ACGME Program Requirements for Graduate Medical Education in Molecular Genetic Pathology (Medical Genetics and Genomics or Pathology)

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One-year Common Program Requirements are in BOLD

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

Introduction

Int.A. Residency and fellowship programs are essential dimensions of the transformation of the medical student to the independent practitioner along the continuum of medical education. They are physically, emotionally, and intellectually demanding, and require longitudinally-concentrated effort on the part of the resident or fellow.

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 and fellow physician to assume personal responsibility for the care of individual patients. For the resident and fellow, 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 and fellows 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 and fellow'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. Molecular genetic pathology is the subspecialty of medical genetics and genomics and pathology in which the principles, theory, and technologies of molecular biology and molecular genetics are used to make or confirm clinical diagnoses of Mendelian genetic disorders, disorders of human development, immunologic conditions, infectious diseases, and malignancies; to assess the natural history of those disorders; and to provide the primary physician with information by which to improve the ability to provide optimal care for individuals affected with these disorders. Molecular genetic pathology includes a body of knowledge and techniques necessary to study diseases associated with alterations in the genome; provides information about gene structure, function, and alteration; and applies laboratory techniques for the diagnosis, treatment, and prognosis of individuals with these disorders.

Int.C. Educational programs in molecular genetic pathology must be 12 months in length. (Core)*
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 fellow assignments at all participating sites. (Core)

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. (Core)

I.A.1. The Sponsoring Institution must also sponsor an Accreditation Council for Graduate Medical Education (ACGME)-accredited program in anatomic and clinical pathology. (Core)

I.A.1.a) For programs affiliated with an anatomic and clinical pathology program, the institution should have an ACGME-accredited program in medical genetics and genomics or an established relationship with an ACGME-accredited medical genetics and genomics program at another institution. (Detail)

I.A.1.b) For programs affiliated with a medical genetics and genomics program, the medical genetics and genomics program with which the program is affiliated must be sponsored by the same ACGME-accredited Sponsoring Institution as the fellowship. (Core)

I.A.2. Sponsorship of the program must be in compliance with the policy detailed in section 15.00 of the ACGME Manual of Policies and Procedures. (Core)

I.A.3. The molecular genetic pathology program must be jointly supported by the academic units responsible for pathology and clinical medical genetics. (Core)

I.A.4. The Sponsoring Institution must ensure that activity is supported by other disciplines, including infectious disease, internal medicine, obstetrics and gynecology, oncology, pediatrics, and surgery. (Core)

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. (Core)

The PLA should:

I.B.1.a) identify the faculty who will assume both educational and supervisory responsibilities for fellows; (Detail)
I.B.1.b) specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in this document; (Detail)

I.B.1.c) specify the duration and content of the educational experience; and, (Detail)

I.B.1.d) state the policies and procedures that will govern fellow education during the assignment. (Detail)

I.B.2. The program director must submit any additions or deletions of participating sites routinely providing an educational experience, required for all fellows, of one month full time equivalent (FTE) or more through the Accreditation Council for Graduate Medical Education (ACGME) Accreditation Data System (ADS). (Core)

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. (Core)

II.A.1.a) The program director must submit this change to the ACGME via the ADS. (Core)

II.A.2. Qualifications of the program director must include:

II.A.2.a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee; (Core)

II.A.2.b) current certification in the subspecialty by the American Board of Medical Genetics and Genomics or the American Board of Pathology in molecular genetic pathology, or subspecialty qualifications that are acceptable to the Review Committee; (Core)

II.A.2.b).(1) The program director must meet the requirements for recertification by the American Board of Medical Genetics and Genomics and/or the American Board of Pathology. (Core)

II.A.2.c) current medical licensure and appropriate medical staff appointment; and, (Core)

II.A.2.d) at least three years of active participation as a specialist in molecular genetic pathology following completion of all graduate medical education. (Core)
II.A.3. The program director must administer and maintain an educational environment conducive to educating the fellows in each of the ACGME competency areas. (Core)

The program director must:

II.A.3.a) prepare and submit all information required and requested by the ACGME; (Core)

II.A.3.b) be familiar with and oversee compliance with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures; (Detail)

II.A.3.c) obtain review and approval of the sponsoring institution’s GMEC/DIO before submitting information or requests to the ACGME, including: (Core)

II.A.3.c).(1) all applications for ACGME accreditation of new programs; (Detail)

II.A.3.c).(2) changes in fellow complement; (Detail)

II.A.3.c).(3) major changes in program structure or length of training; (Detail)

