Fundamental Curricula for Training in Pediatrics

Rotations and Experiences

Residency Programs
Categorical Pediatrics
Preliminary Pediatrics

Version 4 Spring 2007
The American Board of Pediatrics and the American Academy of Pediatrics define pediatrics and pediatrician as follows:

*Pediatrics is the specialty of medical science concerned with the physical, emotional, and social health of children from birth to young adulthood. Pediatric care encompasses the broad spectrum of health services ranging from preventive help care to the diagnosis and treatment of acute and chronic diseases.*

*Pediatrics is a discipline that deals with biological, social, and environmental influences on the developing child and when the impact of disease and dysfunction on development. Children differ from adults anatomically, physiologically, immunologically, psychologically, developmentally, and metabolically.*

*The pediatrician understands this constantly changing functional status of his/her patients incident to growth and development and the consequent changing standards of "normal" for age.*

*A pediatrician is a medical specialist who is primarily concerned with the health, welfare, and development of children and is uniquely qualified for these endeavors by virtue of interest and initial training. Maintenance of these competencies is achieved by experience, training, and continuous education.*

*A pediatrician is able to define accurately the child's health status as well as to serve as a consultant and to make use of other specialists as consultants. Because the child's welfare is heavily dependent on the home and family, the pediatrician supports efforts to create a nurturing environment. Such support includes education about healthful living and anticipatory guidance for patients and parents.*

*A pediatrician participates at the community level in preventing or solving problems in child health care and publicly advocates the cause of children.*
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(R) designates RRC required experience
THE PEDIATRIC RESIDENCY PROGRAM AT THE CHILDREN’S MEDICAL CENTER OF BROOKLYN

The residency training program of the Children's Medical Center of Brooklyn, a program of the College of Medicine of the State University of New York Health Science Center at Brooklyn (SUNY, Brooklyn) is fully accredited by the ACGME. The program integrates three hospitals. The important elements of this training program include the richness and variety of patient populations, the academic strength of the clinical faculty, and the dedication of that faculty to the educational program of the residents. University Hospital of Brooklyn (UHB) is a referral center for a broad range of pediatric subspecialty services. It also provides general pediatric care to the community of central Brooklyn. Kings County Hospital Center (KCHC) acts as the primary care facility for roughly 20% of the borough of Brooklyn, a city of 2.6 million inhabitants within the City of New York. In addition, KCHC is one of a three Level I trauma centers in Brooklyn, receives acute care referrals from all of the other Brooklyn institutions. KCHC also serves as an international referral center for families who have connections with immigrant groups in Brooklyn, such as Caribbean Islanders. Staten Island University Hospital (SIUH), with a comprehensive pediatric faculty supplemented by many private pediatric practitioners, serves a middle class community on suburban-like Staten Island. SIUH is also the site of one of New York City’s two major burn units.

Many of the subspecialties accredited by the ACGME are represented in the Department with subspecialty training programs. The faculty, therefore, displays considerable depth with respect to expertise. As a state supported teaching center, our faculty are deeply concerned with their role as educators and place a high priority on the teaching of residents and students. In light of this, most of our academic and clinical faculties are present on-campus on a full time basis. Particular attention is given to the humanistic, social, and ethical aspects of the practice of pediatrics, as well as the acquisition of academic knowledge and response to the intellectual challenges of pediatrics. Giving our undergraduate and postgraduate students a quality pediatric education while they deliver the highest level of medical care to their patients is our primary obligation. Faculty take pride in their didactic responsibilities, and they enjoy an informal, open, inquisitive atmosphere.

