Responsibilities of the Program Director[1]

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The program director assumes responsibility for the entire residency training experience. The American Medical Association publishes an annually updated guide to graduate medical education (the "green book") that includes the requirements of the Accreditation Council for Graduate Medical Education (ACGME) for accredited programs and that outlines the responsibilities of the program director (1). The program requirements for diagnostic radiology and the institutional requirements also are reproduced in the appendices to the present manual (2). Program directors are expected to be familiar with these requirements.

Selected responsibilities of program directors, such as resident selection and evaluation, are discussed elsewhere in this manual. This article provides an overview of the educational program for which the program director is responsible and discusses the organization of administrative functions into a yearly cycle.

STRUCTURE OF THE DEPARTMENT

To ensure adequate teaching opportunities, a residency program must have sufficient volume: at least 75,000 examinations per year in the parent institution and no fewer than 7,000 examinations per year per resident. The program director must make sure that the number of residents in the program is commensurate with the capacity of the program (1,2). Each subspecialty area must also have sufficient volume and faculty. Programs that cannot meet these requirements in one institution will need to affiliate with another institution to provide residents with the required exposure. Rotations to affiliated institutions may not exceed 6 months during the 4 years of training (not including time spent at the Armed Forces Institute of Pathology).

Between the parent and integrated institutions, there must be at least one full-time–equivalent faculty member for each resident. Requirements of the teaching faculty, including scholarly activities and responsibilities for the subspecialty areas, are further detailed in the program requirements for resident education in diagnostic radiology (1,2). The program director and the department chairperson are jointly responsible for evaluating the teaching faculty.

The ACGME requires regular, documented meetings of the teaching faculty to review program goals and objectives, as well as program effectiveness in achieving them (1,2). At least one resident representative must be in attendance. As this review should evaluate the program's financial and administrative support and the performance of its teaching faculty, the department chairperson should also be present. An education committee composed of the program director, department chairperson, chief resident, and selected members of the teaching faculty provides an efficient means to review regularly, maintain, and improve the quality of the program. The education committee meetings can be incorporated into the annual cycle of program director responsibilities (Figure), although more frequent meetings may be helpful.

EDUCATIONAL PROGRAM

Clinical Curriculum

Residents must have adequate experience in each of the nine subspecialty areas: neuroradiology, musculoskeletal radiology, vascular and interventional radiology, chest radiology, breast imaging, abdominal radiology, pediatric radiology, ultrasonography (US), and nuclear medicine.

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July
Orient new residents
Distribute residency manual

August
Plan social event to welcome residents
Pick dates to interview applicants

September
Plan for upcoming interview season
- Secure rooms and facilities
- Plan interview day

ABR written examination
- Residents sign up for next year's examination

Education committee meeting
- Discuss interview process

October
3-month review of 1st-year residents
Begin reviewing applications

November
Interviews with applicants

December
Interviews with applicants
Semiannual resident reviews
Education committee meeting
- Discuss selection of new chief residents

Residents evaluate rotations

January
Submit rotation lists to ABR
Finish interview season
Education committee meeting
- Compile rank list

Orient new chief residents

February
Submit rank list to the match
Education committee meeting
- Review rotation evaluations
- Discuss curriculum changes for the next year

ACR in-service examination

March
Review match results
Review and revise brochure and Web page
Obtain resident elective and vacation requests for upcoming year

April
Mock oral board examination
Attend APDR meeting (program director)
Attend meeting of American Association of Academic Chief Residents in Radiology (chief residents)
Education committee meeting
- Present APDR meeting minutes
- Review elective requests
- Finalize curriculum changes and scheduling issues for upcoming year

Review ACR in service results and mock oral board results with residents

May
Distribute resident schedule for next year
Update resident manual
Distribute resident manual to section directors for their revisions
Administer call competency examination to 1st-year residents
Send informational letter to incoming residents

June
Residents evaluate faculty
Semiannual resident reviews
- Conduct exit interviews with graduating residents
- Prepare final written evaluations for residents completing program

End-of-year party

Example of an annual calendar of administrative responsibilities.

The ACGME does not specify how many months should be spent on each rotation, but the American Board of Radiology (ABR) requires that no more than 12 months be spent in one subspecialty area during residency, and that at least 6 months be spent in nuclear medicine (3).