II.A.3.c).(4) progress reports requested by the Review Committee; (Detail)

II.A.3.c).(5) requests for increases or any change to fellow duty hours; (Detail)

II.A.3.c).(6) voluntary withdrawals of ACGME-accredited programs; (Detail)

II.A.3.c).(7) requests for appeal of an adverse action; and, (Detail)

II.A.3.c).(8) appeal presentations to a Board of Appeal or the ACGME. (Detail)

II.A.3.d) obtain DIO review and co-signature on all program application forms, as well as any correspondence or document submitted to the ACGME that addresses: (Detail)

II.A.3.d).(1) program citations, and/or, (Detail)

II.A.3.d).(2) request for changes in the program that would have significant impact, including financial, on the program or institution. (Detail)

II.A.3.e) prepare and implement a supervision policy that specifies fellow and faculty member lines of responsibility; and, (Core)
II.A.3.f) devote a minimum of 10 hours per week of his or her time, averaged over four weeks, to the fellowship program, to include clinical work with fellows, teaching, molecular-related research, and fellowship-related administration. (Core)

II.B. Faculty

II.B.1. There must be a sufficient number of faculty with documented qualifications to instruct and supervise all fellows. (Core)

II.B.1.a) In addition to the program director, the faculty must include at least one core faculty member with demonstrated expertise in molecular genetic pathology with either molecular genetic pathology certification by the American Board of Medical Genetics and Genomics or the American Board of Pathology or qualifications and experience acceptable to the Review Committee. (Core)

II.B.2. The faculty must devote sufficient time to the educational program to fulfill their supervisory and teaching responsibilities and demonstrate a strong interest in the education of fellows. (Core)

II.B.2.a) The members of the non-physician and physician faculty, including the program director, must, in aggregate, devote at least 20 hours per week to fellowship-related clinical work, teaching, and administration. (Core)

II.B.3. The physician faculty must have current certification in the subspecialty by the American Board of Medical Genetics and Genomics or the American Board of Pathology, or possess qualifications judged acceptable to the Review Committee. (Core)

II.B.3.a) Physician faculty members who are not currently certified in molecular genetic pathology must have completed a fellowship in a subspecialty relevant to their clinical and educational responsibilities in the program, or have three years of practice experience in the subspecialty. (Core)

II.B.4. The physician faculty must possess current medical licensure and appropriate medical staff appointment. (Core)

II.B.5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component. (Core)

II.B.5.a) The members of the faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences. (Core)

II.B.5.b) Some members of the faculty should demonstrate scholarship by one or more of the following:
II.B.5.b). (1) peer-reviewed funding; (Detail)

II.B.5.b). (2) publication of original research or review articles in peer-reviewed journals, or chapters in textbooks; (Detail)

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; (Detail)

II.B.5.b). (4) participation in national committees or educational organizations. (Detail)

II.B.5.c) Faculty members must encourage and support fellows in scholarly activities. (Core)

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. (Core)

II.C.1. Programs must have a designated program coordinator who is provided sufficient time to fulfill the responsibilities essential to meeting the educational goals and administrative requirements of the program. (Core)

II.D. Resources

The institution and the program must jointly ensure the availability of adequate resources for fellow education, as defined in the specialty program requirements. (Core)

II.D.1. A sufficient volume and variety of specimens from adult and pediatric patients must be available to provide fellows a broad exposure to consultation regarding medical genetic and genomics testing for congenital and acquired diseases, as well as a sufficient volume of sporadic and heritable cancers, infectious diseases, and identity testing, without diluting the educational experience of fellows in affiliated pathology and medical genetics and genomics programs. (Core)

II.D.2. The institutions and laboratories participating in the program must be appropriately accredited and/or licensed. (Core)

II.D.3. Fellows must have direct access to appropriate texts and journals in each institution participating in the program. (Core)

II.E. Medical Information Access

Fellows 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. (Detail)
III. Fellow Appointments

III.A. Eligibility Requirements – Fellowship Programs

All required clinical education for entry into ACGME-accredited fellowship programs must be completed in an ACGME-accredited residency program, or in an RCPSC-accredited or CFPC-accredited residency program located in Canada. (Core)

Fellows must have completed an ACGME-accredited residency in medical genetics and genomics; or two years of an ACGME-accredited residency in pathology; or a medical genetics and genomics or pathology program located in Canada and accredited by the RCPSC; or be a physician certified by the American Board of Medical Genetics and Genomics. (Core)

III.A.1. Fellowship programs must receive verification of each entering fellow’s level of competency in the required field using ACGME or CanMEDS Milestones assessments from the core residency program. (Core)

