Pediatric Residency Curriculum

Continuity Clinic: Goals and Objectives

The goal of the longitudinal continuity clinic experience is to develop our residents’ ability to deliver high-quality primary care to children and adolescents. High-quality primary care is effective, continuous, and family-centered. The residents’ continuity experiences occur in all types of general pediatric settings, including the following:

- Community health centers
- MGHfC-affiliated ambulatory practices
- Private practices in community settings.

Community health centers include both those affiliated with MGH as well as other health systems in the Boston area. These centers serve a variety of populations, including recent immigrants from Central and South America, Asia, and the Middle East. The MGHfC-affiliated general pediatric practices are the continuity sites for several of our residents. These practices are located on the MGHfC campus and throughout the Greater Boston. In addition, some residents have continuity clinic in a private practice, usually a small or large group practice in a suburb close to Boston. Each new intern is matched with a continuity site and preceptor based on the intern’s preferences for a practice environment and career goals.

Residents generally attend continuity clinic one afternoon per week throughout their three years (post-call clinics are cancelled). In continuity practices, residents deliver preventive, acute, and follow-up care for patients with and without chronic conditions. In addition to their usual continuity clinic sessions, many residents choose to spend more time in their clinics as part of an elective.
Many residents also work with their preceptors on a quality improvement project with their clinic as part of their PBC rotation.

The objectives of the continuity clinic longitudinal experience are designed to further the residents' development of competency in the following six areas:

I. Patient Care
II. Medical Knowledge
III. Practice-Based Learning and Improvement
IV. Interpersonal and Communication Skills
V. Professionalism
VI. Systems-Based Practice

I. Patient Care and Medical Knowledge

Demonstrate a commitment to acquiring the base of knowledge needed for care of children in the continuity and general ambulatory setting

Health Promotion and Screening. Provide comprehensive health care promotion, screening and disease prevention services to infants, children, adolescents and their families in the ambulatory setting

- Perform health promotion (well child care) visits at recommended ages based on nationally recognized periodicity schedules (e.g. AAP Health Supervision Guidelines, Bright Futures, GAPS).
- Perform a family centered health supervision interview
  - Define family and identify significant family members and other significant caretakers and what role they play in the child's life
  - Identify patient and family concerns
  - Discuss health goals for the visit with the patient and family
  - Prioritize agenda for the visit with the patient and family
- Elicit age appropriate information regarding health, nutrition, activities, and health risks

- Perform age appropriate developmental surveillance, developmental screening, school performance monitoring and job performance monitoring
  - Identify risks to optimal developmental progress (e.g., prematurity, SES, family/genetic conditions, etc.)
  - Identify patient and parental concerns regarding development, school, and/or work.
  - Perform standardized, validated, accurate developmental screening tests for infants and children until school age

- Critically observe interactions between the parent and the infant, child, or adolescent

- Perform physical exam with special focus on age-dependent concerns and patient or family concerns.

- Order or perform and interpret additional age-appropriate screening procedures, using nationally recognized periodicity schedules and local or state expectations (e.g., newborn screening, lead, hematocrit, hemoglobin for sickle cell, blood pressure, cardiovascular risk assessment, vision, hearing, dental assessment, reproductive-related concerns).

- Order or perform appropriate additional screening procedures based on patient and family concerns (e.g. sports involvement, positive family history for specific health condition, behavioral concerns, identified risk for lead exposure)

- Perform age appropriate immunizations using nationally recognized periodicity schedules

- Provide age-appropriate anticipatory guidance to parent(s) or caregiver(s), and child or adolescent, according to recommended guidelines (e.g., AAP TIPP program, Bright Futures, GAPS), on topics including:
  - Promotion of healthy habits
-Injury and illness prevention
-Nutrition
-Oral Health
-Age appropriate medical care
-Promotion of social competence
-Promotion of positive interactions between the parent and infant/child/adolescent
-Promotion of constructive family communication, relationships and parental health
-Promotion of community interactions
-Promotion of responsibility (adolescence)
-Promotion of school achievement (middle childhood, adolescence)
-Sexuality (infancy, early and middle childhood, adolescence)
-Prevention of substance use/abuse
-Physical activity and sports
-Interpretation of screening procedures
-Prevention of violence
-Work collaboratively with professionals in the medical, mental-health, educational and community system to optimize preventive health services for children.