Perhaps the best way to learn is by seeing, investigating, doing and then teaching. Our residents have an exceptional opportunity to personally see, diagnose and directly manage a tremendous breadth of pathological conditions in our unique population. Junior house staff has the responsibility for the care of patients in each unit under the supervision and assistance of senior residents, chief residents and attending physicians. The program is designed to give residents progressive responsibility. Residents are encouraged to think critically, and to continuously build upon the knowledge and experience they gain from engaging in direct patient care. A comprehensive didactic program embellishes these clinical experiences. And, while advancing in their training as pediatricians, residents are expected to participate in the education of students and junior house staff to reinforce what they have learned and to further challenge their intellect. Upon completion of training, our residents are prepared to confidently and proudly enter their choice of office-based practice, hospital-based practice, academics or additional subspecialty training.

Residents in the Pediatrics Training Program at S.U.N.Y. Downstate will acquire the requisite knowledge, skills, and attitudes expected of a well-trained pediatrician able to provide excellent and compassionate care. This will be accomplished through abundant diverse clinical experiences, didactics, rounds, role modeling, teaching, research, review of current literature, advocacy and interpersonal interactions. Progress will be determined by a demonstrated clinical competence with particular attention to the following components defined by the ACGME: patient care, medical knowledge, interpersonal skills and communication, professionalism, practice-based learning and improvement, systems-based practice, and medical care. For residents in our training program our aim is to see to it that you complete the program as the best among pediatricians: highly qualified, knowledgeable, clinically skilled and most competent. We will do whatever we can to help you succeed.
THE TRAINING PROGRAM

The pediatric residency program at the State University of New York Children’s Medical Center of Brooklyn has 90 pediatric residents, 3 preliminary pediatric residents, 5 chief residents, 14 subspecialty residents. The pediatric services of University Hospital of Brooklyn (UHB), Kings County Hospital Center (KCHC) plus Staten Island University Hospital (SIUH) constitute our integrated facilities. We also have a training affiliation with the Memorial Sloan-Kettering Cancer Center in Manhattan. Our pediatric residents staff each pediatric unit at all facilities. The institutions together have over 260 pediatric beds and bassinets for over 8000 admissions per year with approximately 7000 newborn deliveries. There are over 150,000 pediatric outpatient visits annually (emergency, acute and routine care) and about 150 attending physicians on active staff. The academic year consists of twelve one-month rotations. The program is in full compliance with the New York State Section 405 and ACGME hour limitations.

Residents are given a progressively increasing level of responsibility for managing their patients and supervising more junior staff on the various inpatient, outpatient, newborn and intensive care services. The increase in responsibility is commensurate with their increase in knowledge and demonstrated performance.

The first year of residency is one of establishing a basic foundation of pediatric knowledge. Residents are given rotations on each of the general pediatric inpatient units, the newborn nursery, the neonatal ICU, the ambulatory care areas, the and a block rotation in Behavior and Development or other subspecialty. A continuity clinic is attended weekly. Residents are expected to learn characteristics of normal development, growth, health maintenance, guidance, as well as variations of normal. The characteristics and management of the more common illnesses of neonates, infants, children and adolescents are learned. First year residents are closely supervised by senior (second and third year) residents, chief residents, subspecialty residents and attending physicians. The resident is privileged for many of the various common procedures in pediatrics.

During the second year of training, residents have greater exposure to pediatric subspecialties. Rotations include the pediatric ICU, Memorial Sloan Kettering Cancer Center, senior responsibilities on the inpatient units and NICU, pediatric emergency medicine rotations, a block rotation in Adolescent Medicine and subspecialty selectives such as Neurology and Hematology. They learn pathophysiology and management of the more complex conditions encountered in pediatrics including a rotation in pediatric critical care. They develop experience and understanding of multiple system disease and more life-threatening conditions. With advancement in knowledge and demonstrated competence, the second year resident is given greater supervisory responsibility.

As residents in the third year of training, the trainees are expected to round-out their pediatric experience. They rotate as members of subspecialty services and expand on complex subjects often superficially considered before. Clinical skills and judgment become refined. A still greater supervisory role is carried out during rotations in the PICU, NICU, inpatient units, ER and at MSKCC. The third year resident is expected to serve as a team leader, care coordinator, an educator of junior residents, students, and other medical personnel and a senior supervising in-hospital physician.