III.A.2. Fellow Eligibility Exception

A Review Committee may grant the following exception to the fellowship eligibility requirements:

An ACGME-accredited fellowship program may accept an exceptionally qualified applicant**, who does not satisfy the eligibility requirements listed in Sections III.A. and III.A.1., but who does meet all of the following additional qualifications and conditions: (Core)

III.A.2.a) Assessment by the program director and fellowship selection committee of the applicant’s suitability to enter the program, based on prior training and review of the summative evaluations of training in the core specialty; and (Core)

III.A.2.b) Review and approval of the applicant’s exceptional qualifications by the GMEC or a subcommittee of the GMEC; and (Core)

III.A.2.c) Satisfactory completion of the United States Medical Licensing Examination (USMLE) Steps 1, 2, and, if the applicant is eligible, 3, and; (Core)

III.A.2.d) For an international graduate, verification of Educational Commission for Foreign Medical Graduates (ECFMG) certification; and, (Core)

III.A.2.e) Applicants accepted by this exception must complete fellowship Milestones evaluation (for the purposes of establishment of baseline performance by the Clinical
Competency Committee), conducted by the receiving fellowship program within six weeks of matriculation. This evaluation may be waived for an applicant who has completed an ACGME International-accredited residency based on the applicant’s Milestones evaluation conducted at the conclusion of the residency program.

III.A.2.e).(1) If the trainee does not meet the expected level of Milestones competency following entry into the fellowship program, the trainee must undergo a period of remediation, overseen by the Clinical Competency Committee and monitored by the GMEC or a subcommittee of the GMEC. This period of remediation must not count toward time in fellowship training.

** An exceptionally qualified applicant has (1) completed a non-ACGME-accredited residency program in the core specialty, and (2) demonstrated clinical excellence, in comparison to peers, throughout training. Additional evidence of exceptional qualifications is required, which may include one of the following: (a) participation in additional clinical or research training in the specialty or subspecialty; (b) demonstrated scholarship in the specialty or subspecialty; (c) demonstrated leadership during or after residency training; (d) completion of an ACGME-International-accredited residency program.

III.A.3. The Review Committee for Pathology does allow exceptions to the Eligibility Requirements for Fellowship Programs in Section III.A.

III.A.4. The Review Committee for Medical Genetics and Genomics does not allow exceptions to the Eligibility Requirements for Fellowship Programs in Section III.A.

III.B. Number of Fellows

The program’s educational resources must be adequate to support the number of fellows appointed to the program.

III.B.1. The program director may not appoint more fellows than approved by the Review Committee, unless otherwise stated in the specialty-specific requirements.

IV. Educational Program

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

IV.A.1. Skills and competencies the fellow will be able to demonstrate at the conclusion of the program. The program must distribute these skills and competencies to fellows and faculty at least annually, in either written or electronic form.
IV.A.2. ACGME Competencies

The program must integrate the following ACGME competencies into the curriculum: (Core)

IV.A.2.a) Patient Care and Procedural Skills

IV.A.2.a).(1) Fellows must be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. (Outcome)

IV.A.2.a).(2) Fellows must be able to competently perform all medical, diagnostic, and surgical procedures considered essential for the area of practice. Fellows: (Outcome)

IV.A.2.a).(2).(a) must demonstrate competence as consultants in clinical decision-making in collaboration with professionals from related disciplines and in the cost-effective use of molecular genetic and genomic testing. (Outcome)

IV.A.2.a).(2).(b) must demonstrate competence in developing an approach for genetic and genomic testing to categorize conditions in a manner that facilitates clinical management. (Outcome)

IV.A.2.a).(2).(b).(i) This experience must include participation in clinical conferences and exposure to patient care. (Core)

IV.A.2.b) Medical Knowledge

Fellows 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. Fellows: (Outcome)

IV.A.2.b).(1) must demonstrate competence in their knowledge of molecular biology and biochemistry of nucleic acids and proteins, including: (Outcome)

IV.A.2.b).(1).(a) structure; (Outcome)

IV.A.2.b).(1).(b) function; (Outcome)

IV.A.2.b).(1).(c) replication mechanisms; (Outcome)

IV.A.2.b).(1).(d) in vitro synthesis; and, (Outcome)
IV.A.2.b).(1).(e) the roles of DNA and various RNA classes and proteins in cellular biology. (Outcome)

IV.A.2.b).(2) must demonstrate competence in their knowledge of the mechanism of regulation of gene expression in prokaryotes and eukaryotes; (Outcome)

