ROTATION: AMBULATORY AND ACUTE CARE PEDIATRICS AT KCHC AND UHB

Residents: PL1, PL2, PL3 residents in pediatrics, FM-2 Family Medicine Residents

Prerequisites: None

This rotation of 2 or 4 weeks uses multiple subspecialty clinics, the Pediatric Resource Center (a clinic designed to care for children with diverse medical and/or social problems) and a pediatric urgent care. While rotating at these sites the residents should be able to meet the following goals and objectives.

Patient Care: Residents must be able to provide family centered, culturally sensitive care for infants, children and adolescents in an ambulatory setting. The care must developmentally and age appropriate. The care must be compassionate and include effective treatment of the underlying current and potential future health and social problems confronting the patient and family.

Goal 1. Gathering data by history or interview (outpatient):

A) Learn to conduct effective interviews with parents and children, pertinent to the clinical area (subspecialty) or question being addressed.

B) Learn to conduct effective interviews with parents and children/adolescents to address an acute care problem.

Objectives:

a. Adapt communication strategies to specific clinical situations and settings.
b. Demonstrate appropriate strategies for communicating based on parents' educational and developmental level taking into account socio-cultural differences.
c. Select questions that appropriately address the presenting clinical problem (either subspecialty or acute care)
d. Ask open-ended questions to elicit maximum information combined with limited closed ended questions to make interview more efficient.
e. Obtain detailed history from adolescent patients including health concerns, social history, sexual history, etc.
f. Make use of all resources in gathering information, including patient, parent, primary care provider, computer, and past medical records.
g. Gather all pertinent information necessary for the problem under investigation
    a. History of Present Illness including all pertinent positives and negatives
    b. Birth history
    c. Past Medical and Surgical history
    d. Nutritional history
    e. Family history
    f. Social history
    g. Review of systems

Goal 2. Gathering data by physical examination (outpatient):

A) Learn to perform an appropriate physical examination with particular attention to the organ systems relevant to the chief complaint.

B) Learn to perform an appropriate physical examination to address an acute care problem.

Objectives:

a. Identify strategies for approaching children of different ages for physical examination, including ways to put them at ease and gain trust. Use an examination sequence most likely to result in a successful examination.
b. Describe ways to modify the approach to examination with an uncooperative child.
c. Recognize clinical situations that require a rapid pointed exam and those which allow for a complete and comprehensive exam.
d. Become familiar with focal site or system specific examinations performed by sub-specialists.
e. Demonstrate sensitivity to the needs of the patient and parents when performing the exam.
f. Demonstrate technical proficiency in the comprehensive examination of the infant, child, pre-adolescent and adolescent
    a. Appropriate hand washing and infection control
    b. Proper use of personal protective equipment when required
    c. Effective use of observation
    d. Complete each step of the examination in a technically proficient manner including use of diagnostic instruments
    e. Perform gender specific and age specific exam
    f. Pursue, confirm and explain abnormal findings
    g. Record findings, accurately and descriptively for easy understanding and comparison by others at a future time.
g. Identify common and important abnormalities of all major organ systems. (Recognize range of normal for a given age)
h. Describe finding in appropriate medical terminology
i. Describe situations when parent should be excluded from room and those, which require an additional adult in the room.
j. Respect patient privacy and need to not damage the child's self image.

Goal 3. Diagnostic Testing (outpatient): Understand the indications, limitations and interpretations of common laboratory tests, diagnostic procedures and imaging studies used in the outpatient setting.

A) Subspecialty

B) Acute Care

Objectives:

For each of the tests listed below:

a. Explain the indications and limitations and be aware of the age appropriate normals.
b. Interpret results in the context of clinical condition as well as prevalence of disease in the community.
c. Discuss therapeutic options for correction of abnormalities when appropriate.
d. Understand the cost-effective use of diagnostic tests.

Laboratory Tests (acute care/ ambulatory care)

1. CBC with differential, indices
2. Blood chemistries: electrolytes, glucose, calcium, magnesium, phosphate, total protein, and albumin.
3. Renal function tests
4. Liver function tests, including AST, ALT and GGT
5. Serologic tests for infection (HIV, RPR, EBV, HepB, etc…)
6. ESR
7. Anticonvulsant levels
8. Cultures for bacterial, and fungal pathogens
9. Rapid antigen tests for Step, EBV, RSV
10. Coagulation Studies
11. Urinalysis
12. Stool Studies
13. PPD and interpretation
14. Pregnancy testing
15. Hemoglobin Electrophoresis
16. Hemoglobin A1C

Imaging Studies

1. X-Ray's: Chest, abdominal, neck, spine, lateral neck, airway
2. CT Scan: Head, Abdomen, Chest
3. Ultrasound: Kidney, abdomen, Pelvis, Head
4. Echocardiogram
5. MRI

Other Diagnostic Tests

1. Developmental Screen
2. Vision Screening
3. Hearing screening
4. Tympanography interpretation
5. ECG

Medical Knowledge: Residents must demonstrate knowledge about established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences and the application of this knowledge to the care of the ambulatory infant, child and adolescent.