The following is an approximate summary of experiences trainees will have over the course of 3 years in training. The program allows for considerable flexibility as long as training requirements are fulfilled. Consequently, the number of rotations as well as the timing and location is subject to variability.

The PL-1 Year

(approx. 30 pediatric residents + 3 preliminary pediatrics residents)

? 1-2 months of ambulatory pediatrics - OPD or ER
? 1-2 months of neonatal ICU
? 6 months junior resident - pediatrics inpatient  (including 1 month night shift coverage)
? 1 month of developmental/behavioral pediatrics
? 1-2 months term baby nursery
? 0-1 month subspecialty
? 1 month vacation

In the first year (PLI) of training, a foundation of basic knowledge in pediatrics is established. Under supervision, house staff have direct responsibility for the care of all of the patients, including the initial history and physical, progress notes, all procedures, diagnostic information, all orders and communication with parents. Residents learn the characteristics of normal growth, development, health maintenance,
anticipatory guidance as well as variations of normal. With a broad experience in inpatient and outpatient pediatrics and neonatology, house staff learn the characteristics and management of the more common illnesses encountered in neonates, infants, children and adolescents. In addition, first year residents directly supervise third year medical students assigned to them. During this year's experiences residents will realize many of the joys and challenges of contemporary pediatrics.

**The PL-2 Year**
(approx. 30 pediatric residents)

- 2 months of ambulatory pediatrics - OPD or ER
- 1-2 months junior resident in pediatric ICU
- 1-2 months senior resident in neonatal ICU
- 2-3 months supervising senior resident inpatient units (may include up to 1 month night shift)
- 2-3 months of selective subspecialties or electives
- 1 month at Memorial Sloan-Kettering Cancer Institute
- 1 month vacation

During the second year of training, residents have greater exposure to pediatric subspecialties. They learn the pathophysiology and management of the more complex conditions encountered in pediatrics. In addition, residents learn to understand and manage multiple system disease and more serious, life-threatening conditions. With this advancement in knowledge and demonstrated clinical competence, residents are given greater supervisory responsibilities as seniors over first year residents, care for the most critically ill patients, and rotate as night shift junior supervising resident.

**The PL-3 Year**
(approx. 30 pediatric residents)

- 2 months of ambulatory pediatrics - OPD or ER
- 2 months supervising senior resident on inpatient units (including 1 month as night float)
- 1 month of pediatric neurology
- 1 month of adolescent medicine
- 0-1 month senior resident in pediatric ICU
- 0-1 month of senior resident in neonatal ICU
- 4-5 months of selective subspecialties or electives
- 1 month vacation

The third year of training is one in which the pediatric experience is rounded out. Third year residents rotate with additional subspecialty services and expound on subjects briefly considered before. During this year residents improve and refine their clinical skills and judgment. Third year residents assume a still greater role as the supervising senior in the hospital. With their greater fund of knowledge they are expected to be educators of other residents, medical students, and ancillary personnel. Having formed a very solid foundation in general pediatrics, residents can now pursue their postgraduate plans with the assistance and advice of the chairman, program director and faculty mentors.

**Didactics**

The formal teaching component of the training program is accomplished primarily during bedside rounds, since clinical pediatrics is learned through the challenge of responsibility for patients. In addition, there is a five-day a week program of scheduled rounds and conferences assuring a balanced and complete education. These include daily morning report with the faculty, weekly grand rounds, pediatric review conference, radiology conference and patient management conferences. Patient care rounds with supervising physicians include daily work rounds, daily attending rounds, and daily chief resident rounds. Conferences are also held in continuity clinic settings, outpatient rotations, and on subspecialty services. There is a also monthly quality assurance and mortality conference and
regular ethics conferences. At the beginning of each academic year, there is a 3-month series of orientation and review conferences.

