ACGME International

Advanced Specialty Program Requirements for Graduate Medical Education in Pediatric Surgery (Integrated)

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Int. Introduction

Background and Intent: Programs must achieve and maintain Foundational Accreditation according to the ACGME-I Foundational Requirements prior to receiving Advanced Specialty Accreditation. The Advanced Specialty Requirements noted below complement the ACGME-I Foundational Requirements. For each section, the Advanced Specialty Requirements should be considered together with the Foundational Requirements.

Int.I. Definition and Scope of the Specialty

Pediatric surgery is the subspecialty of surgery that comprises the provision of diagnostic, operative, and peri-operative care to pediatric surgical patients. The practice of pediatric surgery is focused on infancy and childhood, but includes the fetus, adolescent, and young adult with special health care needs arising from congenital and acquired pediatric surgical conditions.

Int.II. Duration of Education

Int.II.A. The educational program in pediatric surgery (integrated) must be 72 or 84 months in length.

I. Institution

I.A. Sponsoring Institution

I.A.1. The institution sponsoring an accredited program in pediatric surgery (integrated) must also sponsor an ACGME-I-accredited residency in surgery.

I.A.2. Pediatric surgery programs must be offered at sites classified as general hospitals or children’s hospitals.

I.A.2.a) These sites must include facilities and staff members providing a variety of services, including:

I.A.2.a).(1) adequate inpatient surgical admissions;

I.A.2.a).(2) intensive care units for neonates, infants, and older children; and,

I.A.2.a).(3) departments of emergency medicine, pathology, and radiology in which the care of neonates, infants, and children can be managed 24 hours a day.

I.A.3. The educational program must not negatively impact the education of residents in the affiliated general surgery residency program.

I.A.4. Residents from an ACGME-I-accredited pediatrics residency must rotate through the same participating site(s) as the fellows.

I.A.5. Residents must have experience working in interprofessional teams that include pediatric medicine residents at either the primary clinical site or at a participating site.

I.A.6. During the educational program, surgical teams should be made up of attending surgeons, residents and fellows at various educational levels, medical students (when appropriate), and other health care practitioners.

I.B. Participating Sites

I.B.1. Participating sites must be in close geographic proximity or provide for teleconferencing to ensure all residents are able to participate in joint conferences, grand rounds, basic science and clinical conference lectures, journal club, and ongoing quality improvement and patient safety reviews, such as morbidity and mortality reviews.

II. Program Personnel and Resources

II.A. Program Director

II.A.1. The length of the program director's appointment must be at least three years.

II.B. Faculty

II.B.1. Faculty members' appointments must be of a sufficient length to ensure continuity in the supervision and education of residents.

II.B.2. The faculty must include:

II.B.2.a) pediatric surgeons as core faculty members; and,

II.B.2.b) a faculty member with significant experience in pediatric urology.

II.B.3. To contribute to resident education in the care of critically ill children, the faculty must include specialists in:

II.B.3.a) neonatal-perinatal medicine; and,

II.B.3.b) either pediatric critical care or pediatric surgery and critical care.

II.B.4. The faculty should include faculty members from plastic surgery and neurological surgery.

II.B.5. The faculty should include the following specialists with substantial experience in treating pediatric patients:

II.B.5.a) anesthesiologist(s);

II.B.5.b) emergency medicine physician(s);

II.B.5.c) orthopaedic surgeon(s);

II.B.5.d) otolaryngologist(s);

II.B.5.e) pathologist(s); and,

II.B.5.f) radiologist(s).

II.B.6. Faculty members must participate in annual faculty development activities in evaluation and teaching.

II.C. Other Program Personnel

See International Foundational Requirements, Section II.C.

II.D. Resources

II.D.1. The pediatric surgical service must document a sufficient breadth and volume of procedures such that fellows will be able to meet the defined procedural requirements.

II.D.1.a) There must be a total of at least 800 procedures performed on pediatric patients collectively at the program's approved participating sites annually.

III. Resident Appointment

III.A. Eligibility Criteria

See International Foundational Requirements, Section III.A.

III.B. Number of Residents

III.B.1. There must be at least one resident in each year of the program.

III.C. Resident Transfers

See International Foundational Requirements, Section III.C.

III.D. Appointment of Fellows and Other Learners

See International Foundational Requirements, Section III.D.

IV. Specialty-Specific Educational Program

IV.A. ACGME-I Competencies

IV.A.1. The program must integrate the following ACGME-I Competencies into the curriculum.

