

# ACGME Program Requirements for Graduate Medical Education in Medical Genetics

Common Program Requirements are in **BOLD**

Effective: July 1, 2007

## 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

Clinical medical geneticists are physicians who provide comprehensive diagnostic, management, treatment, risk assessment, and genetic counseling services for patients who have or are at risk for having genetic disorders or disorders with a genetic component.

Int.C. Scope of Education

Accredited graduate medical education programs in medical genetics must provide formal instruction and clinical experience for residents to develop the knowledge, skills, and attitudes essential to the practice of clinical medical genetics.

Int.D. Program Length

Int.D.1. A residency in clinical medical genetics may be accredited to provide two and/or four years of graduate medical education.

- Int.D.1.a) Physicians who have completed a residency accredited by the Accreditation Council for Graduate Medical Education (ACGME) are eligible for appointment to a two-year medical genetics residency.
- Int.D.1.b) A medical genetics program director may appoint a resident to a two-year program following two or more years of ACGME-accredited residency education accredited by the ACGME.
- Int.D.1.c) A four-year program must include two years of pre-genetics ACGME-accredited residency education, followed by two years of education in clinical medical genetics. A four-year program must be designed prospectively by the medical genetics program director together with the directors of the programs to which residents will be assigned during the two years of pre-genetics education.
- Int.D.2. In both two-year and four-year programs, the 24 months of genetics education must include at least 18 months of broad-based, clinically-oriented medical genetics activities.

## **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. Institutions sponsoring medical genetics programs should also sponsor ACGME-accredited programs in pediatrics, internal medicine, and obstetrics/gynecology.

### **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).**

## **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) Sponsoring institutions must develop and implement policies and procedures to ensure continuity when the program director departs, is on sabbatical, or is unable to meet his or her duties for any other reason.**

**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.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 Clinical Genetics by the American Board of Medical Genetics (ABMG), 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 institutions 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) maintain a continuing involvement in scholarly activities, participate in key national scientific human genetics meetings, and contribute to medical education, both locally and nationally, and

II.A.4.q) ensure that clinical teaching conferences are organized by the faculty for the residents, and that attendance by the residents and the faculty is documented. These conferences must be distinct from the basic science lectures and didactic sessions. Clinical teaching conferences may include formal didactic sessions on clinical laboratory topics, medical genetics rounds, journal clubs, and follow-up conferences for genetic clinics.

**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.2. The physician faculty must have current certification in the specialty by the American Board of Medical Genetics, or possess qualifications acceptable to the Review Committee.**

II.B.2.a) There must be at least three members of the teaching staff (including the program director) who are members of the medical staffs at participating sites. At least two of these individuals must be certified in clinical medical genetics.

II.B.2.b) Those responsible for resident education in a given area must have ABMG certification in that area. Specifically:

II.B.2.b).(1) The person(s) responsible for resident education in biochemical genetics must be certified in biochemical genetics;

II.B.2.b).(2) The person(s) responsible for resident education in molecular genetics must be certified in molecular genetics; and,

- II.B.2.b).(3) The person(s) responsible for resident education in clinical cytogenetics must be certified in clinical cytogenetics.
- 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.C. Other Program Personnel**
- The institution and the program must jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.**
- II.C.1. Residents must have regular opportunities to work with genetic counselors, nurses, nutritionists, and other health care professionals who are involved in the provision of clinical medical genetics services.**
- 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. Program sites should have a clinical cytogenetics laboratory, a clinical biochemical genetics laboratory, and a clinical molecular genetics laboratory, each of which provides an appropriate volume and variety of services related to medical genetics, together with an adequate number of qualified staff. If a laboratory is not located in a participating site, a written letter of agreement from the laboratory director detailing the laboratory's contributions to the education of medical genetics residents must be prepared and kept on file by the program director
- II.D.2. Participating sites must provide a sufficient number and variety (e.g., pregnant and non-pregnant, all ages) of inpatients and outpatients to permit residents to gain experience with the natural history of a wide range of genetic disorders and other disorders with a genetic component. This will mean, typically, that programs will care for at least 100 different patients or families per year for each resident. These patients and families must be seen in both outpatient and inpatient settings.
- II.D.3. Adequate space and equipment must be available to meet the educational goals of the program. In addition to space for patient care activities, this requires meeting rooms, classrooms, office space, research facilities, and facilities for record storage and retrieval.
- II.D.4. Office and laboratory space must be provided for the residents for both patient-care work and participation in scholarly activities.
- II.D.5. Residents should have access to computer-based genetic diagnostic systems.
- II.D.6. The audiovisual resources available for educational purposes should be adequate to meet the goals and objectives of the program.