The learning experience is further rounded out by an extensive calendar of available special conferences and meetings, both intra- and interdepartmental. Many general and specialty pediatrics seminars are sponsored by the department throughout the year. Residents are also encouraged to attend national meetings and conferences. In addition annual resident retreats are held for career planning, program evaluation and socializing. Residents are given faculty advisors to assist them with their progress through the program.

All residents are taught and expected to retain certification in pediatric and neonatal advanced life support. In addition, residents are sent to local, regional and national conferences such as the Brooklyn Pediatric Society, N. Y. Academy of Medicine, and American Academy of Pediatrics, Pediatric Academic Societies, and Eastern Society for Pediatric Research.

Residents are also expected to be teachers. Certainly, they have a responsibility for educating parents, patients and families. However, they are expected to be active educators of medical students and other medical staff. In this regard, from their first year, residents are taught to be teachers by faculty role-models, during orientation utilizing ‘Residents as Teachers’ text, and during specific periodic meetings with departmental staff.

Research

There are no research requirements in the general pediatrics training program. However, residents are encouraged to participate in research projects, and competitive funding opportunities are available for those who participate. Hypothesis-driven research is strongly encouraged. Residents are given every opportunity to participate in ongoing departmental/divisional research projects. In addition, residents are assisted in finding faculty mentorship for projects they choose to initiate. Mentors are available for both clinical and basic science studies. When desirable, residents have been directed toward collaborative research with other clinical departments as well as basic science departments. In subspecialty programs, research is mandated for at least one-year. This provides ample opportunity for involvement of interested pediatric residents. Residents are educated in research methodology, epidemiology, biostatistics and evidence-based medicine in a variety of settings including Resident Education Conference, Journal Club, Ambulatory Care Conference and in subspecialty division conferences. A practicum in Evidence-Based Medicine is given during orientation and reinforced by monthly EBM based journal clubs. The department in conjunction with the MPH program offers a conference series in research methodology, epidemiology and biostatistics.
Clinical experiences are designed and intended to assist pediatric residents in achieving the core general competencies as described by the RRC for Pediatrics in each of the described clinical settings. These competencies include:

I. Providing family-centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.

II. Demonstrating knowledge about established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, and the application of this knowledge to patient care.

III. Demonstrating interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.

IV. Use of scientific methods and evidence to investigate, evaluate and improve patient care practices.

V. Demonstrating a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.

VI. Practice quality health care and advocate for patients in the health care system.

The following clinical experiences are provided:

1. Care, assessment, management, and anticipatory guidance of term newborns both normal, with variation from normality and with pathology.

2. Care, diagnosis, management planning, treatment and follow-up of infants and children requiring hospitalization for acute or chronic illness or trauma.

3. Care, diagnosis, management planning, treatment, and follow-up of older children and adolescents requiring hospitalization for acute or chronic illness or trauma.

4. Care, diagnosis, monitoring, management planning, treatment and resuscitation of infants, children and adolescents requiring critical care.

5. Evaluation, resuscitation, care, management, treatment and anticipatory guidance of infants born prematurely or with critical illness.

6. Evaluation, management, diagnosis, treatment of infants, children, adolescents attending a variety of ambulatory care settings and a variety of general pediatric, pediatric subspecialty and pediatric surgical subspecialty outpatient services for both acute, subacute, chronic illness and other assessment.

7. Care, stabilization, resuscitation, diagnosis, management planning and treatment of infants, children and adolescents presenting with acute illness or trauma or for urgent evaluation.

