

ACGME Program Requirements for Graduate Medical Education in the Subspecialties of Pediatrics

Common Program Requirements are in BOLD

Effective: July 1, 2007

Introduction

In addition to complying with the requirements in this document, each program must comply with the program requirements for the respective subspecialty, which may exceed the minimum requirements set forth here.

An accredited pediatric subspecialty program must exist in conjunction with and be an integral part of a core pediatric residency program accredited by the Accreditation Council for Graduate Medical Education (ACGME). The fellows and faculty must interact with the residents in the core pediatrics residency program. Lines of responsibility for the pediatric residents and the fellows must be clearly defined. The presence of a subspecialty program should not adversely affect the education of pediatric residents.

This document includes the ACGME Common Program Requirements which incorporate the competencies into fellowship training. Core and subspecialty program directors should work together to achieve this goal. Close coordination among core and subspecialty program directors will foster consistent expectations in regard to fellows' achievement of competencies, and for faculty with regard to evaluation processes.

A. Duration of Educational Experience

Unless specified otherwise in the program requirements, pediatric subspecialty programs must provide three years of training.

B. Scope of Educational Experience

1. Each subspecialty program must be organized and conducted in a way that ensures an appropriate environment for the well-being and care of the patients, and provides adequate training for fellows in the diagnosis and management of those subspecialty patients. This must include progressive clinical, technical, and consultative experiences that will enable the fellow to develop expertise as a consultant in the subspecialty.
2. Fellows in the subspecialty program must develop a commitment to lifelong learning, and the program must emphasize scholarship, self-instruction, development of critical analysis of clinical problems, and the ability to make appropriate decisions. Progressive

acquisition of skill in investigative efforts related to the subspecialty is essential.

3. The program must provide fellows with instruction and opportunities to interact effectively with patients, patients' families, professional associates, and others in carrying out their responsibilities as physicians in the specialty. Fellows must learn to create and sustain a therapeutic relationship with patients, and how to work effectively as members or leaders of patient care teams or other groups in which they participate as a researcher, educator, health advocate, or manager.

I. Institutions

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.

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.

1. The pediatric subspecialty program must be sponsored by the same institution that sponsors the related core pediatrics program.
2. Each subspecialty program will be evaluated by the Review Committee at regular intervals, in conjunction with a review of the related core pediatrics program when possible.

B. Participating Sites

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:

- a) **identify the faculty who will assume both educational and supervisory responsibilities for fellows;**
- b) **specify their responsibilities for teaching, supervision, and formal evaluation of fellows, as specified later in**

this document;

- c) specify the duration and content of the educational experience; and,**
- d) state the policies and procedures that will govern fellow education during the assignment.**

- 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).**
- 3. Copies of these written arrangements, specifying administrative, organizational, and educational relationships, must accompany an application for initial accreditation. At subsequent reviews, these documents need not be submitted, but must be available for review by the site-visitor.
- 4. An accredited program may occur in one or more sites. The Review Committee must approve any site providing six months or more of the inpatient and/or outpatient training

II. Program Personnel and Resources

A. Program Director

- 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.**
- 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.**
- 3. Qualifications of the program director must include:**
 - a) requisite specialty expertise and documented educational and administrative experience acceptable to the Review Committee;**
 - b) current certification in the specialty by the American**

Board of Pediatrics, or specialty qualifications that are acceptable to the Review Committee; and,

- (1) Qualifications other than subspecialty certification by the American Board of Pediatrics will be considered only in exceptional circumstances. Qualifications would include subspecialty training in the subspecialty area, active participation in national societies, evidence of on-going scholarship documented by contributions to the peer-reviewed literature in the subspecialty, and presentations at national meetings in the subspecialty.
 - c) current medical licensure and appropriate medical staff appointment.**
 - d) The program director should have a record of ongoing involvement in scholarly activities, including peer review publications, and mentoring (i.e., guiding fellows in the acquisition of competence in the clinical, teaching, research and advocacy skills pertinent to the discipline).
- 4. The program director must administer and maintain an educational environment conducive to educating the fellows in each of the ACGME competency areas. The program director must:**
- a) oversee and ensure the quality of didactic and clinical education in all sites that participate in the program;**
 - b) approve a local director at each participating site who is accountable for fellow education;**
 - c) approve the selection of program faculty as appropriate;**
 - d) evaluate program faculty and approve the continued participation of program faculty based on evaluation;**
 - e) monitor fellow supervision at all participating sites;**
 - f) prepare and submit all information required and requested by the ACGME, including but not limited to the program information forms and annual program fellow updates to the ADS, and ensure that the information submitted is accurate and complete;**