Problem-Based Learning: The resident will demonstrate an investigatory and analytic thinking approach to clinical situations. The resident will critically evaluate and use current medical information, evidence based medicine techniques and current scientific evidence for patient care.

Goal 4. Common signs and symptoms (outpatient):

A) Learn to identify and manage common signs and symptoms associated with certain subspecialty problems.

B) Learn to identify and manage common signs and symptoms associated with acute illnesses.

Objectives

a. Perform an age-appropriate directed history and physical exam.
b. Recognize physical findings and growth and development characteristics that are within range of normal versus those suggestive of pathology.
c. Format a differential diagnosis with age appropriate considerations.
d. Know clinical significance and pathophysiologic basis.
e. Formulate a plan for outpatient diagnosis and management.
f. Identify signs and symptoms indicating need for admission.

Signs and symptoms (ambulatory and acute care)

1. **Acute Care/ Urgent Care:** Weight loss, fever, hypotension, hypertension, lethargy, decreased pulses, sunken eyes, dry mucous membranes, injected tympanic membranes, decreased mobility of tympanic membranes, pharyngeal injection, lack of tears, desaturation, respiratory distress, constitutional symptoms, vomiting, diarrhea, rashes, petechiae, cough, rhinorhea, otalgia, otorhea, rhinorhea, tachypnea, tachycardia, change in bowel sounds, hepatomegaly, abdominal tenderness, guarding, rebound
2. **Adolescent Medicine/Adolescent Gynecology:** vaginal bleeding, vaginal distress, change in menstrual pattern, anxiety, weight change, depression, sleep pattern changes, Tanner staging
3. **Allergy:** sneezing, wheezing, post nasal drip, wheel and flare rash, pruritis
4. **Audiology**: speech delay, difficulty communicating
5. **Cardiology**: hypotension, hypertension, palpitations, light headedness, heart murmur, cardiomegaly, edema, jugular venous distention
6. **Dermatology:** rash, vesicular eruption, maculopapular eruption, pruritis, scaling
7. **Endocrine:** polyurea, polydypsia, polyphagia, acanthosis nigricans, growth delay, goiter, hypogonadism, precocious puberty, premature puberty, hisuitism, gynecomastia, tanner staging
8. **Gastroenterology:** diarrhea, vomiting, dysphagia, regurgitation, melena, abdominal pain, abdominal tenderness, guarding, rebound, decreased bowel sounds, hematemasis, hematochezia, rectal bleeding, jaundice, ascites, constipation, hepatomegaly, anal fissure

9. **Hematology Oncology:** pallor, abnormal bleeding, lymphadenopathy, fevers, hepatosplenomegaly, masses, bone pain/swelling, easy bruising, petechiae
10. **Immunology:** Joint pains, rashes, frequent illnesses
11. **Neurology:** seizure, headache, delirium, lethargy, weakness, ataxia, vertigo, irritability, meningismus, focal neurological deficits, hyperreflexia, hyertonia, hypotonia
12. **Ophthalmology:** vision disturbance, crossed eyes, tearing, conjunctival injection
13. **Orthopedics:** bone pain, joint pain, asymmetry, decrease range of movement
14. **Pulmonary:** wheezing, tachypnea, use of accessory muscles, cyanosis, hypoxia, apnea, dyspnea, snoring, stidor, retractions, cough, hemoptysis, chest pain, pectus deformity, nasal flaring
15. **Renal**: hematuria, polyurea, edema**,** anuria, frequency, urgency, cva tenderness, dysuria
16. **Sexual Abuse:** withdrawal, vaginal discharge, vaginal or anal damage or tears, bruising, bleeding

Goal 5. Common conditions (sub-specialty and acute care). Understand how to assess and manage common childhood sub-specialty and acute illnesses.