Common Signs and Symptoms (Continuity Clinic and Primary Care OPD). Evaluate and manage common signs and symptoms associated with the practice of pediatrics in the Continuity Clinic and Primary Care Pediatric Outpatient Department.

1. Infancy: malpositioning of feet, hip clicks, skin rashes, birthmarks, jitteriness, hiccups, sneezes, wheezing, heart murmur, vaginal bleeding and/or discharge, foul smelling umbilical cord with/without discharge; undescended testicle, breast tissue, breast drainage, malpositioning of feet, malrotation of lower extremities, developmental delays, sleep disturbances, difficulty feeding, dysconjugate gaze, failure to thrive, frequent infections, abnormal head shape or
size, evidence of abuse or neglect, abdominal masses, abnormal muscle tone

2. General: Acute life-threatening event (ALTE), constitutional symptoms, excessive crying, failure to thrive, fatigue, fever, weight loss or gain, dental caries, excessive thumb-sucking or pacifier use, sleep disturbances, difficult behaviors, variations in appetite, variations in toilet training, overactivity, somatic complaints, poor school performance, attention problems, fatigue, masturbation, anxiety, violence.

3. Cardiorespiratory: Apnea, chest pain, cough cyanosis, dyspnea, heart murmur, hemoptysis, hypertension, inadequate respiratory effort, respiratory failure, rhythm disturbance, shortness of breath, stridor, syncope, tachypnea, wheezing.

4. Dermatologic: Congenital nevus and other birth marks, ecchymoses, edema, paleness, petechiae, pigmentary changes, purpura, rashes, urticaria, vascular lesions, foul smelling umbilical cord.

5. EENT: Acute visual changes; dysconjugate gaze; conjunctival injection; ear or eye discharge; ear, throat, eye pain, edema, epistaxis; nasal foreign body; hoarseness; stridor.

6. Endocrine: growth disturbance, short stature, heat or cold intolerance, normal and abnormal timing of pubertal changes, polydipsia, polyuria.

7. GI/Nutrition/Fluids: Abdominal pain, mass or distention; ascites; constipation; dehydration; diarrhea; dysphagia; encopresis; hematemesis; inadequate intake of calories or fluid; jaundice; melena; rectal bleeding; regurgitation; vomiting.

8. Genitourinary/Renal: Change in urine color, dysuria, edema, enuresis, frequency, hematuria, oliguria, pain referable to
the urinary tract, scrotal mass, pain or edema, trauma to urinary tract or external genitalia, undescended testicle, enuresis.

9. GYN: Asymmetry of breast development, abnormal vaginal bleeding, pelvic or genital pain, vaginal discharge or odor; vulvar trauma or erythema, delayed onset of menses, missed or irregular periods.


11. Musculoskeletal: Malpositioning of feet, malpositioning of legs, hip clicks, abnormal gait, abnormal spine curvature, arthritis or arthralgia, bone and soft tissue trauma, limb or joint pain, limp, variations in alignment (e.g., intoeing).

12. Neurologic: Delays in developmental milestones, ataxia, change in sensorium, diplopia, headache, head trauma, hearing concerns, gait disturbance, hypotonia, lethargy, seizure, tremor, vertigo, visual disturbance, weakness.

13. Psychiatric/Psychosocial: Acute psychosis, anxiety, behavioral concerns; conversion symptoms, depression, hyperactivity, suicide attempt, suspected child abuse or neglect.

Common Conditions (Continuity Clinic and Primary Care OPD). Recognize and manage common childhood conditions presenting to the Continuity Clinic and Primary Care Pediatric Outpatient Department.

