D.1. Facilities

414
415 II.D.1.a) A training program in radiation oncology must have adequate
416 space and equipment to train residents in state-of-the-art radiation
417 oncology. At the primary clinical site there must be two or more
418 megavoltage machines, a machine with a broad range of electron
419 beam capabilities, CT-simulation capability, three-dimensional
420 conformal computerized treatment planning, including IMRT, a
421 system for the construction of treatment aids, and equipment to
422 perform interstitial and intracavitary brachytherapy and
423 radiosurgery.

424
425 II.D.1.b) Adequate conference room and audiovisual facilities must be
426 provided.

427
428 II.D.2. Other Services

429
430 Adequate medical services must be available in the specialties of medical
431 oncology, surgical oncology and its subspecialties, gynecologic oncology,
432 and pediatric oncology. There must be access to current imaging
433 techniques, nuclear medicine, pathology, a clinical laboratory, and a
434 tumor registry.

435
436 II.D.3. The institution must assist the program director in teaching and in
437 recruiting faculty, as well as in selecting, evaluating, and dismissing
438 residents whose performance is unsatisfactory.

439
440 **II.E. Medical Information Access**

441
442 **Residents must have ready access to specialty-specific and other**
443 **appropriate reference material in print or electronic format. Electronic**
444 **medical literature databases with search capabilities should be available.**

445
446 **III. Resident Appointments**

447
448 **III.A. Eligibility Criteria**

449
450 **The program director must comply with the criteria for resident eligibility**
451 **as specified in the Institutional Requirements.**

452
453 **III.B. Number of Residents**

454
455 **The program director may not appoint more residents than approved by the**
456 **Review Committee, unless otherwise stated in the specialty-specific**
457 **requirements. The program's educational resources must be adequate to**
458 **support the number of residents appointed to the program.**

459

- 460 III.B.1. The Review Committee recognizes the importance of peer interaction
461 among residents, as well as the importance of interactions between
462 faculty and residents in the context of conferences and patient care. A
463 minimum number of residents is essential to provide an opportunity for
464 meaningful interaction throughout the training period. Each program must
465 be structured to have a minimum of four residents.
466
- 467 III.B.2. The faculty (full-time equivalent staff radiation oncologist) to resident ratio
468 must be a minimum of one faculty member for every one and a half
469 residents during training in clinical radiation oncology.
470
- 471 III.B.3. Prior approval must be obtained from the Review Committee to increase
472 the number of resident positions. Such an increase must be based on
473 educational considerations, not the fulfillment of service requirements.
474
- 475 **III.C. Resident Transfers**
476
- 477 **III.C.1. Before accepting a resident who is transferring from another
478 program, the program director must obtain written or electronic
479 verification of previous educational experiences and a summative
480 competency-based performance evaluation of the transferring
481 resident.**
482
- 483 **III.C.2. A program director must provide timely verification of residency
484 education and summative performance evaluations for residents
485 who leave the program prior to completion.**
486
- 487 **III.D. Appointment of Fellows and Other Learners**
488
- 489 **The presence of other learners (including, but not limited to, residents from
490 other specialties, subspecialty fellows, PhD students, and nurse
491 practitioners) in the program must not interfere with the appointed
492 residents' education. The program director must report the presence of
493 other learners to the DIO and GMEC in accordance with sponsoring
494 institution guidelines.**
495
- 496 **IV. Educational Program**
497
- 498 **IV.A. The curriculum must contain the following educational components:**
499
- 500 **IV.A.1. Overall educational goals for the program, which the program must
501 distribute to residents and faculty annually;**
502
- 503 **IV.A.2. Competency-based goals and objectives for each assignment at
504 each educational level, which the program must distribute to
505 residents and faculty annually, in either written or electronic form.
506 These should be reviewed by the resident at the start of each
507 rotation;**
508
- 509 **IV.A.3. Regularly scheduled didactic sessions;**
510