IV.A.2.b).(3) must demonstrate competence in their knowledge of the biochemical mechanisms of mutations; (Outcome)

IV.A.2.b).(4) must demonstrate competence in the detailed knowledge of disease processes at the molecular level and the methods used for their detection; (Outcome)

IV.A.2.b).(4).(a) These diseases include but are not limited to: solid tumors, leukemia-lymphomas, infectious diseases, inherited Mendelian diseases, and non-Mendelian and acquired genetic diseases (e.g., mitochondrial disorders, triplet repeats, expansion disorders, cytogenetic aberrations, and imprinting disorders). (Outcome)

IV.A.2.b).(5) must demonstrate competence in their knowledge of HLA typing/identity testing and the principles of linkage analysis; (Outcome)

IV.A.2.b).(6) must demonstrate competence in their knowledge of statistics as applied to diagnosis and management and calculation of primary and residual risk; (Outcome)

IV.A.2.b).(7) must demonstrate competence in their knowledge and understanding of the principles of molecular diagnostic, prognostic, and therapeutic testing for patients with infectious diseases and cancer, and tests to monitor affected patients; (Outcome)

IV.A.2.b).(8) must demonstrate competence in their knowledge of autopsy and surgical pathology procedures, infectious diseases, hematopathology, and other relevant pathology activities; and, (Outcome)

IV.A.2.b).(8).(a) Fellows must demonstrate knowledge of how to select and appropriately sample fresh and fixed tissue for molecular testing. (Outcome)

IV.A.2.b).(9) must be able to incorporate clinical and other laboratory information into the interpretation and the reporting of genetic and genomic results. (Outcome)

IV.A.2.c) Practice-based Learning and Improvement
Fellows are expected to develop skills and habits to be able to meet the following goals:

IV.A.2.c).(1) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement; and, (Outcome)

IV.A.2.c).(2) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems. (Outcome)

IV.A.2.c).(2).(a) This must include review of literature addressing evidence-based utilization of molecular tests and results. (Outcome)

IV.A.2.d) Interpersonal and Communication Skills

Fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals. (Outcome)

IV.A.2.d).(1) Fellows must demonstrate competence in providing appropriate and effective consultations to other physicians and health professionals, both intra- and inter-departmentally. (Outcome)

IV.A.2.d).(2) Fellows must demonstrate competence in their ability to communicate effectively, both verbally and in writing. (Outcome)

IV.A.2.e) Professionalism

Fellows must demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles. (Outcome)

IV.A.2.f) Systems-based Practice

Fellows 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. (Outcome)

Fellows must:

IV.A.2.f).(1) demonstrate the ability to work effectively in a variety of health care delivery settings and systems relevant to pathology; (Outcome)
IV.A.2.f).(2) demonstrate the ability to incorporate cost considerations and risk-benefit analysis in patient and population-based care; (Outcome)

IV.A.2.f).(3) demonstrate the ability to participate in identifying system errors and implementing potential systems solutions; (Outcome)

IV.A.2.f).(4) advocate for quality patient care, patient safety, and optimal patient care systems; (Outcome)

IV.A.2.f).(5) demonstrate competence in the knowledge of the requirements for establishing and operating a molecular genetic pathology laboratory, laboratory management, and for supervising and training laboratory personnel in advanced techniques; (Outcome)

IV.A.2.f).(6) demonstrate competence in statistics as applied to test performance and applications and limitations of genetic and genomic test methodologies; (Outcome)

IV.A.2.f).(7) comply with laboratory regulatory and accreditation requirements; and, (Outcome)

IV.A.2.f).(8) contribute to quality improvement projects, quality assurance audits, and quality management of molecular genetic pathology. (Outcome)

IV.A.3. Curriculum Organization and Fellow Experiences

IV.A.3.a) Programs must provide a structured educational experience in all current aspects of the discipline including basic science, diagnostic laboratory procedures, laboratory management, and consultation. (Core)

IV.A.3.b) Programs must be designed to teach fellows to integrate molecular genetic pathology into medical consultations with clinicians in the diagnosis and care of patients. (Core)

IV.A.3.b).(1) Fellow experience must include supervision of trainees and/or laboratory personnel, and graded responsibility, including independent diagnosis and decision-making. (Core)

IV.A.3.c) Programs must be structured so that fellows are involved in molecular genetic pathology throughout the year. The program must include both didactic instruction and practical experience. (Core)

IV.A.3.d) There must be regularly scheduled, inter-departmental molecular genetic pathology conferences, as well as intra-departmental
conferences, lectures, seminars, journal clubs, and other structured educational activities. (Core)