1. Infancy: Breast feeding, bottle feeding, colic, congenital hip dislocation, constipation, strabismus, colic, parent-infant interactional issues, sleep problems, child care decisions, separation protest, stranger anxiety, failure to thrive, recurrent respiratory and ear infections, positional foot deformities, rashes, teething, injury prevention and safety
2. General: Colic, failure to thrive, fever, overweight, iron deficiency, lead exposure, strabismus, hearing problems, child care decisions, well-child and well adolescent care (including anticipatory guidance), parental issues (financial stress, divorce, depression, tobacco, alcohol or substance abuse, domestic violence, inadequate support networks)

3. Allergy/Immunology: Allergic rhinitis, angioedema, asthma, food allergies, recurrent infections, serum sickness, urticaria.

4. Cardiovascular: Bacterial endocarditis, cardiomyopathy, congenital heart disease (outpatient management of minor illnesses), congestive heart failure, heart murmurs, Kawasaki disease, palpitations, rheumatic fever.

5. Dermatology: abscess, acne, atopic dermatitis, cellulitis and superficial skin infections, impetigo, molluscum, tinea infections, viral exanthems, verruca vulgaris, other common rashes of childhood and adolescence.

6. Endocrine/Metabolic: Diabetes mellitus, diabetes insipidis, evaluation for possible hypothyroidism, growth failure or delay, gynecomastia, hyperthyroidism, precocious or delayed puberty.

7. GI/Nutritional: Appendicitis, bleeding in stool, constipation, encopresis, foreign body ingestion, gastroenteritis, gastroesophageal reflux, hepatitis, inflammatory bowel disease, nutritional issues, pancreatitis.

8. GU/Renal: Electrolyte and acid-base disturbances (mild), enuresis, glomerulonephritis, hematuria, Henoch Schonlein purpura, nephrotic syndrome, obstructive uropathy, proteinuria, undescended testicles, UTI/pyelonephritis.

9. Gynecologic: Genital trauma (mild), labial adhesions, pelvic inflammatory disease, vaginal discharge or foreign body
10. Hematology/Oncology: Abdominal and mediastinal mass (initial work up), anemia, hemoglobinopathies, leukocytosis, neutropenia, thrombocytopenia.

11. Infectious Disease: Cellulitis, cervical adenitis, dental abscess with complications, initial evaluation and follow-up of serious, deep tissue infections, laryngotracheobronchitis, otitis media, periorbital and orbital cellulitis, pharyngitis, pneumonia (viral or bacterial), sinusitis, upper respiratory tract infections, viral illness, recurrent infections.


13. Pharmacology/Toxicology: Common drug poisoning or overdose, ingestion avoidance (precautions).

14. Neurology/Psychiatry: Acute neurologic conditions (initial evaluation), behavioral concerns, discipline issues, temper tantrums, biting, developmental delay, seizures (evaluation and adjustment of medications), ADHD, learning disabilities, substance abuse.

15. Pulmonary: Asthma, bronchiolitis, croup, epiglottitis, pneumonia; sinusitis, tracheitis, viral URI and LRI.

16. Surgery: Initial evaluation of patients requiring urgent referral, pre- and post-op evaluation of surgical patients (general, ENT, ortho, urology, neurosurgical, etc.).

Diagnostic Testing (Continuity Clinic and Primary Care OPD).
Utilize common diagnostic tests and imaging studies appropriately in the outpatient department.

Demonstrate understanding of the common diagnostic tests and imaging studies used in the outpatient setting, by being able to:

1. Explain the indications for and limitations of each study.
2. Know or be able to locate age-appropriate normal ranges (lab studies).

3. Apply knowledge of diagnostic test properties, including the use of sensitivity, specificity, positive predictive value, negative predictive value, likelihood ratios, and receiver operating characteristic curves, to assess test utility in clinical settings.