511	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,
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515	IV.A.5.	ACGME Competencies
516		
517		The program must integrate the following ACGME competencies into the curriculum:
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520	IV.A.5.a)	Patient Care
521		
522		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:
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525		
526	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.
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540	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.
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544		
545	IV.A.5.a).(1).(b)	External beam patients may be counted twice when either of the following circumstances are met:
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548	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.)
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561	IV.A.5.a).(1).(b).(ii)	a second course of therapy to a different

562 site, treated sequentially for a new
563 indication, may be counted a second time if
564 the new area is simulated by the same
565 resident or by a different resident (e.g., a
566 lung cancer patient treated with chest
567 radiotherapy who subsequently develops
568 brain metastases and is treated with cranial
569 radiotherapy.)
570

571 IV.A.5.a).(2) must perform no fewer than five interstitial implants and 15
572 intracavitary implants. Resident involvement should include
573 planning, review of dosimetry, and hands-on participation
574 in a significant portion of the implantation procedure.
575 Separate applications of an implant in a given patient
576 (such as two separate intracavitary applications) may be
577 counted as two separate procedures. However, multiple
578 fractions of a single application (such as multiple fractions
579 of an interstitial implant) may be counted only once. Only
580 one resident may count a specific application;
581

582 IV.A.5.a).(3) must participate in the administration of no fewer than six
583 procedures using radioimmunotherapy, other targeted
584 therapeutic radiopharmaceuticals, or unsealed radioactive
585 sources;
586

587 IV.A.5.a).(4) must treat at least 12 pediatric patients of whom a
588 minimum of nine have solid tumors;
589

590 IV.A.5.a).(5) must follow-up with irradiated patients, including pediatric
591 patients, on an inpatient or outpatient basis as a required
592 part of resident training; and, this must be demonstrated by
593 the program to ensure that residents have the opportunity
594 to learn about the problems of recurrent and disseminated
595 tumors and of late aftereffects and complications of
596 radiation therapy;
597

598 IV.A.5.a).(6) must participate in the treatment planning and
599 administration of stereotactic radiosurgery in at least 10
600 cranial and 5 extracranial patients. Stereotactic
601 radiosurgery may be delivered by a variety of available
602 technologies using image guided stereotactic localization
603 procedures and may be either intracranial or extracranial.
604 As defined, radiosurgery may be administered in a single
605 fraction or extended to a maximum of five fractions. More
606 protracted courses of stereotactic radiation should be
607 classified as external beam radiation cases.
608

609 IV.A.5.a).(7) must have experience with lymphomas and leukemias;
610 gastrointestinal, gynecologic, genitourinary, breast, soft
611 tissue and bone, skin, head and neck, lung, pediatric, and
612 central nervous system tumors; and treatment of benign

613 diseases for which radiation is utilized. In addition, the
614 training program must provide instruction in the physics,
615 radiation and cancer biology, and clinical applicability of
616 the following areas: radiosurgery, intraoperative radiation
617 therapy, three-dimensional conformal treatment planning
618 and delivery, radioimmunotherapy, unsealed sources, total
619 body irradiation as used in stem-cell transplantation, total
620 skin irradiation, high- and low-dose rate brachytherapy,
621 hyperthermia, kilovoltage irradiation, plaque therapy,
622 particle therapy, and any other components that may be
623 developed as they apply to the core curriculum.