Objectives:
For the Conditions listed below:

a. Describe criteria for outpatient management versus hospital admission
b. Formulate a plan for outpatient diagnosis, management, monitoring and treatment
c. Know the progression of the condition through time from presentation onward
d. Avoid unnecessary interventions and testing
g. Consider psychosocial implications and interactions
h. Utilize medical information sciences to obtain current knowledge

List of common conditions by specialty area (ambulatory and acute care)

1. **Acute Care/ Urgent Care:** Rashes, viral exanthemas, Tinea Corporis, Tinea Capitis, Pityriasis Rosea, eczema, cough, URI, viral syndromes, occult bacteremia, headaches, pharyngitis, Otitis Media, gastroenteritis, parenting problems, newborn jaundice, minor trauma, epistaxis, urinary tract infections, non-specific vaginitis, conjunctivitis, impetigo, pneumonia, diaper rash, bronchiolitis, bronchitis, urticaria
2. **Adolescent Medicine/Adolescent Gynecology:** Acne, adolescent health maintenance, sexually transmitted diseases, dysfunctional Uterine Bleeding, smoking cessation, drug and alcohol usage, risk taking behavior, scoliosis, HIV, irregular menses, pregnancy, eating disorders
3. **Allergy:** Asthma, seasonal rhinitis, allergic conjunctivitis, food allergies, drug allergies, urticaria, anaphylaxis
4. **Audiology:** Speech delay, congenital nerve deafness, conductive hearing deficit, sensory-neural hearing loss
5. **Cardiology:** Congenital heart disease, Ventricular septal defect, Patent Ductus Arteriosis, arrhythmias, hypertension, syncope, rheumatic heart disease, heart murmurs (non-specific), mitral valve prolapse, idiopathic subaortic stenosis
6. **Dermatology:** Eczema, tinea capitis, tinea corporis, tinea versicolor, acne, warts, molluscum contagiosum, psoriasis, contact dermatitis, nevi

7. **Endocrine:** Diabetes, hyperthyroidism, rickets, hypothyroidism, congenital adrenal hypoplasia, growth hormone deficiency, obesity, hyperlipidemia
8. **Gastroenterology:** Constipation, GI bleeding, short bowel syndrome, peptic ulcer disease, irritable bowel syndrome, feeding disorders, malabsorption syndromes, jaundice, hepatitis, liver disease, Chrohn's disease, Ulcerative Colitis, Juvenile polyposis, Gastro-esophageal reflux
9. **Hematology Oncology:** Anemia, sickle cell disease, malignancies, bleeding disorders, thrombocytopenia, hemophilia
10. **Immunology:** Juvenile rheumatoid arthritis, Sjogren syndrome, Systemic lupus erythromatosis, mixed connective tissue disorders, chronic granulomatous disease
11. **Neonatal:** Developing ex-premature babies**,** developmental delay, early intervention, retinopathy of prematurity, cerebral palsy, bronchopulmonary dysplasia,
12. **Neurology:** Seizure disorder, developmental delay, attention deficit hyperactivity disorder, hydrocephalus, learning disabilities, cerebral palsy, headaches, syncope, vertigo
13. **Ophthalmology:** Strabismus, myopia, conjunctivitis, nasal lacrimal duct obstruction, hyphema, glaucoma, cataracts
14. **Orthopedics:** Fractures, scoliosis, Legg-Calve-Perthe's disease, slipped capital femoral epiphysis, developmental dysplasia of the hip, Osgood-Schlatter disease, Blount's disease, club foot deformity
15. **Pediatric Resource Center:** General pediatrics, immunizations, development, screening practices, Lead poisoning, obesity, failure to thrive, children of teen parents, families with social issues, developmental delay, cerebral palsy, foster children, chromosomal anomalies
16. **Pulmonary:** Asthma, bronchopulmonary dysplasia, Tuberculosis, obstructive sleep apnea, cystic fibrosis, stridor, laryngotracheomalacia, congenital anomalies of the respiratory tract,
17. **Renal:** Urinary tract Infections, minimal change disease, renal hypoplasia, dysplastic kidney, renal failure, focal segmental glomerulonephrosis, IGA nephropathy, Lupus nephritis, nephritic syndrome, post streptococcal glomerulonephritis
18. **Sexual Abuse:** Sexually transmitted diseases, physical finding of abuse
19. **Surgery:** Phimosis, abscess, inguinal hernia, femoral hernia, lipoma, umbilical hernia, cryptorchidism

Interpersonal and communication skills: Residents must be able to demonstrate interpersonal and communication skills that result in effective information exchange and learning with patients, their families and professional associates.

Goal 6. Communication: Understand and appreciate the basic principles of effective communication with children and families.

Objectives:

a. Consider the following during communication with children and family:
    a. Learning style
    b. Developmental stage of patient and family

c. Educational level of family
d. Cultural, ethnic, socioeconomic issues
e. Language barriers
f. Hearing, vision, speech impairments
g. Health and religious beliefs
h. Personal factors

b. Learn to use non-verbal communication skills and cues
c. Need to negotiate effectively
d. Listen, avoid interruptions and allow for periods of silence
i. Demonstrate empathy, reassurance, encouragement and supportive communication
j. Respond non-defensively and non-judgmentally
k. Avoid medical jargon
l. Attend to privacy and confidentiality
m. Verify understanding

Goal 7. Medical Records (outpatient): Understand and demonstrate the use of appropriate, accurate, timely and legal medical records in an ambulatory and acute care setting.