4. Recognize cost and utilization issues.

5. Interpret the results in the context of the specific patient.

6. Discuss therapeutic options for correction of abnormalities.

Use appropriately the common laboratory studies in the Continuity Clinic and Outpatient setting:

1. CBC with differential, platelet count, RBC indices.
3. Renal function tests.
4. Tests of hepatic function (PT, albumin) and damage (liver enzymes, bilirubin).
5. Serologic tests for infection (e.g., hepatitis, HIV).
6. CRP, ESR.
7. Routine screening tests (e.g., neonatal screens, lead).
8. Wet preps and skin scrapings for microscopic examination, including scotch tape test for pinworms.
9. Tests for ova and parasites
10. Thyroid function tests.
11. Culture for bacterial, viral, and fungal pathogens, including stool culture.
12. Urinalysis.

Use the common imaging, diagnostic or radiographic studies when indicated for patients evaluated in Continuity Clinic or the Outpatient Pediatric Clinic:

1. Plain radiographs of the chest, extremities, abdomen, skull, sinuses.
2. CT, MRI, angiography, ultrasound, nuclear scans (interpretation not expected) and contrast studies when indicated.
3. Bone age films
4. Appropriately order and use the electrocardiogram and echocardiogram.
5. Skin test for tuberculosis

Monitoring and Therapeutic Modalities—Understand how to use physiologic monitoring and special technology in the Continuity Clinic and Primary Care Pediatric Outpatient Department, including issues specific to care of the chronically ill child.

- Demonstrate understanding of the monitoring techniques and special treatments commonly used in the Continuity Clinic and Pediatric Outpatient Department.
  - Discuss indications, contraindications and complications.
  - Demonstrate proper use of technique or treatment for children of varying ages.
  - Interpret results of monitoring based on method used, age and clinical situation.

- Appropriately use the monitoring techniques commonly used in the Continuity Clinic and Pediatric Outpatient Department:
  - Cardiac monitoring
  - Pulse oximetry.
- Repeated assessment of temperature, heart rate, respiratory rate, blood pressure, as clinically indicated during an office visit.

- Use appropriately or be familiar with the following treatments and techniques in the Continuity Clinic and Pediatric Outpatient Department:
  - Universal precautions.
  - Hand washing between patients.
  - Isolation techniques.
  - Administration of nebulized medication.
  - Injury, wound and burn care.
  - Oxygen delivery systems.
  - Intramuscular, subcutaneous and intradermal injections.

- Recognize normal and abnormal findings at tracheostomy, gastrostomy, or central venous catheter sites, and demonstrate appropriate intervention or referral for problems encountered.

- Demonstrate skills for assessing and managing pain
  - Use age-appropriate pain scales in assessment.
  - Describe indications for and use of behavioral techniques and supportive care, and other non-pharmacologic methods of pain control.

II. Communication

- Provide sensitive support to patients and their families in the outpatient setting.

- Communicate and work effectively with health professionals, specialists and providers who refer patients to you, both as the primary provider and as the consulting pediatrician.

- Develop effective teaching strategies for teaching students, colleagues, other professionals and lay persons.
III. Practice Based Learning and Improvement

- Use a logical and appropriate clinical approach to the care of outpatients, applying principles of evidence-based decision-making and problem solving.
- Use scientific methods and evidence to investigate, evaluate, and improve one's patient care practice in the outpatient setting.
- Know and/or access medical information efficiently, evaluate it critically, and apply it to outpatient care appropriately.
- Demonstrate knowledge, skills and attitudes needed for continuous self-assessment.

IV. Professionalism

- Demonstrate knowledge, skills and attitudes needed for continuous self-assessment.
- Demonstrate a commitment to carrying out professional responsibilities, adhering to ethical and legal principles, and remaining sensitive to diversity while providing care in the outpatient setting.

V. Systems Based Practice

- Understand key aspects of outpatient health care systems, including cost control, billing, and reimbursement in the outpatient setting.
- Maintain accurate, legible, timely, and legally appropriate medical records in the Continuity Clinic and Pediatric Outpatient Department.
- When providing care in the outpatient setting, consider cost and resource allocation without compromising quality of care.
- Recognize the limits of one's knowledge and expertise and take steps to avoid medical error.