- g) provide each fellow with documented semiannual evaluation of performance with feedback;**
- h) ensure compliance with grievance and due process procedures as set forth in the Institutional Requirements and implemented by the sponsoring institution;**
- i) provide verification of fellowship education for all fellows, including those who leave the program prior to completion;**
- j) implement policies and procedures consistent with the institutional and program requirements for fellow duty hours and the working environment, including moonlighting, and, to that end, must:
 - (1) distribute these policies and procedures to the fellows and faculty;**
 - (2) monitor fellow duty hours, according to sponsoring institutional policies, with a frequency sufficient to ensure compliance with ACGME requirements;**
 - (3) adjust schedules as necessary to mitigate excessive service demands and/or fatigue; and,**
 - (4) if applicable, monitor the demands of at-home call and adjust schedules as necessary to mitigate excessive service demands and/or fatigue.****
- k) monitor the need for and ensure the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged;**
- l) comply with the sponsoring institution's written policies and procedures, including those specified in the Institutional Requirements, for selection, evaluation and promotion of fellows, disciplinary action, and supervision of fellows;**
- m) be familiar with and comply with ACGME and Review Committee policies and procedures as outlined in the ACGME Manual of Policies and Procedures;**
- n) obtain review and approval of the sponsoring**

institution's GMEC/DIO before submitting to the ACGME information or requests for the following:

- (1) all applications for ACGME accreditation of new programs;**
 - (2) changes in fellow complement;**
 - (3) major changes in program structure or length of training;**
 - (4) progress reports requested by the Review Committee;**
 - (5) responses to all proposed adverse actions;**
 - (6) requests for increases or any change to fellow duty hours;**
 - (7) voluntary withdrawals of ACGME-accredited programs;**
 - (8) requests for appeal of an adverse action;**
 - (9) appeal presentations to a Board of Appeal or the ACGME; and,**
 - (10) proposals to ACGME for approval of innovative educational approaches.**
- 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:**
- (1) program citations, and/or**
 - (2) request for changes in the program that would have significant impact, including financial, on the program or institution.**
- p) ensure that the fellows are mentored in their development of clinical, educational, and administrative skills;**
- q) be responsible for the creation of a core curriculum in scholarly activities, the identification of a mentor, and the identification and monitoring of a scholarship oversight**

committee responsible for overseeing and assessing the progress of each fellow. Where appropriate, the core curriculum in scholarly activities should be a collaborative effort involving all of the pediatric subspecialty programs in the institution;

- r) ensure that explicit written guidelines identify that appropriate back-up exists. Such guidelines must be communicated to all members of the program staff. Fellows must be provided with prompt, reliable systems for communication and interaction with supervisory physicians;
- s) monitor and document the procedural skills of the fellows; and,
- t) have documentation of meetings that describe ongoing interaction among pediatric subspecialty and core program directors. These must take place at least semi-annually. These meetings should address a departmental approach to common educational issues and concerns (e.g., core curriculum, competencies, and evaluation).

B. Faculty

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

The faculty must:

- 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 fellows, and**
- b) administer and maintain an educational environment conducive to educating fellows in each of the ACGME competency areas.**

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

- a) Acceptable qualifications for the required key subspecialty faculty include:
 - (1) certification, if eligible, by the American Board of

Pediatrics (ABP) or other appropriate board of the American Board of Medical Specialties (ABMS), or

