

ACGME Program Requirements for Graduate Medical Education in Pediatric Critical Care Medicine

Effective: July 1, 2007

Introduction

Int.A. Scope of Educational Experience

Int.A.1. Pediatric critical care medicine programs provide fellows with an understanding of the biology of acute, life-threatening disease and injury, and the necessary cognitive and technical skills to prepare them to serve as skilled clinicians, competent educators, and physician scientists that contribute to scientific advances in the field.

Int.A.2. The program must emphasize the fundamentals of clinical diagnosis, patient assessment, and clinical management, including multisystem life support.

VIII. Institutions

If there is more than one ACGME program in critical care medicine in the sponsoring institution, there should be an institutional policy governing the educational resources committed to these programs and ensuring cooperation of all disciplines involved.

IX. Program Personnel and Resources

IX.A. Faculty

IX.A.1. Pediatric Critical Care Medicine Specialists

To ensure the educational and research quality of the program, and to provide adequate supervision of fellows, there must be at least four members of the teaching staff who have knowledge of and experience in the care of acute pediatric illness and injuries. Two of these must be certified in pediatric critical care medicine or have equivalent qualifications in pediatric critical care medicine.

IX.A.2. Other Physician Teaching and Consultant Faculty

The program must include the full range of pediatric subspecialists necessary for teaching and consultation. In addition, appropriate consultants must be available in related disciplines with experience in pediatrics, including pediatric surgery, congenital cardiac surgery, neurological surgery, anesthesiology, orthopaedic surgery, otolaryngology, and trauma surgery. There should also be consultants with experience in pediatrics in transplant surgery, pathology, and physical medicine and rehabilitation.

IX.B. Other Program Personnel

- IX.B.1. The following other personnel are essential contributors to a program, in that they enhance the fellows' understanding of the multidisciplinary nature of pediatric intensive care: respiratory therapy staff, critical care nursing staff, social workers and support staff, pediatric nutritionist, pediatric pharmacist, physical and occupational therapist, child life therapist, and speech therapist.
- IX.B.2. The presence of a bioengineer, statistician and/or epidemiologist, and an ethicist is strongly suggested.
- IX.C. Resources
- IX.C.1. At the primary teaching site, the program must be based in a specially-designed pediatric critical care unit (PICU). Facilities and equipment in and related to that unit must meet the generally-accepted standards of modern intensive care units, and must be available on a 24 hour a day basis. These must include, but are not limited to, the following:
- IX.C.1.a) microchemistry and hematology laboratory;
 - IX.C.1.b) blood gas laboratory;
 - IX.C.1.c) diagnostic bacteriology and virology laboratories;
 - IX.C.1.d) blood bank;
 - IX.C.1.e) facilities for special radiographic imaging, including computerized axial tomography, radionuclide scanning, angiography, magnetic resonance imaging, and ultrasonography;
 - IX.C.1.f) cardiac catheterization facility;
 - IX.C.1.g) capabilities for portable studies, including radiology, echocardiography, and electroencephalography; and,
 - IX.C.1.h) acute hemodialysis capability.
- IX.C.2. In addition, access to the following should be available within a reasonable period of time at the primary teaching site or nearby:
- IX.C.2.a) clinical toxicology laboratory;
 - IX.C.2.b) nuclear medicine facilities;
 - IX.C.2.c) pulmonary function testing laboratory; and,
 - IX.C.2.d) screening laboratory for inborn errors of metabolism.
- IX.C.3. Patient Population
- IX.C.3.a) There should be a minimum of 700 admissions annually to the

PICU. A program having fewer admissions must specifically demonstrate that it is able to provide the breadth of experience required for the number of fellows in the program. An adequate number and variety of PICU patients, ranging in age from early infancy through young adulthood, must be available to ensure fellows develop competence in the management of such patients, including those requiring preoperative and postoperative care. In the case of a patient on the surgical service, the pediatric critical care fellows should collaborate with the surgeon managing the care of the patient.

- IX.C.3.b) The average daily census in the intensive care unit (ICU) should be at least six patients per pediatric critical care fellow assigned to the service.
- IX.C.3.c) Pediatric patients available to the fellows should include patients with solid organ transplantations; at least 50 cases per year in which the patient has sustained severe trauma, and at least 150 cases per year in which the patient has major neurologic or neurosurgical problems.
- IX.C.3.d) There should be an affiliated cardiac surgical program with a volume of at least 100 cases per year. These patients will not necessarily all be present in the PICU, since in some sites care for postoperative cardiac surgery patients may be provided in a separate pediatric cardiac surgical ICU. In such cases, however, provision must be made for fellows to have substantial patient care experience in the pediatric cardiac surgical ICU, and such rotations should be considered mandatory rather than elective experiences.
- IX.C.3.e) The number of patients requiring mechanical ventilation must be sufficient to provide each fellow with adequate opportunity to become skilled in their management.

X. Educational Program

X.A. Patient Care

- X.A.1. Fellows must acquire the knowledge and skills required to diagnose and manage patients with acute life-threatening problems. This must include, but not be limited to, the development of special competence in such areas as cardiopulmonary resuscitation; stabilization for transport; trauma; triage; ventilatory, circulatory, and neurological support; management of renal and hepatic failure, poisoning, and complicated hematological, infectious, and immune problems; continuous monitoring; and, nutritional support.
- X.A.2. Fellows must become proficient in critical care procedures, and so, must have experience with patients sufficiently ill and cases sufficiently complex. These procedures include, but are not limited to, peripheral

arterial and venous catheterization, central venous catheterization, endotracheal intubation, thoracostomy tube placement, and sedation of conscious patients. Furthermore, there should be sufficient exposure to the use of invasive and non-invasive hemodynamic and intracranial monitoring to ensure understanding of their uses and limitations.

X.A.3. Fellows in pediatric critical care medicine must be directly involved in the care of critically ill surgical patients in order to acquire the requisite specialty-specific knowledge and skills to attain competence in the evaluation, diagnosis and pre/post operative management of such patients. To meet these goals, the coordination of care and collegial relationships between pediatric surgeons, neonatologists, and critical care intensivists concerning the management of medical problems in these complex critically ill patients are essential.

X.A.4. Some of the fellows' clinical experience may take place in other critical care settings, for example, with anesthesiologists, in a medical ICU, in a burn unit, in a neonatal ICU, and/or in a surgical ICU. Electives in these units may be included in the clinical experience, but they should not replace time in the PICU. The time spent in these other critical care settings should be no more than four months. An exception to the four-month limit is made for those programs in which all of the post-operative cardiovascular care is provided for in a pediatric cardiac surgical ICU separate from the PICU. If there is a separate pediatric cardiac ICU, a maximum of six months may be spent on such rotations over the three years of training.

X.B. Medical Knowledge

X.B.1. The curriculum should include instruction in collation and critical interpretation of patient care data. Interpretation of laboratory studies essential to the care of the critically ill pediatric patient must also be included. The program must teach pathophysiology of single and multiple organ dysfunction. The program must also teach pharmacologic principles, and provide opportunities for the fellows to apply these principles to the critically ill patient. Instruction in biomedical instrumentation must be offered to familiarize the fellows with current and developing technology.

X.B.2. Fellows must participate in regularly-scheduled multi-disciplinary conferences such as morbidity and mortality review and case conferences.

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