IV.A.3.d).(1) Faculty members and fellows must attend and actively participate in these sessions on a regular basis. (Core)

IV.A.3.e) Instruction should include the use of study sets and files of both usual and unusual cases, as well as other educational materials. (Detail)

IV.A.4. Fellows must regularly participate in interdisciplinary work with genetic counselors, including counselors involved in familial cancer genetic counseling, nurses, and other health care professionals who are involved in the provision of clinical medical genetics services. (Core)

IV.A.5. Fellows must regularly participate in interdisciplinary work in teams with clinical lab staff, pathologists, and clinical care providers. (Core)

IV.B. Fellows’ Scholarly Activities

IV.B.1. Each fellow must participate in scholarly activity, including at least one of the following: (Core)

IV.B.1.a) evidence-based presentations at journal club or meeting (local, regional, or national); (Core)

IV.B.1.b) preparation and submission of articles for peer-reviewed publications; or, (Core)

IV.B.1.c) research. (Core)

V. Evaluation

V.A. Fellow Evaluation

V.A.1. The program director must appoint the Clinical Competency Committee. (Core)

V.A.1.a) At a minimum the Clinical Competency Committee must be composed of three members of the program faculty. (Core)

V.A.1.a).(1) The program director may appoint additional members of the Clinical Competency Committee.

V.A.1.a).(1).(a) These additional members must be physician faculty members from the same program or other programs, or other health professionals who have extensive contact and experience with the program’s fellows in patient care and other health care settings. (Core)
Chief residents who have completed core residency programs in their specialty and are eligible for specialty board certification may be members of the Clinical Competency Committee. (Core)

There must be a written description of the responsibilities of the Clinical Competency Committee. (Core)

The Clinical Competency Committee should:

review all fellow evaluations semi-annually; (Core)

prepare and ensure the reporting of Milestones evaluations of each fellow semi-annually to ACGME; and, (Core)

advise the program director regarding fellow progress, including promotion, remediation, and dismissal. (Detail)

The faculty must evaluate fellow performance in a timely manner. (Core)

Faculty members must evaluate fellow performance at least semi-annually. (Core)

The program must:

provide objective assessments of competence in patient care and procedural skills, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice based on the specialty-specific Milestones; (Core)

use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff); and, (Detail)

provide each fellow with documented semiannual evaluation of performance with feedback. (Core)

The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy. (Detail)

The specialty-specific Milestones must be used as one of the
tools to ensure fellows are able to practice core professional activities without supervision upon completion of the program. (Core)

V.A.3.b) The program director must provide a summative evaluation for each fellow upon completion of the program. (Core)

This evaluation must:

V.A.3.b).(1) become part of the fellow’s permanent record maintained by the institution, and must be accessible for review by the fellow in accordance with institutional policy; (Detail)

V.A.3.b).(2) document the fellow’s performance during their education; and, (Detail)

V.A.3.b).(3) verify that the fellow has demonstrated sufficient competence to enter practice without direct supervision. (Detail)

V.B. Faculty Evaluation

V.B.1. At least annually, the program must evaluate faculty performance as it relates to the educational program. (Core)

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. (Detail)

V.B.3. This evaluation must include at least annual written confidential evaluations by the fellows. (Core)

V.C. Program Evaluation and Improvement

V.C.1. The program director must appoint the Program Evaluation Committee (PEC). (Core)

V.C.1.a) The Program Evaluation Committee:

V.C.1.a).(1) must be composed of at least two program faculty members and should include at least one fellow; (Core)

V.C.1.a).(2) must have a written description of its responsibilities; and, (Core)

V.C.1.a).(3) should participate actively in:

V.C.1.a).(3).(a) planning, developing, implementing, and evaluating educational activities of the program; (Detail)
V.C.1.a).(3).(b) reviewing and making recommendations for revision of competency-based curriculum goals and objectives; (Detail)

V.C.1.a).(3).(c) addressing areas of non-compliance with ACGME standards; and, (Detail)

V.C.1.a).(3).(d) reviewing the program annually using evaluations of faculty, fellows, and others, as specified below. (Detail)

V.C.2. The program, through the PEC, must document formal, systematic evaluation of the curriculum at least annually, and is responsible for rendering a written, annual program evaluation. (Core)

The program must monitor and track each of the following areas:

V.C.2.a) fellow performance; (Core)

V.C.2.b) faculty development; and, (Core)

V.C.2.c) progress on the previous year’s action plan(s). (Core)