- (2) if trained elsewhere and not eligible for certification, documented subspecialty training and peer-reviewed publications in the field with evidence of active participation in applicable local and national professional societies.
 - b) When assessing the adequacy of the number of faculty, the total number of fellows will be considered.
 - c) In addition to the subspecialty program director, there must be at least one other member of the teaching staff qualified in the subspecialty. In some of the subspecialties, two or more additional subspecialists are required. Specific details are included in the related specialty-specific section of the requirements.
 - d) If the program is conducted at more than one institution, a member of the teaching staff of each participating site must be designated to assume responsibility for the day-to-day activities of the program at that site, with overall coordination by the program director
 - e) Appropriate teaching and consultant faculty in the full range of pediatric subspecialties and in other related disciplines also must be available. An anesthesiologist, pathologist, and a radiologist who have substantial experience with pediatric problems and who interact with the fellows are essential. The other related disciplines should include medical genetics, child neurology, child and adolescent psychiatry, as well as pediatric surgery and surgical subspecialties, as appropriate to the subspecialty.
- 3. The physician faculty must possess current medical licensure and appropriate medical staff appointment.**
 - 4. The nonphysician faculty must have appropriate qualifications in their field and hold appropriate institutional appointments.**
 - 5. The faculty must establish and maintain an environment of inquiry and scholarship with an active research component.**

- a) **The faculty must regularly participate in organized clinical discussions, rounds, journal clubs, and conferences.**
- b) **Some members of the faculty should also demonstrate scholarship by one or more of the following:**
 - (1) **peer-reviewed funding;**
 - (2) **publication of original research or review articles in peer-reviewed journals, or chapters in textbooks;**
 - (3) **publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,**
 - (4) **participation in national committees or educational organizations.**
- c) **Faculty should encourage and support fellows in scholarly activities.**
- d) Research may be in a variety of fields related to the subspecialty (e.g., basic science, clinical, health services, health policy, or educational research). This should include the mentoring of fellows as they apply scientific principles, epidemiology, biostatistics, and evidence-based medicine to the clinical care of patients;
- e) To provide an appropriate environment for the fellows, the fellowship faculty must have a program of ongoing scholarship characterized by peer reviewed funding and publications. The teaching faculty must play a substantial role in conceiving and writing the funding application(s), conducting the project, collecting and analyzing data, and publishing results. A scholarly environment outside of the training program can supplement but not replace the scholarly environment within the training program;
- f) Although an individual faculty member may not be accomplished in all four areas of scholarship, the program faculty must exhibit all four. In particular, a program must provide evidence of an ongoing commitment to, and productivity in, the scholarship of discovery in the relevant pediatric subspecialty area. Recent productivity by the

program faculty and by the fellows will be assessed at the time of each review of the program. Activity in the following is required as evidence of the commitment to scholarship: projects with peer review for funding, and publications of original research and/or critical meta-analyses, systematic reviews of clinical practice, critical analyses of public policy, or curricular development projects in peer-reviewed journals.

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.

1. The professional personnel should include nutritionists, social workers, respiratory therapists, pharmacists, subspecialty nurses, physical and occupational therapists, child life therapists, and speech therapists with pediatric focus and experience, as appropriate to the subspecialty.

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.

1. Adequate inpatient and outpatient facilities, as specified in the requirements for each subspecialty, must be available. These must be of sufficient size and be appropriately staffed and equipped to meet the educational needs of the subspecialty program.
2. Support services must include the clinical laboratories, intensive care, nutrition, occupational and physical therapy, pathology, pharmacology, mental health, diagnostic imaging, respiratory therapy, and social services.
3. Patients should range in age from newborn through young adulthood, as appropriate. Adequate numbers of pediatric subspecialty inpatients and outpatients, both new and follow up, must be available to provide a broad experience for the fellows. The program must maintain an appropriate balance among the number and variety of patients, the number of preceptors, and the number of fellows in the program. Occasionally programs may use defined clinical experiences at participating sites to supplement the clinical experience and patient population at the primary clinical site. Where that is the case, the program director must submit

detailed information to demonstrate that the clinical exposure to the population(s) in question is sufficiently consistent to provide each fellow with an adequate experience during the limited time at the affiliated site(s); e.g., if a fellow is spending two months at an affiliated site to meet required exposure to patients with congenital heart disease, annual data regarding numbers and types of patients in this category must be provided.

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.