IV.A.1.a) Professionalism

IV.A.1.a).(1) Residents must demonstrate a commitment to professionalism and an adherence to ethical principles. Residents must demonstrate:

IV.A.1.a).(1).(a) compassion, integrity, and respect for others;

IV.A.1.a).(1).(b) responsiveness to patient needs that supersedes self-interest;

IV.A.1.a).(1).(c) respect for patient privacy and autonomy;

IV.A.1.a).(1).(d) accountability to patients, society, and the profession;

IV.A.1.a).(1).(e) sensitivity and responsiveness to a diverse patient population, including to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation; and,

IV.A.1.a).(1).(f) personal responsibility to complete all tasks to which they are assigned (or which they voluntarily assume) in a timely fashion.

IV.A.1.a).(1).(f).(i) These tasks must be completed in the hours assigned, or, if that is not possible, residents must learn and utilize the established methods for handing off remaining tasks to another member of the team so that patient care is not compromised.

IV.A.1.b) Patient Care and Procedural Skills

IV.A.1.b).(1) Residents must provide patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health. Residents must demonstrate competence in:

IV.A.1.b).(1).(a) surgical peri-operative management, including for:

IV.A.1.b).(1).(a).(i) congenital, neoplastic, infectious, and other acquired conditions of the gastrointestinal system and other abdominal organs; diaphragm and thorax, exclusive of the heart; endocrine glands; head and neck;

integument; urogenital system; and the vascular system and blood;

IV.A.1.b).(1).(a).(ii) operative and non-operative traumatic conditions of the abdomen, chest, head and neck, and extremities, with sufficient experience in the management of children who have sustained injuries to multiple organs and children with trauma from child abuse;

IV.A.1.b).(1).(a).(iii) endoscopy of the airway and gastrointestinal tract, to include bronchoscopy, esophagoscopy, gastroduodenoscopy, laryngoscopy, and lower intestinal endoscopy;

IV.A.1.b).(1).(a).(iv) clotting and coagulation disorders;

IV.A.1.b).(1).(a).(v) advanced laparoscopic and thoracoscopic techniques;

IV.A.1.b).(1).(a).(vi) care of the critically ill neonate, infant, and child, to include:

IV.A.1.b).(1).(a).(vi).(a) cardiopulmonary resuscitation;

IV.A.1.b).(1).(a).(vi).(b) management of patients on ventilators; and,

IV.A.1.b).(1).(a).(vi).(c) nutritional assessment and management.

IV.A.1.b).(1).(a).(vii) pre-operative evaluation of patients, making provisional diagnoses, initiating diagnostic procedures, forming preliminary treatment plans, and providing outpatient follow-up care of surgical patients; and,

IV.A.1.b).(1).(a).(viii) follow-up care, to include short- and long-term evaluation and extended periodic longitudinal care, particularly with major congenital anomalies and neoplasm cases.

IV.A.1.c) Medical Knowledge

IV.A.1.c).(1) Residents must demonstrate knowledge of established and evolving biomedical clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care. Residents must demonstrate knowledge of:

IV.A.1.c).(1).(a) basic principles, applicable to the pediatric population, of anesthesia, cardiothoracic surgery, gynecology, management of burns, neurological surgery, orthopaedic surgery, otolaryngology, transplant surgery, urology, and vascular surgery;

IV.A.1.c).(1).(b) the principles of managing patients on ventilators and extracorporeal membrane oxygenation;

IV.A.1.c).(1).(c) invasive and non-invasive monitoring techniques and interpretation; and,

IV.A.1.c).(1).(d) the design, implementation, and interpretation of clinical research studies.

IV.A.1.d) Practice-based Learning and Improvement

IV.A.1.d).(1) Residents must demonstrate the ability to investigate and evaluate their care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning. Residents must develop skills and habits to be able to meet the following goals:

IV.A.1.d).(1).(a) identify strengths, deficiencies, and limits in one’s knowledge and expertise;

IV.A.1.d).(1).(b) set learning and improvement goals;

IV.A.1.d).(1).(c) identify and perform appropriate learning activities;

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

IV.A.1.d).(1).(e) incorporate formative evaluation feedback into daily practice;

IV.A.1.d).(1).(f) locate, appraise, and assimilate evidence from scientific studies related to their patients’ health problems; and,

IV.A.1.d).(1).(g) use information technology to optimize learning.