V.C.3. The PEC must prepare a written plan of action to document initiatives to improve performance in one or more of the areas listed in section V.C.2., as well as delineate how they will be measured and monitored. (Core)

V.C.3.a) The action plan should be reviewed and approved by the teaching faculty and documented in meeting minutes. (Detail)

V.C.4. At least 60 percent of a program’s graduates from the preceding five years who have taken the ABP certifying examination for molecular genetic pathology must pass on the first attempt. (Outcome)

V.C.4.a) For programs with fewer than five graduates in the preceding five years, three of the five (60 percent) most recent graduates who have taken the ABP certifying examination for molecular genetic pathology must pass on the first attempt. (Outcome)

VI. The Learning and Working Environment

_Fellowship education must occur in the context of a learning and working environment that emphasizes the following principles:_

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

- **Excellence in the safety and quality of care rendered to patients by today’s fellows in their future practice**
• **Excellence in professionalism through faculty modeling of:**
  o the effacement of self-interest in a humanistic environment that supports the professional development of physicians
  o the joy of curiosity, problem-solving, intellectual rigor, and discovery

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

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

#### VI.A.1. Patient Safety and Quality Improvement

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

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

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

#### VI.A.1.a) Patient Safety

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

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

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

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

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

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

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

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

VI.A.1.a).(3).(a) Residents, fellows, faculty members, and other clinical staff members must:

VI.A.1.a).(3).(a).(i) know their responsibilities in reporting patient safety events at the clinical site; (Core)

VI.A.1.a).(3).(a).(ii) know how to report patient safety events, including near misses, at the clinical site; and, (Core)

VI.A.1.a).(3).(a).(iii) be provided with summary information of their institution’s patient safety reports. (Core)

VI.A.1.a).(3).(b) Fellows must participate as team members in real and/or simulated interprofessional clinical patient safety activities, such as root cause analyses or other activities that include analysis, as well as formulation and implementation of actions. (Core)

VI.A.1.a).(4) Fellow Education and Experience in Disclosure of Adverse Events

Patient-centered care requires patients, and when appropriate families, to be apprised of clinical situations that affect them, including adverse events. This is an important skill for faculty physicians to
VI.A.1.a).(4).(a) All fellows must receive training in how to disclose adverse events to patients and families. (Core)

VI.A.1.a).(4).(b) Fellows should have the opportunity to participate in the disclosure of patient safety events, real or simulated. (Detail)

VI.A.1.b) Quality Improvement

VI.A.1.b).(1) Education in Quality Improvement

A cohesive model of health care includes quality-related goals, tools, and techniques that are necessary in order for health care professionals to achieve quality improvement goals.

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

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

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

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

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

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

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

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

VI.A.2. Supervision and Accountability

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

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

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

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

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

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

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

VI.A.2.c) Levels of Supervision

To promote oversight of fellow supervision while providing for graded authority and responsibility, the program must use the following classification of supervision: *(Core)*
VI.A.2.c).(1) Direct Supervision – the supervising physician is physically present with the fellow and patient. (Core)

VI.A.2.c).(2) Indirect Supervision:

VI.A.2.c).(2).(a) 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. (Core)

VI.A.2.c).(2).(b) 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. (Core)

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

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

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

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

VI.A.2.d).(3) Fellows should serve in a supervisory role to residents or junior fellows in recognition of their progress toward independence, based on the needs of each patient and the skills of the individual resident or fellow. (Detail)

VI.A.2.e) Programs must set guidelines for circumstances and events in which fellows must communicate with the supervising faculty member(s). (Core)

VI.A.2.e).(1) Each fellow must know the limits of their scope of authority, and the circumstances under which the fellow is permitted to act with conditional independence. (Outcome)
VI.A.2.f) Faculty supervision assignments must be of sufficient
duration to assess the knowledge and skills of each fellow
and to delegate to the fellow the appropriate level of patient
care authority and responsibility. (Core)

VI.B. Professionalism

VI.B.1. Programs, in partnership with their Sponsoring Institutions, must
educate fellows and faculty members concerning the professional
responsibilities of physicians, including their obligation to be
appropriately rested and fit to provide the care required by their
patients. (Core)

VI.B.2. The learning objectives of the program must:

VI.B.2.a) be accomplished through an appropriate blend of supervised
patient care responsibilities, clinical teaching, and didactic
educational events; (Core)

VI.B.2.b) be accomplished without excessive reliance on fellows to
fulfill non-physician obligations; and, (Core)

VI.B.2.c) ensure manageable patient care responsibilities. (Core)