624
625 **IV.A.5.b) Medical Knowledge**

626
627 **Residents must demonstrate knowledge of established and**
628 **evolving biomedical, clinical, epidemiological and social-**
629 **behavioral sciences, as well as the application of this**
630 **knowledge to patient care. Residents:**

631
632 IV.A.5.b).(1) must have instruction in the basic sciences essential to
633 radiation oncology, including medical physics and radiation
634 and cancer biology;

635
636 IV.A.5.b).(2) must have a curriculum in medical physics that includes
637 instruction and practical demonstrations of radiation safety
638 procedures, calibration of radiation therapy machines, the
639 use of state-of-the-art treatment planning systems, the
640 construction of treatment aids, and the safe handling of
641 sealed and unsealed radionuclides. Safe handling of
642 unsealed sources should address quality control
643 procedures for instruments used to determine the activity
644 of radiopharmaceuticals for human administration and
645 procedures used to perform checks for proper operation of
646 survey meters. The radiation and cancer biology
647 curriculum must include instruction in classical and
648 molecular effects of ionizing radiation, radiation effects on
649 normal and neoplastic tissues, as well as the fundamental
650 biology of the causes, prevention, and treatment of cancer;

651
652 IV.A.5.b).(3) must have instruction in medical statistics;

653
654 IV.A.5.b).(4) must have instruction in the potential value and limitations
655 of other oncologic disciplines such as medical oncology
656 (both adult and pediatric), and surgical oncology and the
657 various surgical specialties, which play a role in the
658 management of the patient. This may be accomplished by
659 attendance at multidisciplinary and departmental
660 conferences or by clinical rotations;

661
662 IV.A.5.b).(5) will gain in-depth knowledge of clinical radiation oncology,
663 including the indications for irradiation and special

664		therapeutic considerations unique to each site and stage of
665		disease. The resident must be educated in standard
666		radiation techniques, as well as the use of treatment aids
667		and treatment planning to optimize the distribution of the
668		radiation dose. Residents must be taught the principles of
669		normal tissue tolerance to radiation and tumor dose-
670		response. The use of combined modality therapy and
671		altered fractionation schemes should also be part of the
672		clinical curriculum. Education in pain management and
673		palliative care should be provided;
674		
675	IV.A.5.b).(6)	must be educated in the use of external beam modalities
676		including megavoltage irradiation, electron beam,
677		simulation using conventional and CT simulators to localize
678		anatomy, and computerized treatment planning. The
679		faculty must ensure that the resident personally performs
680		technical procedures, including treatment setups as well as
681		intracavitary and interstitial placement of radiation sources.
682		
683	IV.A.5.c)	Practice-based Learning and Improvement
684		
685		Residents must demonstrate the ability to investigate and
686		evaluate their care of patients, to appraise and assimilate
687		scientific evidence, and to continuously improve patient care
688		based on constant self-evaluation and life-long learning.
689		Residents are expected to develop skills and habits to be able
690		to meet the following goals:
691		
692	IV.A.5.c).(1)	identify strengths, deficiencies, and limits in one's
693		knowledge and expertise;
694		
695	IV.A.5.c).(2)	set learning and improvement goals;
696		
697	IV.A.5.c).(3)	identify and perform appropriate learning activities;
698		
699	IV.A.5.c).(4)	systematically analyze practice using quality
700		improvement methods, and implement changes with
701		the goal of practice improvement;
702		
703	IV.A.5.c).(5)	incorporate formative evaluation feedback into daily
704		practice;
705		
706	IV.A.5.c).(6)	locate, appraise, and assimilate evidence from
707		scientific studies related to their patients' health
708		problems;
709		
710	IV.A.5.c).(7)	use information technology to optimize learning; and,
711		
712	IV.A.5.c).(8)	participate in the education of patients, families,
713		students, residents and other health professionals.
714		