IV.A.1.e) Interpersonal and Communication Skills

IV.A.1.e).(1) Residents must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, patients’ families, and health professionals. Residents must:

IV.A.1.e).(1).(a) communicate effectively with patients, patients' families, and the public, as appropriate, across a broad range of socioeconomic and cultural backgrounds;

IV.A.1.e).(1).(b) communicate effectively with physicians, other health professionals, and health-related agencies;

IV.A.1.e).(1).(c) work effectively as a member or leader of a health care team or other professional group, to include:

IV.A.1.e).(1).(c).(i) providing care in a consultative role and as a member of a primary patient care team, under appropriate supervision;

IV.A.1.e).(1).(c).(ii) participating in multispecialty teams in the emergency department and with other specialists, such as neonatologists and intensivists;

IV.A.1.e).(1).(c).(iii) collaborating with surgical team members, as well as with residents, fellows, and faculty members from other departments outside of their subspecialty area; and,

IV.A.1.e).(1).(c).(iv) developing collaborative relationships to deliver patient care with nurse practitioners and physician assistants as important members of the care team.

IV.A.1.e).(1).(d) maintain comprehensive, timely, and legible medical records, if applicable; and,

IV.A.1.e).(1).(e) participate in the education of patients, patients' families, students, residents, and other health professionals.

IV.A.1.f) Systems-based Practice

IV.A.1.f).(1) Residents must demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care. Residents must:

IV.A.1.f).(1).(a) work effectively in various health care delivery settings and systems relevant to their clinical specialty;

IV.A.1.f).(1).(b) coordinate patient care within the health care system relevant to their clinical specialty;

IV.A.1.f).(1).(c) incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate;

IV.A.1.f).(1).(d) advocate for quality patient care and optimal patient care systems;

IV.A.1.f).(1).(e) work in interprofessional teams to enhance patient safety and improve patient care quality; and,

IV.A.1.f).(1).(f) participate in identifying system errors and implementing potential systems solutions.

IV.B. Regularly Scheduled Educational Activities

IV.B.1. Residents must participate in formal pediatric surgery conferences that are specialty-specific and interdisciplinary in nature.

IV.B.1.a) Educational activities must occur at least once a week.

IV.B.1.b) Educational activities must include morbidity and mortality conferences.

IV.B.1.b).(1) Morbidity and mortality conferences should be provided at least once a month.

IV.B.1.c) Clinical presentations, journal cubs, quality improvement, and/or patient safety conferences and workshops should be included.

IV.B.2. During the final year of their educational program, residents should organize conferences.

IV.C. Clinical Experiences

IV.C.1. Residents must have core surgical education experience during their PGY-1 and -2.

IV.C.1.a) This must include at least 24 months of educational experiences in core surgical education, including:

IV.C.1.a).(1) pre- and post-operative evaluation and care;

IV.C.1.a).(2) critical care and trauma management; and,

IV.C.1.a).(3) basic operative experience in abdomen and alimentary track, airway management, laparoscopic surgery, skin and soft tissue, thoracic surgery, and vascular access.

IV.C.1.b) This must include experience in surgical care in the emergency department.

IV.C.1.c) The program must implement a level-specific, skill-based curriculum that complements clinical rotations in the development of operative and non-operative skills.

IV.C.1.c).(1) Resident acquisition and maintenance of operative and non-operative skills must be assessed using competency-based evaluation.

IV.C.1.d) Core surgical experiences should include abdominal and alimentary tract surgery, basic and advanced laparoscopic skills, burn surgery, cardiac surgery, cardiothoracic surgery, congenital heart surgery, endocrine surgery, general surgery, gynecology, head and neck surgery, neurologic surgery, plastic surgery, surgical oncology, thoracic surgery, transplantation, and urology

IV.C.2. During the PGY-3-6 (or -7) of the educational program, 48 weeks per year must include experiences in clinical pediatric surgery.

IV.C.2.a) Residents must document at least one half-day of outpatient experience weekly, averaged over the 48 weeks of each year of clinical pediatric surgery education.

IV.C.3. The program must be structured to include:

IV.C.3.a) a minimum of 20 months in a 72-month program, or a minimum of 24 months in an 84-month program, in general pediatric surgery;

IV.C.3.b) a maximum of four months in a 72-month program, or a maximum of six months in an 84-month program, dedicated to related clinical disciplines, including:

IV.C.3.b).(1) a maximum of two months in a 72-month program, or three months in an 84-month program, in pediatric critical care and neonatal intensive care; and,

IV.C.3.b).(1).(a) At least one month must occur in the neonatal intensive care unit.

IV.C.3.b).(1).(b) One month must be spent in the pediatric intensive care unit.

IV.C.3.b).(2) a maximum of two months in a 72-month program, or three months in an 84-month program, of clinical rotations in pediatric specialties, which may include anesthesia, cardiothoracic surgery, gynecology, management of burns, neurological surgery, orthopaedic surgery, otolaryngology, plastic surgery, transplant surgery, urology, or vascular surgery.