VI.B.3. The program director, in partnership with the Sponsoring Institution,
must provide a culture of professionalism that supports patient
safety and personal responsibility. (Core)

VI.B.4. Fellows and faculty members must demonstrate an understanding
of their personal role in the:

VI.B.4.a) provision of patient- and family-centered care; (Outcome)

VI.B.4.b) safety and welfare of patients entrusted to their care,
including the ability to report unsafe conditions and adverse
events; (Outcome)

VI.B.4.c) assurance of their fitness for work, including:

VI.B.4.c).(1) management of their time before, during, and after
clinical assignments; and, (Outcome)

VI.B.4.c).(2) recognition of impairment, including from illness,
fatigue, and substance use, in themselves, their peers,
and other members of the health care team. (Outcome)

VI.B.4.d) commitment to lifelong learning; (Outcome)

VI.B.4.e) monitoring of their patient care performance improvement
indicators; and, (Outcome)
VI.B.4.f) accurate reporting of clinical and educational work hours, patient outcomes, and clinical experience data. (Outcome)

VI.B.5. All fellows and faculty members must demonstrate responsiveness to patient needs that supersedes self-interest. This includes the recognition 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. (Outcome)

VI.B.6. Programs must provide a professional, respectful, and civil environment that is free from mistreatment, abuse, or coercion of students, residents/fellows, faculty, and staff. Programs, in partnership with their Sponsoring Institutions, should have a process for education of fellows and faculty regarding unprofessional behavior and a confidential process for reporting, investigating, and addressing such concerns. (Core)

VI.C. Well-Being

In the current health care environment, fellows and faculty members are at increased risk for burnout and depression. Psychological, emotional, and physical well-being are critical in the development of the competent, caring, and resilient physician. Self-care is an important component of professionalism; it is also a skill that must be learned and nurtured in the context of other aspects of fellowship training. Programs, in partnership with their Sponsoring Institutions, have the same responsibility to address well-being as they do to evaluate other aspects of fellow competence.

VI.C.1. This responsibility must include:

VI.C.1.a) efforts to enhance the meaning that each fellow finds in the experience of being a physician, including protecting time with patients, minimizing non-physician obligations, providing administrative support, promoting progressive autonomy and flexibility, and enhancing professional relationships; (Core)

VI.C.1.b) attention to scheduling, work intensity, and work compression that impacts fellow well-being; (Core)

VI.C.1.c) evaluating workplace safety data and addressing the safety of fellows and faculty members; (Core)

VI.C.1.d) policies and programs that encourage optimal fellow and faculty member well-being; and, (Core)

VI.C.1.d).(1) Fellows must be given the opportunity to attend medical, mental health, and dental care appointments, including those scheduled during their working hours. (Core)
VI.C.1.e) attention to fellow and faculty member burnout, depression, and substance abuse. The program, in partnership with its Sponsoring Institution, must educate faculty members and fellows in identification of the symptoms of burnout, depression, and substance abuse, including means to assist those who experience these conditions. Fellows and faculty members must also be educated to recognize those symptoms in themselves and how to seek appropriate care. The program, in partnership with its Sponsoring Institution, must:

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

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

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

VI.C.2. There are circumstances in which fellows may be unable to attend work, including but not limited to fatigue, illness, and family emergencies. Each program must have policies and procedures in place that ensure coverage of patient care in the event that a fellow may be unable to perform their patient care responsibilities. These policies must be implemented without fear of negative consequences for the fellow who is unable to provide the clinical work.

VI.D. Fatigue Mitigation

VI.D.1. Programs must:

VI.D.1.a) educate all faculty members and fellows to recognize the signs of fatigue and sleep deprivation;

VI.D.1.b) educate all faculty members and fellows in alertness management and fatigue mitigation processes; and,

VI.D.1.c) encourage fellows to use fatigue mitigation processes to manage the potential negative effects of fatigue on patient care and learning.

VI.D.2. Each program must ensure continuity of patient care, consistent with the program’s policies and procedures referenced in VI.C.2,
the event that a fellow may be unable to perform their patient care responsibilities due to excessive fatigue. (Core)

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

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

VI.E.1. Clinical Responsibilities

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

VI.E.2. Teamwork

Fellows must care for patients in an environment that maximizes 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 and larger health system. (Core)

VI.E.2.a) Fellows must have regular opportunities to work with genetic counselors, nurses, and other health care professionals who are involved in the provision of clinical medical genetics services. (Core)

VI.E.3. Transitions of Care

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

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

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

VI.E.3.d) Programs and clinical sites must maintain and communicate schedules of attending physicians and fellows currently responsible for care. (Core)

VI.E.3.e) Each program must ensure continuity of patient care, consistent with the program’s policies and procedures referenced in VI.C.2, in the event that a fellow may be unable to perform their patient care responsibilities due to excessive fatigue or illness, or family emergency. (Core)
VI.F. Clinical Experience and Education

Programs, in partnership with their Sponsoring Institutions, must design an effective program structure that is configured to provide fellows with educational and clinical experience opportunities, as well as reasonable opportunities for rest and personal activities.