715	IV.A.5.d)	Interpersonal and Communication Skills
716		
717		Residents must demonstrate interpersonal and
718		communication skills that result in the effective exchange of
719		information and collaboration with patients, their families,
720		and health professionals. Residents are expected to:
721		
722	IV.A.5.d).(1)	communicate effectively with patients, families, and
723		the public, as appropriate, across a broad range of
724		socioeconomic and cultural backgrounds;
725		
726	IV.A.5.d).(2)	communicate effectively with physicians, other health
727		professionals, and health related agencies;
728		
729	IV.A.5.d).(3)	work effectively as a member or leader of a health care
730		team or other professional group;
731		
732	IV.A.5.d).(4)	act in a consultative role to other physicians and
733		health professionals; and,
734		
735	IV.A.5.d).(5)	maintain comprehensive, timely, and legible medical
736		records, if applicable.
737		
738	IV.A.5.e)	Professionalism
739		
740		Residents must demonstrate a commitment to carrying out
741		professional responsibilities and an adherence to ethical
742		principles. Residents are expected to demonstrate:
743		
744	IV.A.5.e).(1)	compassion, integrity, and respect for others;
745		
746	IV.A.5.e).(2)	responsiveness to patient needs that supersedes self-
747		interest;
748		
749	IV.A.5.e).(3)	respect for patient privacy and autonomy;
750		
751	IV.A.5.e).(4)	accountability to patients, society and the profession;
752		and,
753		
754	IV.A.5.e).(5)	sensitivity and responsiveness to a diverse patient
755		population, including but not limited to diversity in
756		gender, age, culture, race, religion, disabilities, and
757		sexual orientation.
758		
759	IV.A.5.f)	Systems-based Practice
760		
761		Residents must demonstrate an awareness of and
762		responsiveness to the larger context and system of health
763		care, as well as the ability to call effectively on other
764		resources in the system to provide optimal health care.
765		Residents are expected to:

- 766
767 **IV.A.5.f).(1)** **work effectively in various health care delivery**
768 **settings and systems relevant to their clinical**
769 **specialty;**
770
771 **IV.A.5.f).(2)** **coordinate patient care within the health care system**
772 **relevant to their clinical specialty;**
773
774 **IV.A.5.f).(3)** **incorporate considerations of cost awareness and**
775 **risk-benefit analysis in patient and/or population-**
776 **based care as appropriate;**
777
778 **IV.A.5.f).(4)** **advocate for quality patient care and optimal patient**
779 **care systems;**
780
781 **IV.A.5.f).(5)** **work in interprofessional teams to enhance patient**
782 **safety and improve patient care quality; and,**
783
784 **IV.A.5.f).(6)** **participate in identifying system errors and**
785 **implementing potential systems solutions.**
786
787 **IV.B. Residents' Scholarly Activities**
788
789 **IV.B.1. The curriculum must advance residents' knowledge of the basic**
790 **principles of research, including how research is conducted,**
791 **evaluated, explained to patients, and applied to patient care.**
792
793 **IV.B.2. Residents should participate in scholarly activity.**
794
795 **IV.B.2.a)** **During their training, residents shall be required to complete an**
796 **investigative project under faculty supervision. This may take the**
797 **form of biological laboratory research, clinical research,**
798 **translational research, medical physics research, or other**
799 **research approved by the program director. The results of such**
800 **projects shall be suitable for publication in peer-reviewed scholarly**
801 **journals or presentation at scientific meetings.**
802
803 **IV.B.3. The sponsoring institution and program should allocate adequate**
804 **educational resources to facilitate resident involvement in scholarly**
805 **activities.**
806
807 **V. Evaluation**
808
809 **V.A. Resident Evaluation**
810
811 **V.A.1. Formative Evaluation**
812
813 **V.A.1.a)** **The faculty must evaluate resident performance in a timely**
814 **manner during each rotation or similar educational**
815 **assignment, and document this evaluation at completion of**
816 **the assignment.**