III. Fellow Appointments

A. Eligibility Criteria

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

1. Prerequisite training for entry into a pediatric subspecialty program should include the satisfactory completion of an ACGME-accredited pediatric residency or other training suitable to the program director. N.B.: Candidates who do not meet this criterion must be advised in writing by the program director to consult the American Board of Pediatrics or other appropriate board regarding their eligibility for subspecialty certification.

B. Number of Fellows

The program director may not appoint more fellows 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 fellows appointed to the program.

1. Programs planning to implement a modest increase in fellow complement between formal reviews should follow the directions provided on the Pediatrics home page of the ACGME website.

C. Fellow Transfers

1. **Before accepting a fellow 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 fellow.

2. A program director must provide timely verification of fellowship education and summative performance evaluations for fellows who leave the program prior to completion.

D. Appointment of Fellows and Other Learners

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

IV. Educational Program

A. The curriculum must contain the following educational components:

1. Overall educational goals for the program, which the program must distribute to fellows and faculty annually;
2. Competency-based goals and objectives for each assignment at each educational level, which the program must distribute to fellows and faculty annually, in either written or electronic form. These should be reviewed by the fellow at the start of each rotation;
3. Regularly scheduled didactic sessions;
4. Delineation of fellow responsibilities for patient care, progressive responsibility for patient management, and supervision of fellows over the continuum of the program; and,
5. **ACGME Competencies**

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

a) Patient Care

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. Fellows:

- (1) must have supervised training to acquire the necessary clinical skills used in the subspecialty. These skills include development of expertise in the ability to perform a history and physical examination, make diagnostic and therapeutic decisions, develop and carry out management plans, counsel patients and families, and use information technology to optimize patient care, and
- (2) must have supervised experience performing and interpreting the results of laboratory tests and diagnostic procedures for use in patient care. Instruction and experience must be sufficient for the fellow to acquire the necessary procedural skills and develop an understanding of their indications, risks, and limitations. Each fellow's experience in such procedures must be documented by the program director and such documentation must be available for review.

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:

- (1) must have a working understanding of biostatistics, clinical and laboratory research methodology, study design, preparation of applications for funding and/or approval of clinical research protocols, critical literature review, principles of evidence-based medicine, ethical principles involving clinical research, and the achievement of proficiency in teaching for all subspecialty fellows. The curriculum should lead to an understanding of the principles of adult learning, and provide skills to participate effectively in curriculum development, delivery of information, provision of feedback to learners, and assessment of educational outcomes. Graduates should be effective in teaching both individuals and groups of learners in clinical settings, classrooms, lectures, and seminars, and also by electronic and print modalities;

- (2) must have a formally-structured educational program in the clinical and basic sciences related to the subspecialty that utilizes lectures, seminars, and practical experience. Subspecialty conferences must be regularly scheduled, and should involve active participation by the fellows in the planning and implementation of these meetings;
- (3) should have an education in basic and fundamental disciplines related to each subspecialty, as appropriate, such as anatomy, physiology, biochemistry, embryology, pathology, microbiology, pharmacology, immunology, genetics, and nutrition/metabolism; and,
- (4) should have instruction that includes pathophysiology of disease, reviews of recent advances in clinical medicine and biomedical research, conferences dealing with complications and death, and instruction in the scientific, ethical, and legal implications of confidentiality and of informed consent.

c) Practice-based Learning and Improvement

Fellows 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. Fellows are expected to develop skills and habits to be able to meet the following goals:

- (1) identify strengths, deficiencies, and limits in one's knowledge and expertise;**
- (2) set learning and improvement goals;**
- (3) identify and perform appropriate learning activities;**
- (4) systematically analyze practice using quality improvement methods, and implement changes with the goal of practice improvement;**
 - (a) Fellows are expected to participate in a quality improvement project.

- (5) **incorporate formative evaluation feedback into daily practice;**
- (6) **locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems;**
- (7) **use information technology to optimize learning;**
- (8) **participate in the education of patients, families, students, fellows and other health professionals.**
- (9) self-evaluate performance and incorporate assessments provided by faculty, peer and patients in the development of his or her individual learning plan; and,
- (10) assume some departmental administrative responsibilities. The program should also provide fellows with instruction in curriculum design, information delivery in clinical settings and classrooms, provision of feedback to learners, assessment of educational outcomes, and the development of teaching materials.