Objectives

a. Maintain appropriate medical records in a timely fashion
b. Document history, physical exam, diagnostic test results, assessment and plan in clear, legible and medically appropriate form
c. Document clearly time of interaction
d. Document role of attending physician
e. Document communication between consultant and PCP when appropriate
f. Clearly document follow-up procedures/ date and time when appropriate.
g. Document patient education and understanding when appropriate

Systems-Based Practice: Residents must demonstrate an awareness of and responsiveness to the larger context of health care and the ability to effectively and efficiently use system resources.

Goal 8. Financial Issues (outpatient): Understand the basic concepts of cost control, billing and reimbursement in the outpatient setting. Including the role of the PCP and referrals for managed care patients.

Objectives

a. The residents are expected to complete each visit by choosing diagnostic, procedure, and exam codes to help the staff generate an appropriate bill. (CPT and ICD-9 coding with modifiers)
b. The residents are to become familiar with managed care requirements for PCP referrals
c. Residents may interact with managed care staff and insurance companies in facilitating the approval process for procedures or referrals.
d. Residents should assess financial and social issues affecting the child's care and make appropriate social service or child health plus referrals.
e. Residents will participate in hospital QA/PI projects and will report QA issues as needed.

Goal 9. Role of the sub-specialist (outpatient): Understand the role of the sub-specialist in the management of children with chronic medical problems and/or an acute medical dilemma.

Objectives

a. Develop an understanding of when to refer a child to a sub-specialist.
b. Residents should become familiar with methods of communication between PCP and consultant (written communication, telephone consultation, etc.)
c. Residents should learn how to co-manage a patient with a specialist.

Professionalism: Residents must demonstrate a commitment to carrying out professional responsibilities, adhere to ethical principles and show sensitivity to a diverse population.

Goal 10. Personal attitude (outpatient): Understand the need to function professionally and responsibly.

Objectives

a. Reads current literature
b. Recognizes hierarchical authority
c. Effectively balances common sense, clinical impression, anecdotal information and intuition
d. Respects the role and appropriately interacts well with peers, faculty, nursing, other health care providers and ancillary staff
e. Accepts feedback, suggestions and criticisms
f. Cooperates effectively
g. Feels competent but accurately acknowledges appropriate limits of ability and knowledge
h. Seeks assistance when needed not when unnecessary
i. Accepts responsibility for own education and professional development
j. Demonstrates initiative and interest in self-directed learning

Methods:

1. Direct patient care
   a. At the begging of the 2 week or 4 week rotation each resident is provided with an individualized schedule of clinic assignments for the rotation.
   b. The assignments include: pediatric sub-specialty clinics at UHB and KCH (immunology, neonatal, adolescent, adolescent gynecology, asthma, eczema, renal, dermatology, GI, endocrine, hematology/oncology, sickle cell, chest, OSA, cardiology) the Pediatric Resource Center at KCH, Pediatric Surgery Clinic at KCH, Pediatric Orthopedics Clinic at KCH, Pediatric Neurology Clinics at KCH and UHB, Pediatric Ophthalmology Clinic at KCH, Audiology Clinic at KCH, Pediatric Urgent Care at KCH, Breast Feeding Clinic at UHB, Sexual Abuse Clinic at the Flatbush Satellite Center of KCH, and Pediatric Walk-In clinic at KCH.
   c. The residents will learn by direct patient care at the above sites.
   d. Each patient is presented directly to and reviewed by the attending Physician
   e. The Attending Physician reviews plan of care, physical findings and history contemporaneously.
   f. Direct one on one teaching takes place with every patient.

2. Attend and participate in departmental conferences
   a. Residents conference
   b. Grand Rounds
   c. Patient Management conferences
   d. Radiology conference
   e. Morbidity and Mortality conference

Evaluation:

There will be ongoing formative feedback throughout the rotation by all supervisory faculty members. At the end of the rotation the rotation director or his designee will gather information from participating faculty and discuss the summative evaluation with the resident. Both the rotation director and the resident will sign the evaluation form. The supervising faculty members will subsequently discuss the resident's performance at the monthly house staff affairs committee meeting attended by the program director (or designee) and representative faculty.

Evaluation is base upon direct observation and interaction of supervisory faculty members and course director with the residents in clinical out-patient settings.

References:

1. Zitelli and Davis "Atlas of Pediatric Physical Diagnosis"
2. Finberg "Saunders Manual of Pediatric Diagnosis"
3. Johnson et al. "The Harriet Lane Handbook"