IV.C.4. Clinical care of surgical patients must include demonstrable involvement in pre- and post-operative care, and, when applicable, follow-up that

corresponds to the patient's unique surgical problem(s), with longevity of follow-up directly correlated to what is known about the natural history of the disease process(es).

IV.C.5. Residents must be provided with primary patient care responsibility, under the supervision of pediatric surgery faculty members and the critical care specialist, in the care of critically ill surgical patients to allow them to acquire the requisite specialty-specific knowledge and skills and to obtain competence in the pre-, intra-, and post-operative care of such patients.

IV.C.6. Residents must have experience and develop competence in:

IV.C.6.a) writing orders for total parenteral nutrition;

IV.C.6.b) managing fluids/vasopressors;

IV.C.6.c) managing ventilators; and,

IV.C.6.d) decision-making around care.

IV.C.7. There must be coordination of care and collegial relationships among pediatric surgeons, neonatologists, and critical care intensivists concerning the management of medical problems in complex critically ill patients.

IV.C.8. During the critical care experience, residents must lead daily multidisciplinary rounds, to include decision-making and leadership in the care of patients with primary surgical problems.

IV.C.9. Faculty members in neonatology, pediatric critical care, and/or pediatric surgical critical care must attest to the experience gained by each fellow in meeting the critical care requirements at the end of each critical care rotation.

IV.C.9.a) Residents must have completed advanced life support training specific to pediatric patients (e.g., advanced trauma life support, neonatal resuscitation, pediatric advanced life support) before beginning critical care rotations.

IV.C.10. Residents must document in the ACGME-I Case Log System an appropriate breadth, volume, and balance of operative experience as Primary Surgeon.

IV.C.10.a) Residents must document in the ACGME-I Case Log System a total of 800 major pediatric surgery procedures as Surgeon during the program.

IV.C.10.b) Residents must document in the ACGME-I Case Log System at least 50 Teaching Assistant cases and no more than 50 additional Teaching Assistant cases, for a maximum total of 100 Teaching Assistant cases.

IV.C.10.b).(1) Residents should act as Teaching Assistant when their operative experience justifies a teaching role.

IV.C.10.c) Residents must not share primary responsibility for the same patient with or serve as a Teaching Assistant for a general surgery chief resident.

IV.C.11. Residents must have responsibility for teaching junior residents and medical students.

IV.D. Scholarly Activity

IV.D.1. Resident Scholarly Activity

See International Foundational Requirements, Section IV.D.1.

IV.D.2. Faculty Scholarly Activity

IV.D.2.a) The program director must demonstrate scholarly activity annually in at least one of the following areas:

IV.D.2.a).(1) peer-reviewed funding;

IV.D.2.a).(2) publication of original research or review articles in peer-reviewed journals or chapters in textbooks;

IV.D.2.a).(3) publication or presentation of case reports or clinical series at local, regional, or national professional and scientific society meetings; or,

IV.D.2.a).(4) participation in national committees or educational organizations.

IV.D.2.b) Faculty members must demonstrate scholarly activity annually.

V. Evaluation

See International Foundational Requirements, Section V.

VI. The Learning and Working Environment

VI.A. Principles

See International Foundational Requirements, Section VI.A.

VI.B. Patient Safety

VI.B.1. Residents must have a working knowledge of expected reporting relationships to maximize quality care and patient safety.

VI.C. Quality Improvement

See International Foundational Requirements, Section VI.C.

VI.D. Supervision and Accountability

VI.D.1. The program must review and document each resident's required level of supervision at least annually.

VI.D.1.a) Faculty members must have knowledge of each resident's required level of supervision and must evaluate each fellow's supervision needs with each rotation.

VI.E. Professionalism

See International Foundational Requirements, Section VI.E.

VI.F. Well-Being

See International Foundational Requirements, Section VI.F.

VI.G. Fatigue

See International Foundational Requirements, Section VI.G.

VI.H. Transitions of Care

See International Foundational Requirements, Section VI.H.

VI.I. Clinical Experience and Education

VI.I.1. The total time on night rotations must be counted toward the maximum allowable time for each resident over the duration of the program. Note that any rotation that requires residents to work multiple nights in succession is considered a night float rotation.

VI.I.1.a) Night float rotations must not exceed two months in succession, or three months in succession for rotations with night shifts alternating with day shifts.

VI.I.1.b) There must be no more than four months of night float per year for each fellow in the program.

VI.I.1.c) There must be at least two months between each night float rotation.

VI.J. On-Call Activities

See International Foundational Requirements, Section VI.J.