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. Fellows are expected to:

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

- (5) **maintain comprehensive, timely, and legible medical records, if applicable.**

e) Professionalism

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

- (1) **compassion, integrity, and respect for others;**
- (2) **responsiveness to patient needs that supersedes self-interest;**
- (3) **respect for patient privacy and autonomy;**
- (4) **accountability to patients, society and the profession; and,**
- (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.**
- (6) **professionalism throughout training. Bioethics must be addressed in the formal curriculum, including attention to physician-patient, physician-family, physician-physician/allied health professional, and physician-society relationships.**

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. Fellows are expected to:

- (1) **work effectively in various health care delivery settings and systems relevant to their clinical specialty;**
- (2) **coordinate patient care within the health care system relevant to their clinical specialty;**

- (3) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;**
- (4) advocate for quality patient care and optimal patient care systems;**
- (5) work in interprofessional teams to enhance patient safety and improve patient care quality; and,**
- (6) participate in identifying system errors and implementing potential systems solutions.**
- (7) have instruction in such topics as the economics of health care and current health care management issues, such as cost-effective patient care, practice management, preventive care, quality improvement, resource allocation, and clinical outcomes. Programs must provide didactics and experience in the prevention of medical errors, and
- (8) have instruction in the following areas of administration:
 - (a) an awareness of regional and national access to care, resources, workforce, and financing appropriate to their specialty through guided reading and discussion, and
 - (b) organization and management of a subspecialty service within one's own delivery system by engaging fellows as active participants in discussions (e.g., through already scheduled division activities/meetings) that involve:
 - (i) staffing a service or unit, including managing personnel and making and adhering to a schedule;
 - (ii) drafting policies and procedures, leading interdisciplinary meetings and conferences, providing in-service teaching sessions;

- (iii) discussions/proposals for hospital and community resources including clinical, laboratory and research space, equipment and technology necessary for the program to provide state-of-the-art care while advancing knowledge in the field;
- (iv) business planning and practice management that includes billing and coding, personnel management policies and professional liability;
- (v) division or program development, organization, and maintenance; and,
- (vi) necessary collaborations within (e.g., pathology, radiology, surgery) and beyond the institution (e.g., participation in national specialty societies, cooperative care groups, multi-center research collaboratives) as appropriate to their specialty.

B. Fellows' Scholarly Activities

- 1. The curriculum must advance fellows' knowledge of the basic principles of research, including how research is conducted, evaluated, explained to patients, and applied to patient care.**
- 2. Fellows should participate in scholarly activity.**
 - a) Each fellow must design and conduct a scholarly project in his or her subspecialty area with the guidance of the fellowship director and a designated mentor. The program must provide a scholarship oversight committee for each fellow to evaluate the fellow's progress as related to scholarly activity. The scholarly experience must begin in the first year and continue for the entire period of training. Time must be adequate to allow for the development of requisite skills, project completion, and presentation of results to a local scholarship oversight committee established for this review. Where applicable, the process of establishing fellow scholarship oversight committees should be a collaborative effort involving other pediatric subspecialty programs in the institution.

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

V. Evaluation

A. Fellow Evaluation

1. Formative Evaluation

- a) **The faculty must evaluate fellow performance in a timely manner during each rotation or similar educational assignment, and document this evaluation at completion of the assignment.**
- b) **The program must:**
 - (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;**
 - (2) **use multiple evaluators (e.g., faculty, peers, patients, self, and other professional staff);**
 - (3) **document progressive fellow performance improvement appropriate to educational level; and,**
 - (4) **provide each fellow with documented semiannual evaluation of performance with feedback.**
- c) **The evaluations of fellow performance must be accessible for review by the fellow, in accordance with institutional policy.**

2. Summative Evaluation

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

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

B. Faculty Evaluation

1. At least annually, the program must evaluate faculty performance as it relates to the educational program.
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.
3. This evaluation must include at least annual written confidential evaluations by the fellows.
4. Faculty should receive formal feedback from these evaluations.

C. Program Evaluation and Improvement

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:
 - a) fellow performance;
 - b) faculty development;
 - c) graduate performance, including performance of program graduates on the certification examination; and,
 - d) program quality. Specifically:
 - (1) Fellows and faculty must have the opportunity to evaluate the program confidentially and in writing at least annually, and
 - (2) The program must use the results of fellows' assessments of the program together with other program evaluation results to improve the program.