- 817
- 818 **V.A.1.b) The program must:**
- 819
- 820 **V.A.1.b).(1) provide objective assessments of competence in**
- 821 **patient care, medical knowledge, practice-based**
- 822 **learning and improvement, interpersonal and**
- 823 **communication skills, professionalism, and systems-**
- 824 **based practice;**
- 825
- 826 **V.A.1.b).(2) use multiple evaluators (e.g., faculty, peers, patients,**
- 827 **self, and other professional staff);**
- 828
- 829 **V.A.1.b).(3) document progressive resident performance**
- 830 **improvement appropriate to educational level; and,**
- 831
- 832 **V.A.1.b).(4) provide each resident with documented semiannual**
- 833 **evaluation of performance with feedback.**
- 834
- 835 **V.A.1.c) The evaluations of resident performance must be accessible**
- 836 **for review by the resident, in accordance with institutional**
- 837 **policy.**
- 838
- 839 **V.A.2. Summative Evaluation**
- 840
- 841 **The program director must provide a summative evaluation for each**
- 842 **resident upon completion of the program. This evaluation must**
- 843 **become part of the resident’s permanent record maintained by the**
- 844 **institution, and must be accessible for review by the resident in**
- 845 **accordance with institutional policy. This evaluation must:**
- 846
- 847 **V.A.2.a) document the resident’s performance during the final period**
- 848 **of education, and**
- 849
- 850 **V.A.2.b) verify that the resident has demonstrated sufficient**
- 851 **competence to enter practice without direct supervision.**
- 852
- 853 **V.B. Faculty Evaluation**
- 854
- 855 **V.B.1. At least annually, the program must evaluate faculty performance as**
- 856 **it relates to the educational program.**
- 857
- 858 **V.B.2. These evaluations should include a review of the faculty’s clinical**
- 859 **teaching abilities, commitment to the educational program, clinical**
- 860 **knowledge, professionalism, and scholarly activities.**
- 861
- 862 **V.B.3. This evaluation must include at least annual written confidential**
- 863 **evaluations by the residents.**
- 864
- 865 **V.C. Program Evaluation and Improvement**
- 866
- 867 **V.C.1. The program must document formal, systematic evaluation of the**

- 868 curriculum at least annually. The program must monitor and track
869 each of the following areas:
- 870
- 871 V.C.1.a) resident performance;
- 872
- 873 V.C.1.b) faculty development;
- 874
- 875 V.C.1.c) graduate performance, including performance of program
876 graduates on the certification examination; and,
877
- 878 V.C.1.d) program quality. Specifically:
- 879
- 880 V.C.1.d).(1) Residents and faculty must have the opportunity to
881 evaluate the program confidentially and in writing at
882 least annually, and
883
- 884 V.C.1.d).(2) The program must use the results of residents’
885 assessments of the program together with other
886 program evaluation results to improve the program.
887
- 888 V.C.1.e) The Review Committee will use graduate performance data for the
889 most recent five- and ten-year periods in its assessments, and will
890 take into consideration notable improvements or declines during
891 the period considered. Poor performance will be cited if the
892 proportion of candidates passing both the written and oral board
893 examinations on the first opportunity is consistently low.
894
- 895 V.C.2. If deficiencies are found, the program should prepare a written plan
896 of action to document initiatives to improve performance in the
897 areas listed in section V.C.1. The action plan should be reviewed
898 and approved by the teaching faculty and documented in meeting
899 minutes.
900
- 901 VI. Resident Duty Hours in the Learning and Working Environment
- 902
- 903 VI.A. Principles
- 904
- 905 VI.A.1. The program must be committed to and be responsible for
906 promoting patient safety and resident well-being and to providing a
907 supportive educational environment.
908
- 909 VI.A.2. The learning objectives of the program must not be compromised by
910 excessive reliance on residents to fulfill service obligations.
911
- 912 VI.A.3. Didactic and clinical education must have priority in the allotment of
913 residents’ time and energy.
914
- 915 VI.A.4. Duty hour assignments must recognize that faculty and residents
916 collectively have responsibility for the safety and welfare of patients.
917
918