## **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.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.**

**III.D.1. The presence of other learners in medical genetics and in other specialties within participating sites is essential to the maintenance of a stimulating educational environment.**

## **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; and,**

**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.**

**IV.A.4.a) Residents must have the opportunity to develop the abilities to diagnose genetic disorders, counsel patients, and manage and treat the broad range of clinical problems in patients of all ages that are encompassed by medical genetics.**

#### **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) will gather essential and accurate information about the patient by using the following clinical skills:
  - IV.A.5.a).(1).(a) medical interviewing, including the taking and interpretation of a complete family history (including construction of a pedigree);
  - IV.A.5.a).(1).(b) physical examination; and,
  - IV.A.5.a).(1).(c) diagnostic studies, including the interpretation of laboratory data generated from biochemical genetic, cytogenetic, and molecular genetic analyses.
- IV.A.5.a).(2) will make informed decisions about diagnostic and therapeutic interventions based on patient and family information and preferences, up-to-date scientific evidence, and clinical judgment by:
  - IV.A.5.a).(2).(a) demonstrating effective and appropriate clinical problem-solving skills;
  - IV.A.5.a).(2).(b) understanding the limits of one's knowledge and expertise; and,
  - IV.A.5.a).(2).(c) appropriate use of consultants and referrals.
- IV.A.5.a).(3) will develop and carry out patient management plans;
- IV.A.5.a).(4) will prescribe and perform medical interventions essential for the care of patients with heritable disorders;
- IV.A.5.a).(5) will counsel and educate patients and their families in order to:
  - IV.A.5.a).(5).(a) take measures needed to enhance or maintain health and function and to prevent disease and injury;
  - IV.A.5.a).(5).(b) encourage the family to participate actively in their

- care, and in order to provide information that will contribute to their care; and,
- IV.A.5.a).(5).(c) empower patients to make informed decisions, interpret risk assessment, and to use predictive testing for themselves and family members.
- IV.A.5.a).(6) will use information technology to support patient care decisions and patient education;
- IV.A.5.a).(7) will assist patients in accomplishing their personal health goals;
- IV.A.5.a).(8) will work with health care professionals, including those from other disciplines, to provide patient-focused care;
- IV.A.5.a).(9) will spend a minimum of two continuous weeks in each type of laboratory (clinical biochemical, molecular genetic, and cytogenetic) so that they will be able to develop their abilities to understand and critically interpret laboratory data. Residents must develop an understanding of the appropriate use of laboratories during diagnosis, counseling, management and treatment of patients with genetic disorders. Toward this end, resident education must include participation in the working conferences of laboratories, as well as ongoing discussion of laboratory data during other clinical conferences; and,
- IV.A.5.a).(10) will develop mature clinical judgment through properly supervised patient care commensurate with their ability. This can be achieved only if the resident is involved in the decision-making process and in the continuity of patient care. Residents must be given the responsibility for direct patient care in all settings, including planning, management, and treatment, both diagnostic and therapeutic, subject to review and approval by the attending physician.

**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) will know, critically evaluate, and use current medical information and scientific evidence for patient care, including:
- IV.A.5.b).(1).(a) results from genetics laboratory tests;

- IV.A.5.b).(1).(b) quantitative risk assessment; and,
- IV.A.5.b).(1).(c) available bioinformatics.
- IV.A.5.b).(2) will participate formally, through lectures or other didactic sessions, in the equivalent of a one-year graduate level course in basic human medical genetics, including but not limited to population and quantitative genetics, mendelian and non-mendelian genetics, cytogenetics, biochemical genetics, and molecular genetics. (An introductory medical genetics course for medical students does not satisfy this requirement.)
- IV.A.5.b).(2).(a) Research seminars should be a part of the training experience, but will not be considered an acceptable alternative to this basic science didactic component.

**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.c).(9) obtain and use information about their own patients and the larger population from which their patients are drawn;

IV.A.5.c).(10) use information technology to manage information, access on-line medical information, and support their own education;

**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).(2).(a) communicate effectively with the general public

**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.d).(6) communicate effectively and demonstrate caring and respectful behavior when interacting with patients and their families;

IV.A.5.d).(7) communicate effectively with patients and their families to create and sustain a professional and therapeutic relationship;

**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.e).(6)                      a commitment to excellence and on-going professional development; and,
- IV.A.5.e).(7)                      a commitment to ethical principles pertaining to the provision or withholding of clinical care, confidentiality of patient information, informed consent, conflict of interest, and business practices.

**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.A.5.f).(7)                      assist patients in dealing with the complexities of a health care system;

- IV.A.5.f).(8) promote health and function and prevent disease and injury in populations; and,
- IV.A.5.f).(9) possess the basic economic and business knowledge necessary to function effectively in one's practice setting.

#### **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) Programs must provide opportunities for residents to become involved in research and teaching.

**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.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.

Licensed independent practitioners who may have primary responsibility for patient care must be physicians.

**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.E.1. The workload for a resident at any level must be no more than four patients with a confirmed diagnosis of an inborn error of intermediary metabolism in an ICU setting, or six patients with a confirmed diagnosis of an inborn error of intermediary metabolism in a non-ICU setting.

**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.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 Medical Genetics 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.
- Residents in the first year of the program (MG-1) 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.
- Residents in the second (final) year of the program (MG-2) 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.5.c).(1).(b)** The Review Committee defines such circumstances as: required continuity of care for a severely ill or unstable patient, or a complex patient with whom the resident has been involved; events of exceptional educational value; or, humanistic

attention to the needs of a patient or family.

**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.6.a) Residents must not be assigned night float duties.

**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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