VI.F.1. Maximum Hours of Clinical and Educational Work per Week

Clinical and educational work hours must be limited to no more than 80 hours per week, averaged over a four-week period, inclusive of all in-house clinical and educational activities, clinical work done from home, and all moonlighting. (Core)

VI.F.2. Mandatory Time Free of Clinical Work and Education

VI.F.2.a) The program must design an effective program structure that is configured to provide fellows with educational opportunities, as well as reasonable opportunities for rest and personal well-being. (Core)

VI.F.2.b) Fellows should have eight hours off between scheduled clinical work and education periods. (Detail)

VI.F.2.b).(1) There may be circumstances when fellows choose to stay to care for their patients or return to the hospital with fewer than eight hours free of clinical experience and education. This must occur within the context of the 80-hour and the one-day-off-in-seven requirements. (Detail)

VI.F.2.c) Fellows must have at least 14 hours free of clinical work and education after 24 hours of in-house call. (Core)

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

VI.F.3. Maximum Clinical Work and Education Period Length

VI.F.3.a) Clinical and educational work periods for fellows must not exceed 24 hours of continuous scheduled clinical assignments. (Core)

VI.F.3.a).(1) Up to four hours of additional time may be used for activities related to patient safety, such as providing effective transitions of care, and/or fellow education. (Core)
VI.F.3.a).(1).(a) Additional patient care responsibilities must not be assigned to a fellow during this time. (Core)

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

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

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

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

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

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

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

The Review Committees for Medical Genetics and Genomics and Pathology will not consider requests for exceptions to the 80-hour limit to the fellows' work week.

VI.F.4.c).(1) In preparing a request for an exception, the program director must follow the clinical and educational work hour exception policy from the ACGME Manual of Policies and Procedures. (Core)

VI.F.4.c).(2) Prior to submitting the request to the Review Committee, the program director must obtain approval from the Sponsoring Institution’s GMEC and DIO. (Core)

VI.F.5. Moonlighting

VI.F.5.a) Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program, and must not interfere with the fellow’s fitness for work nor compromise patient safety. (Core)

VI.F.5.b) Time spent by fellows in internal and external moonlighting (as defined in the ACGME Glossary of Terms) must be counted toward the 80-hour maximum weekly limit. (Core)

VI.F.6. In-House Night Float
Night float must occur within the context of the 80-hour and one-day-off-in-seven requirements. (Core)

VI.F.6.a) Fellows must not be assigned night float duties. (Core)

VI.F.7. Maximum In-House On-Call Frequency

Fellows must be scheduled for in-house call no more frequently than every third night (when averaged over a four-week period). (Core)

VI.F.8. At-Home Call

VI.F.8.a) Time spent on patient care activities by fellows on at-home call must count toward the 80-hour maximum weekly limit. The frequency of at-home call is not subject to the every-third-night limitation, but must satisfy the requirement for one day in seven free of clinical work and education, when averaged over four weeks. (Core)

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

VI.F.8.b) Fellows are permitted to return to the hospital while on at-home call to provide direct care for new or established patients. These hours of inpatient patient care must be included in the 80-hour maximum weekly limit. (Detail)

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*Core Requirements:* Statements that define structure, resource, or process elements essential to every graduate medical educational program.

*Detail Requirements:* Statements that describe a specific structure, resource, or process, for achieving compliance with a Core Requirement. Programs and sponsoring institutions in substantial compliance with the Outcome Requirements may utilize alternative or innovative approaches to meet Core Requirements.

*Outcome Requirements:* Statements that specify expected measurable or observable attributes (knowledge, abilities, skills, or attitudes) of residents or fellows at key stages of their graduate medical education.

**Osteopathic Recognition**

For programs seeking Osteopathic Recognition for the entire program, or for a track within the program, the Osteopathic Recognition Requirements are also applicable.

(http://www.acgme.org/Portals/0/PFAssets/ProgramRequirements/Osteopathic_Recognition_Requirements.pdf)