8. Participation in services provided by pediatric subspecialists for evaluation, diagnosis, recommended management, treatment, and follow-up of patients seen in subspecialty outpatient clinics, inpatient consultations, services and procedures. Subspecialty services include:
   a. Adolescent Medicine
   b. Behavioral and Developmental Pediatrics
   c. Child Psychiatry
   d. Pediatric Allergy and Immunology
   e. Pediatric Cardiology
   f. Pediatric Dermatology
   g. Pediatric Endocrinology
   h. Pediatric Gastroenterology and Nutrition
   i. Pediatric Hematology/Oncology
   j. Pediatric Infectious Disease
   k. Pediatric Nephrology
   l. Pediatric Neurology
   m. Pediatric Pulmonology
   n. Pediatric Radiology
   o. Pediatric School Health Programs
   p. Pediatric Surgical subspecialties
   q. Social and Community Pediatrics

9. Evaluation, diagnosis, referral, management planning, guidance and counseling for infants, children and adolescents requiring behavioral or development assessment or intervention.

10. Active and on-going longitudinal care for a panel of patients ranging in age from newborn/infant through adolescent who are well, have chronic illness, present with mild acute illness and require anticipatory, nutritional preventive care and developmental guidance. These patients are to be followed in a setting which emulates the private practice of pediatrics and maintains an effective scheduling system, billing system, medical records/information system and ability to track the experiences of participating residents.
Summary of Resident Educational Experiences  
At University Hospital of Brooklyn

Clinical experiences are designed and intended to assist pediatric residents in achieving the core general competencies as described by the RRC for Pediatrics in each of the described clinical settings. These competencies include:

1. Providing family-centered patient care that is developmentally and age appropriate, compassionate, and effective for the treatment of health problems and the promotion of health.
2. Demonstrating knowledge about established and evolving biomedical, clinical, epidemiological and social-behavioral sciences, and the application of this knowledge to patient care.
3. Demonstrating interpersonal and communication skills that result in effective information exchange and teaming with patients, their families, and professional associates.
4. Use of scientific methods and evidence to investigate, evaluate and improve patient care practices.
5. Demonstrating a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to diversity.
6. Practice quality health care and advocate for patients in the health care system.

The following clinical experiences are provided:

1. Care, assessment, management, and anticipatory guidance of term newborns both normal, with variation from normality and with pathology.
2. Care, diagnosis, management planning, treatment and follow-up of requiring hospitalization for acute or chronic illness or trauma.
3. Care, diagnosis, management planning, treatment, and follow-up of infants, children, older children and adolescents requiring hospitalization for acute or chronic illness, complex specialty care, multisystem disease or trauma.
4. Care, diagnosis, monitoring, management planning, treatment and resuscitation of infants, children and adolescents requiring critical care.
5. Evaluation, resuscitation, care, management, treatment and anticipatory guidance of infants born prematurely or with critical illness.
6. Evaluation, management, diagnosis, treatment of infants, children, adolescents attending a variety of ambulatory care settings and a variety of general pediatric, pediatric subspecialty and pediatric surgical subspecialty outpatient services for both acute, subacute, chronic illness and other assessment.
7. Care, stabilization, resuscitation, diagnosis, management planning and treatment of infants, children and adolescents presenting with acute illness or trauma or for urgent evaluation.
8. Participation in services provided by pediatric subspecialists for evaluation, diagnosis, recommended management, treatment, and follow-up of patients seen in subspecialty outpatient clinics, inpatient consultations, services and procedures. Subspecialty services include:
   a. Adolescent medicine
   b. Behavioral and Developmental Pediatrics
   c. Pediatric Allergy and Immunology
   d. Pediatric Cardiology
   e. Pediatric Dermatology
   f. Pediatric Endocrinology
   g. Pediatric Gastroenterology and Nutrition
   h. Pediatric Hematology/Oncology
   i. Pediatric Infectious Disease
   j. Pediatric Nephrology
   k. Pediatric Neurology
   l. Pediatric Pulmonology
   m. Pediatric Radiology
   n. Child Abuse, Neglect and Advocacy
   o. Pediatric Surgical subspecialties
   p. Social and Community Pediatrics
9. Evaluation, diagnosis, referral, management planning, guidance and counseling for infants, children and adolescents requiring behavioral or development assessment or intervention.
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