There has been support among program directors for more comprehensive guidelines regarding the radiology residency curriculum (4,5). A uniform curriculum would help ensure that resident rotations are scheduled with the primary objective of providing an adequate educational

experience rather than merely satisfying service needs (6,7). On the basis of a survey of program directors (5), which showed a strong consensus regarding the minimum length of training time needed in each subspecialty area, the Curriculum Committee of the Association of Program Directors in Radiology (APDR) formulated the following recommendations (8): (*a*) a minimum of 3 months each in chest radiology, gastrointestinal radiology, musculoskeletal radiology, pediatric radiology, cardiovascular and interventional radiology, US (including obstetric US) and computed tomography (CT); (*b*) a minimum of 2 months in uroradiology, breast imaging, body magnetic resonance (MR) imaging, and emergency radiology; and (*c*) 4 months in neuroradiology, to include neuroangiography, neurologic CT, and neurologic MR imaging. These recommendations are intended as guidelines, with the understanding that the program director needs the flexibility to design rotations within the constraints of the department's structure. The program director also should be aware that in order to obtain certification to read mammograms under the Mammography Quality Assurance Standards Act (9), a resident must have either board certification in diagnostic radiology or 3 months of formal mammography training.

Beyond the general curriculum, which is designed to produce a competent general radiologist who may continue on to subspecialty training, the Leonard Holman Research Pathway (3) allows for an additional 12 months of research within residency and is designed for residents who plan to pursue a career in clinical or basic science research. This pathway is offered at the discretion of the program director, but residents who wish to pursue it also must have prior approval from the ABR.

Clinical rotations should provide residents with progressive, supervised responsibility in each area. The program director is responsible for preparing a written curriculum outlining the education goals and objectives at each level of training and for each rotation, and this curriculum must be distributed to the residents and faculty (1,2). Suggestions for developing a curriculum with goals and objectives are available (6). The Training Committee of the Society of Thoracic Radiology has published a curriculum in chest radiology that includes goals and objectives at each level of training (10). Other lists of topics to be covered in residency curricula that have been developed by the appropriate subspecialty societies (11) can be found on the APDR Web site (12).

Because of advances in medical knowledge and the continued development of new technology, a curriculum cannot be static. The program director, with the help of the section directors, must review the curriculum at regular intervals to ensure that current educational issues are being addressed. As the ACGME requires that the curriculum be distributed to the residents and faculty, a document that outlines the 4-year curriculum and the goals and objectives for each rotation should be prepared with the participation of each section director. This document may be part of a resident manual that can be reviewed, updated, and distributed annually (Figure).

Procedure Documentation

Residents need documented, supervised experience in interventional procedures. As the ACGME (1,2) requires that a record of the performance, interpretation, and complications of procedures be kept and reviewed yearly, the residents should be provided with a means to keep a procedure log that can be brought with them to their review with the program director. Electronic methods for organizing and storing information, such as that provided by Excel spreadsheet software (Microsoft, Redmond, Wash) or by a handheld computer such as the Palm Handheld (Palm, Santa Clara, Calif), make the information more uniform and easier for the program director to review. At this time, neither the ACGME nor the ABR has specified a required number of interventions the resident must perform.

Basic Life Support/Advanced Cardiac Life Support Requirement

The program director must ensure that residents obtain training in basic life support. This training is often provided by the sponsoring institution. Advanced cardiac life support training is recommended but not required (1,2).

ACGME General Competencies

In the past, the ACGME has focused on the structure of the residency program in determining accreditation. Established requirements that concern program resources, goals, and objectives provide a way to evaluate whether a program supplies the appropriate educational opportunities for its residents. Program design alone, however, does not necessarily ensure that desired educational results are being achieved. Recently added requirements are focusing more on outcomes to ensure the meeting of educational objectives.

The ACGME (13) has identified six general facets of medical practice in which all physicians completing graduate medical education training must demonstrate competency: patient care, medical knowledge, interpersonal and communication skills, professionalism, practice-based

learning and improvement, and systems-based practice. It has identified the appropriate evaluation methods and tools that can be used by programs to measure outcomes in these areas. Representatives from the Residency Review Committee for Diagnostic Radiology, the ABR, and the APDR have analyzed the competencies in terms of how they relate to radiology and have selected appropriate measurement tools for measuring radiology resident competence in each of the six areas (14). In addition, the Education Committee of the APDR has devised a resident evaluation form that addresses the six competencies (15).