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.**
3. A program will be judged deficient if, over a six year period, fewer than 75% of fellows eligible for the certifying examination take it and of those who take it, fewer than 75% pass it on the first attempt. The Review Committee will take into consideration noticeable improvements or declines during this same period. An exception may be made for programs with small numbers of fellows. A subspecialty program director will be expected to provide the requested information at the time of each review.
4. The same evaluation mechanisms used in the related pediatrics residency program must be adapted for and implemented in all of the pediatric subspecialty programs that function with it. In order to maintain the confidentiality of responses from fellows in small programs, evaluations of faculty may be consolidated with the core faculty evaluations.

VI. Fellow Duty Hours in the Learning and Working Environment

A. Principles

1. **The program must be committed to and be responsible for promoting patient safety and fellow well-being and to providing a supportive educational environment.**
2. **The learning objectives of the program must not be compromised by excessive reliance on fellows to fulfill service obligations.**
3. **Didactic and clinical education must have priority in the allotment of fellows' time and energy.**
4. **Duty hour assignments must recognize that faculty and fellows collectively have responsibility for the safety and welfare of patients.**

B. Supervision of Fellows

The program must ensure that qualified faculty provide appropriate supervision of fellows in patient care activities.

C. Fatigue

Faculty and fellows must be educated to recognize the signs of fatigue and sleep deprivation and must adopt and apply policies to prevent and counteract its potential negative effects on patient care and learning.

D. Duty Hours (the terms in this section are defined in the ACGME Glossary and apply to all programs)

Duty hours are defined as all clinical and academic activities related to the program; i.e., patient care (both inpatient and outpatient), administrative duties relative to patient care, the provision for transfer of patient care, time spent in-house during call activities, and scheduled activities, such as conferences. Duty hours do *not* include reading and preparation time spent away from the duty site.

- 1. Duty hours must be limited to 80 hours per week, averaged over a four-week period, inclusive of all in-house call activities.**
- 2. Fellows must be provided with one day in seven free from all educational and clinical responsibilities, averaged over a four-week period, inclusive of call.**
- 3. Adequate time for rest and personal activities must be provided. This should consist of a 10-hour time period provided between all daily duty periods and after in-house call.**
 - a) The Review Committee will not consider requests for a rest period that is less than 10 hours.

E. On-call Activities

- 1. In-house call must occur no more frequently than every third night, averaged over a four-week period.**
- 2. Continuous on-site duty, including in-house call, must not exceed 24 consecutive hours. Fellows may remain on duty for up to six additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.**
 - a) Post-call fellows may not attend any outpatient clinics other than continuity clinics.

3. No new patients may be accepted after 24 hours of continuous duty.

- a) A new patient is defined as any patient for whom the fellow has not provided care during the previous 24 hour period or who is not a part of the fellow's continuity panel or the panel of the fellow's continuity team, if such exists.

4. At-home call (or pager call)

- a) **The frequency of at-home call is not subject to the every-third-night, or 24+6 limitation. However at-home call must not be so frequent as to preclude rest and reasonable personal time for each fellow.**
- b) **Fellows taking at-home call must be provided with one day in seven completely free from all educational and clinical responsibilities, averaged over a four-week period.**
- c) **When fellows are called into the hospital from home, the hours fellows spend in-house are counted toward the 80-hour limit.**
- d) When evaluating the acceptability of a program's schedule for at-home call, the Review Committee will take into consideration the number and frequency of calls taken by the fellows, the number of consecutive nights fellows have such call, and include the number of times the fellow comes into the hospital.

F. Moonlighting

1. **Moonlighting must not interfere with the ability of the fellow to achieve the goals and objectives of the educational program.**
2. **Internal moonlighting must be considered part of the 80-hour weekly limit on duty hours.**

G. Duty Hours 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.

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.**
2. **Prior to submitting the request to the Review Committee, the program director must obtain approval of the institution's GMEC and DIO.**
3. The Review Committee for Pediatrics will not consider requests for exceptions to the 80 hour limit to a fellow's work week.