- 919 **VI.B. Supervision of Residents**
 920
 921 The program must ensure that qualified faculty provide appropriate
 922 supervision of residents in patient care activities.
 923
- 924 **VI.C. Fatigue**
 925
 926 Faculty and residents must be educated to recognize the signs of fatigue
 927 and sleep deprivation and must adopt and apply policies to prevent and
 928 counteract its potential negative effects on patient care and learning.
 929
- 930 **VI.D. Duty Hours (the terms in this section are defined in the ACGME Glossary**
 931 **and apply to all programs)**
 932
 933 Duty hours are defined as all clinical and academic activities related to the
 934 program; i.e., patient care (both inpatient and outpatient), administrative
 935 duties relative to patient care, the provision for transfer of patient care,
 936 time spent in-house during call activities, and scheduled activities, such as
 937 conferences. Duty hours do *not* include reading and preparation time spent
 938 away from the duty site.
 939
- 940 **VI.D.1. Duty hours must be limited to 80 hours per week, averaged over a**
 941 **four-week period, inclusive of all in-house call activities.**
 942
- 943 **VI.D.2. Residents must be provided with one day in seven free from all**
 944 **educational and clinical responsibilities, averaged over a four-week**
 945 **period, inclusive of call.**
 946
- 947 **VI.D.3. Adequate time for rest and personal activities must be provided.**
 948 **This should consist of a 10-hour time period provided between all**
 949 **daily duty periods and after in-house call.**
 950
- 951 **VI.E. On-call Activities**
 952
- 953 **VI.E.1. In-house call must occur no more frequently than every third night,**
 954 **averaged over a four-week period.**
 955
- 956 **VI.E.2. Continuous on-site duty, including in-house call, must not exceed 24**
 957 **consecutive hours. Residents may remain on duty for up to six**
 958 **additional hours to participate in didactic activities, transfer care of**
 959 **patients, conduct outpatient clinics, and maintain continuity of**
 960 **medical and surgical care.**
 961
- 962 **VI.E.3. No new patients may be accepted after 24 hours of continuous duty.**
 963
- 964 **VI.E.3.a) A new patient is defined as any patient for whom the resident has**
 965 **not previously provided care.**
 966
- 967 **VI.E.4. At-home call (or pager call)**
 968
- 969 **VI.E.4.a) The frequency of at-home call is not subject to the every-**

970 third-night, or 24+6 limitation. However at-home call must not
971 be so frequent as to preclude rest and reasonable personal
972 time for each resident.

973
974 **VI.E.4.b)** Residents taking at-home call must be provided with one day
975 in seven completely free from all educational and clinical
976 responsibilities, averaged over a four-week period.

977
978 **VI.E.4.c)** When residents are called into the hospital from home, the
979 hours residents spend in-house are counted toward the 80-
980 hour limit.

981
982 **VI.F. Moonlighting**

983
984 **VI.F.1.** Moonlighting must not interfere with the ability of the resident to
985 achieve the goals and objectives of the educational program.

986
987 **VI.F.2.** Internal moonlighting must be considered part of the 80-hour weekly
988 limit on duty hours.

989
990 **VI.G. Duty Hours Exceptions**

991
992 **A Review Committee may grant exceptions for up to 10% or a maximum of**
993 **88 hours to individual programs based on a sound educational rationale.**

994
995 **VI.G.1.** In preparing a request for an exception the program director must
996 follow the duty hour exception policy from the ACGME Manual on
997 Policies and Procedures.

998
999 **VI.G.2.** Prior to submitting the request to the Review Committee, the
1000 program director must obtain approval of the institution's GMEC and
1001 DIO.

1002
1003 **VII. Experimentation and Innovation**

1004
1005 Requests for experimentation or innovative projects that may deviate from the
1006 institutional, common and/or specialty specific program requirements must be
1007 approved in advance by the Review Committee. In preparing requests, the
1008 program director must follow Procedures for Approving Proposals for
1009 Experimentation or Innovative Projects located in the ACGME Manual on Policies
1010 and Procedures. Once a Review Committee approves a project, the sponsoring
1011 institution and program are jointly responsible for the quality of education offered
1012 to residents for the duration of such a project.

1013
1014 ***

1015
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