Conferences

Teaching conferences directed specifically toward improving radiology resident education are an important way of ensuring that residents meet curricular goals and objectives. Didactic lectures and case conferences have been shown to be equally effective (16). In addition, residents are effective teachers of their peers in didactic conferences, and the teaching experience helps them learn the material (17,18). A discussion of teaching methods for didactic conferences is included elsewhere in this manual (19).

Residents must be given didactic instruction in physics, radiation biology, radiation protection, and radiologic-pathologic correlation. Programs that do not send their residents to the Armed Forces Institute of Pathology course therefore need to provide in-house radiologic-pathologic conferences.

In addition, the ACGME requires that radiology residents be instructed in computer applications, practice management, health systems, and quality improvement. Institutional requirements also include resident instruction in ethical, socioeconomic, legal, and financial (eg, cost-containment) issues that affect medical practice (1,2). The APDR and the American College of Radiology have collaborated in developing educational materials to meet these requirements (20,21). Videotapes are available to assist program directors.

In July 2002, language emphasizing general professional competency was added to the requirements for didactic instruction. The didactic curriculum “should address systems-based practice, with emphasis on an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value” (1). Intradepartmental conferences can be a resource for teaching residents these noninterpretive skills (19). Intradepartmental conferences (eg, grand rounds, quality improvement conferences, journal clubs, and research meetings) and interdepartmental conferences provide environments conducive to the scholarly activity and knowledge exchange that are essential for ensuring the complete educational experience of the residents.

Facilities and Resources

In addition to requiring that residents have access to a major medical library, the ACGME requires that they have 24-hour access to a departmental library or collection of texts and journals. A collection of at least 1,000 teaching file cases is also mandated, and these can be on film or in digital format. The American College of Radiology teaching file also should be made available to residents, but it only partly fulfills the requirement.

COUNSELING RESIDENTS

The radiology residency program director is responsible for monitoring resident stress, including mental or emotional conditions and drug- or alcohol-related dysfunction.

Regular counseling and evaluation of residents help ensure that those with personal or professional difficulties will be identified. Residents who are experiencing difficulties must be evaluated more frequently to ensure progress in their own development and safe and appropriate care for patients.

Routine Counseling

Institutions are required to educate residents about the effects of stress and substance abuse on physician judgment and performance (1,2). One way to meet this requirement is to provide an awareness program during resident orientation, when the institution can also advise residents of any available institutional resources. The semiannual review of residents can be used to assess the residents’ professional and personal development. Because long work hours are a source of stress, moonlighting activity should be discussed so that the program director is aware of resident work hours beyond those required by the program. Career counseling can be beneficial at every level of training. For instance, a discussion about satisfaction with radiology as a career choice is most appropriate in the 1st year, and discussions of subspecialty training and academic or private practice choices are more appropriate in later years. Specific job search and contracting issues also may be added to the formal curriculum (22).

Problem-related Counseling

When a resident is experiencing difficulties, the problem is usually in one of two areas: academic or interpersonal (23). Clearly, the type of difficulty will determine the type of counseling the program director will need to provide, although unfortunately there is no consensus as to the best methods of intervention (24). Academic difficulties should be documented, along with the plan the program director has devised to address them. More personal problems should prompt the program director to provide timely psychological counseling. Institutions should facilitate residents' access to appropriate and confidential counseling with medical and psychological support services (1,2). The institution's graduate medical education office should be a resource for the program director when a resident needs such a referral.

YEARLY CYCLE OF ADMINISTRATIVE RESPONSIBILITIES

Many of the program director's administrative responsibilities recur annually. The academic year begins in July with orientation of new residents and increased responsibilities for more senior residents. The interview and selection process dominates the months from October to February. From March to June is the best time to evaluate the program as part of strategic planning for the upcoming year.

While each program will have its own events that can be part of the yearly calendar, most responsibilities are the same among programs. The Figure outlines the annual administrative calendar used by the radiology residency program at the Brown Medical School, Providence, RI. Most of the responsibilities listed there apply to all radiology programs, although some are not among the ACGME requirements; these include a 3-month review with the 1st-year residents and separate evaluations of rotations and the teaching faculty. Program directors may choose a different schedule for required events. For example, semiannual evaluations can be held in October and April rather than December and June, and residents may evaluate the program at any time during the year. By individualizing the calendar, keeping it where it can be easily referenced, and referring to it regularly, the program director will have an organized approach to meeting responsibilities.

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