VII. Experimentation and Innovation

Requests for experimentation or 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 Experimentation or 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 fellows for the duration of such a project.

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Program Requirements for Fellowship Education in Pediatric Transplant Hepatology

For Sections I. through VII, see General Program Requirements for Fellowship Education in the Subspecialties of Pediatrics.

Introduction

A subspecialty educational program in Pediatric Transplant Hepatology must function as an integral component of an accredited subspecialty fellowship in pediatric gastroenterology and be organized to provide training and experience for fellows to acquire the competencies of a pediatric transplant hepatologist.

A. Scope of Educational Experience

The pediatric transplant hepatology training program must be 1 year in duration. Fellows entering the program should have completed a 3-year ACGME-accredited program in pediatric gastroenterology

The program must include clinical experiences and should offer protected time for research.

VIII. Program Personnel and Resources

A. Faculty

1. Pediatric Transplant Hepatologists

The program must have at least two full-time faculty members certified in Pediatric Transplant Hepatology or possess qualifications judged to be appropriate by the RRC. Each faculty member must:

- a) be a pediatric hepatologist with expertise in childhood liver diseases and pediatric liver transplantation;
- b) have ongoing direct patient care responsibilities; and
- c) have productivity in clinical or basic science research related to liver disease or transplantation.

2. Other Physician and Consultative Faculty

- a) Consultant and collaborative faculty in the related pediatric disciplines, as stated in section III.B.1, must be available to the program. In addition, the following physician faculty from

other disciplines must also be available: pediatric surgery, child psychiatry or pediatric developmental-behavioral medicine, pediatric radiology and a pathologist with experience in interpretation of liver and transplant histology.

- b) The program must provide co-management responsibility with transplant surgeons from the initial evaluation through the pre-transplant phase, surgery, recovery, and follow-up care.

B. Other Program Personnel

The professional staff must include social workers, nutritionists, clinical nurse coordinators, child life therapists and a pharmacist.

C. Resources

In addition to the facilities and resources outlined in section II.D, each of the following must be present at the primary clinical site:

1. Liver Transplant Program

The transplant program must be United Network of Organ Sharing (UNOS) approved.

2. Patient Population

- a) For programs with one fellow, the transplant program must perform at least 10 pediatric (< age 18 years) liver transplants per year, or an average of 10 per year over the previous three year period. For programs with a complement of two or more fellows, the program must document an average of 10 transplants per year for each fellow in training.

- b) The program should also have a minimum of 20 active surviving patients in long-term follow-up (> 1 year) who are actively managed by the transplant team.

3. The program must have interventional radiology services with staff experienced in the performance and interpretation of the invasive procedures required in liver transplant candidates and recipients.

4. The program must utilize a multidisciplinary team to address donor and recipient selection and evaluation.

IX. Educational Program

A. Patient Care

1. The program must provide training in all the phases of transplant care including evaluation and indications, pre-transplant management, peri-operative care, immediate post-operative critical care and the specifics of short-term and long-term post-transplant medical management.
2. The training must consist of a minimum of 6 months on the clinical inpatient liver service. The remaining months should consist of other hepatology or transplant related experience, including involvement in liver transplantation research. There must be 12 months of weekly transplant clinic to provide continuity care to patients with liver failure or post-operative transplant patients.
3. The fellow must be involved in direct patient care and supervise the evaluation and management of patients and in-patient consults. Specific responsibilities include teaching and supervising liver biopsies, diagnostic and therapeutic endoscopy and paracentesis; managing post-transplant immunosuppression; and leading daily rounds with the Liver Transplant Team.
4. The training program should include experience with and instruction on interpretation of liver transplant biopsy specimens with an experienced liver transplant pathologist.
5. The liver transplant program must provide training in the care of patients that receive technical variant grafts such as living donor grafts.
6. The fellow must have formal instruction and clinical experience, and demonstrate competence in the:
 - a) Management of children with chronic cholestasis, cirrhosis, and end-stage liver disease;
 - b) Management of acute liver failure including critical care management;
 - c) Diagnosis and management of Metabolic Liver Disease;
 - d) Diagnosis and management of viral hepatitis

- e) Diagnosis and management of autoimmune hepatitis and Sclerosing Cholangitis
- f) Diagnosis and management of drug hepatotoxicities;
- g) Understand the impact of chronic liver disease on growth and development in children;
- h) Nutritional support of patients with chronic liver disease;
- i) Knowledge of indications and strategies for liver transplantation;
- j) Recognition of absolute and relative contraindications for liver transplantation;
- k) Psychosocial evaluation of candidates and recipients and their families;
- l) Primary evaluation, presentation and discussion of potential liver transplant candidates for consideration by a multi-disciplinary board;
- m) Ethical considerations relating to liver transplant donors, including questions related to living donors, donation after cardiac death, criteria for brain death, and appropriate recipients;
- n) Evaluation of indications for emergent re-operation or re-transplantation;
- o) Prevention and management of opportunistic infection in the transplant recipient including cytomegalovirus, adenovirus, fungal infection, and the spectrum of Epstein-Barr virus related disease including post transplant lymphoproliferative disease (PTLD);
- p) Prevention and management of recurrent viral hepatitis in the allograft;
- q) Development of a knowledge base in transplant immunology, including blood group matching, histocompatibility and tissue typing;
- r) Recognition, evaluation, diagnosis and treatment of acute and chronic allograft rejection;

- s) Recognition and intervention for complications of immunosuppressive therapy;
- t) Recognition, evaluation and management of long-term complications of liver transplantation.

7. In addition to the above, fellows must demonstrate:

- a) Knowledge of the indications, contraindications, complications and interpretation of allograft biopsies and perform at least 15 percutaneous liver biopsies during training. In institutions where liver biopsies are performed only by Interventional Radiology, arrangements should be made for fellows to work with the radiologists in order to perform the required number of biopsies under the direction of the radiologist. In addition, the fellow should be familiar with the appropriate indications for ultrasound guided biopsies;
- b) An understanding of the organizational principles of a multi-disciplinary transplant program, including the training and responsibilities of nurse coordinators, procurement coordinators and other support staff;
- c) Knowledge of the current UNOS organ allocation policies and the history of the evolution of the process;
- d) The ability to learn the principles of donor selection and management (e.g., hemodynamic management, indications for donor biopsy and donor factors that increase the risk of poor graft function) through observation of at least three deceased donor liver procurements. The trainee will evaluate LRD candidates and observe/participate in LRD donor/recipient procedures;
- e) Knowledge of the different methods of vascular and biliary reconstruction, the outcomes of prolonged warm and cold ischemia times, as well as familiarity with the risks and associated complications of the different operative phases including the anhepatic phase and reperfusion by observing at least three liver transplant procedures.

B. Medical Knowledge

1. The fellow must acquire a current working knowledge of liver transplantation including the management of pediatric patients with end-stage liver disease and management of major complications, such as nutritional complications of cholestasis and chronic liver disease, upper gastrointestinal hemorrhage, refractory ascites, hepatorenal syndrome, and hepatic encephalopathy.
2. The program must provide formal didactic instruction in the pathogenesis, manifestations, and complications of chronic liver disease, end-stage liver disease and hepatic transplantation, including the behavioral adjustments of patients to their problems. The impact of various modes of therapy and the appropriate use of laboratory tests and procedures should be stressed.
3. In addition to formal instruction in the areas outlined above, specific content areas that must be included in the formal education (lectures, conferences, seminars, and journal clubs) include the following:
 - a) Anatomy, physiology, pharmacology, pathology, and molecular virology related to the liver and biliary tract;
 - b) The natural history of chronic liver disease;
 - c) Factors involved in nutrition and malnutrition and its management;
 - d) Prudent cost-effective and judicious use of special instruments, tests, and therapy in the diagnosis and management of liver disorders;
 - e) Clinical research issues and transplant hepatology.
4. Strategies for teaching should include fellow participation in a variety of didactic and interactive conferences and seminars offered within the division and the institution, including but not limited to:
 - a) Liver Transplant Multidisciplinary Conference
 - b) Pathology Conference
 - c) Morbidity and Mortality Conference
 - d) Physiology/Pathophysiology Conference

- e) Journal Club
- f) Research Forum
- g) Pediatric Radiology Conference

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