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# UTMB Pediatric Clerkship Curriculum

## Goals and Objectives

The third year Pediatrics clerkship is designed to complete the students' introduction to Pediatrics by acquainting them with childhood and adolescent diseases and by exposing them to a much greater variety of clinical pediatric problems.

### Goals

*The goals of the pediatric core curriculum are to foster:*

- Acquisition of a basic knowledge of normal growth and development (physical, physiologic and psychosocial) and clinical application of this knowledge in patients of all ages from birth through adolescence.
- Development of communication skills that facilitate the primary care physician's clinical interaction with children, adolescents and their families and thus ensure that complete, accurate historical data is obtained.
- Development of competency in the physical examination of infants, children and adolescents.
- Acquisition of the knowledge necessary for the diagnosis and initial management of common, acute and chronic pediatric illnesses.
- Development of clinical problem-solving skills applicable to all branches of health care.
- An understanding of the influence of family, community and society on the child, both in health and disease.
- Development of strategies for effective health promotion as well as for disease and injury prevention.
- Development of attitudes and professional behaviors appropriate for patient care.
- An understanding of the pediatrician's approach to the health care and overall well being of children and adolescents.

### Objectives

*At the completion of their Pediatric Clerkship training, third year medical students will be able to:*

- demonstrate a basic comprehension of common childhood and adolescent diseases, their diagnosis and treatment;
- demonstrate a basic knowledge of the most frequent clinical, laboratory, roentgenologic and pathologic manifestations of common pediatric diseases;
- understand the normal process of growth and development in children and adolescents and to recognize substantial deviations they are from;
- perform a reasonable and complete, age appropriate history and physical examination in children of all ages;
- have a basic understanding of the more common principles of pediatric health maintenance;
- demonstrate a basic knowledge about common risk factors that contributes to the development of pediatric disease and injury;
- utilize common disease and injury prevention practices, including patient and family education, in reducing the incidence of pediatric disease and injury;
- communicate effectively with pediatric and adolescent patients as well as with their parents or guardians;
- demonstrate a basic knowledge on the more common principles of cost effective pediatric health care management;
- demonstrate compassion and empathy in caring for pediatric patients;
- demonstrate respect for the privacy of pediatric patients and for their dignity as people;
- demonstrate integrity and honesty in all personal and professional activities.

### Knowledge

**Objectives:** By studying the suggested reference texts, viewing online resources, or through clinical contact and interaction with the faculty and housestaff, upon completion of the clerkship the student should be able to demonstrate knowledge of the following areas:

**A. Well Child Care** - knowledge shall be demonstrated by being able to:

- Discuss the standard immunization schedule and major contraindications and complications of the various vaccines.
- Discuss the necessary health maintenance procedures at various ages, e.g., hearing screening and vision screening, TB screening, lead screening, etc.

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- Discuss the significance of deviations in recorded growth from the standard growth curves.
- Discuss common parental concerns at specific ages including feeding problems, colic, temper tantrums, constipation, and the risk factors for sudden infant death syndrome (SIDS).
- Discuss and create a health and safety plan for the child and family.
- Discuss how to recognize variations in development that require further or continuing attention.
- Identify common dermatological conditions encountered in well child care.

***Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: incomplete immunizations, growth failure, diaper dermatitis, or developmental delay.***

**B. Assessment of Behavior and Development** - knowledge shall be demonstrated by being able to:

- Recognize the importance in clinical care of the following developmental issues:
  - Infant – changes in reflexes, tone and posture; cephalocaudal progression of motor milestones during the first year; stranger anxiety.
  - Toddler / child – separation and autonomy in two to three-year olds; concept of school readiness
  - Adolescent – sequence of physical maturation and sexual maturity rating (Tanner); stages of emotional development.
- Identify the early signs of mental retardation and cerebral palsy.
- Perform developmental screening as part of the health maintenance visit or inpatient evaluation.
- Summarize the main developmental changes of adolescence that are important to discuss with parents and adolescents.
- Elicit age-appropriate behavioral concerns during the health supervision visit.
- Identify behavioral and psychosocial problems through the medical history and physical examination.
- Discuss the typical presentation of common behavioral problems at various ages and developmental stages (e.g. infant: sleep problems; toddler/preschooler: temper tantrums, toilet training, eating problems; elementary school age: enuresis, attention deficit disorder; middle school/high school: conduct disorders, eating disorders, risk taking behaviors).
- Recognize that somatic complaints may represent underlying psychosocial problems (e.g. recurrent abdominal pain or headaches, chronic fatigue, and neurological complaints).
- Recognize the various situations where pathology in the family contributes to childhood behavior problems (e.g. alcoholism, domestic violence, depression).
- Distinguish between age-appropriate “normative” behavior and significantly “deviant” behavior or psychiatric illness.

***Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: mental retardation, attention-deficit or other learning disorders or delayed language or motor skills.***

**C. Assessment of Growth** – knowledge shall be demonstrated by being able to:

- Recognize and define short stature.
- Discuss the meaning of primary and secondary growth disturbances.
- Discuss specific growth patterns in children with short stature.
- Discuss the evaluation of infants / children with growth failure.
- Discuss the evaluation of children with precocious or delayed puberty, including menarche.
- Perform and describe the Tanner sexual maturity rating.

***Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: short child, or early/late maturer.***

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**D. Assessment of Nutrition** – knowledge shall be demonstrated by being able to:

- State the calories/kg per day needed for normal growth in infants and small children.
- Identify the major differences between human milk and the various commonly available infant formulas.
- Describe the advantages of breast feeding and recognize potential common difficulties experienced by breast-feeding mothers.
- Recognize factors that contribute to the development of failure to thrive and obesity in childhood.
- Recognize that chronically ill children may have special nutritional needs requiring unique diets, supplements, or feeding methods, and identify ways that these special diets can be an essential aspect of patient treatment.
- Advise families about the dietary prevention and treatment of common pediatric mineral (e.g. iron, fluoride, calcium) and vitamin deficiencies.
- Obtain routine diet histories on infants that include:
  - the type of feeding (breast vs. formula) with amount and frequency,
  - the types and approximate amounts of solids, and
  - the diet supplements given (vitamins, fluoride, iron).

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: obesity and failure to thrive.*

**E. Care of the Febrile Child** - knowledge shall be demonstrated by being able to:

- Describe historical information that is important in the evaluation of a febrile child.
- Describe physical exam findings that are important in the evaluation of a febrile child.
- Describe the clinical conditions that may be potentially life threatening in a febrile child and know how to differentiate them from other less threatening conditions.
- Provide indications for the symptomatic management of fever.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: febrile child or febrile seizure.*

**F. Assessment of the Child with a Severe Infection** – knowledge shall be demonstrated by being able to:

- Recognize the signs and symptoms of sepsis and meningitis.
- List the primary organisms associated with sepsis and meningitis during the neonatal and the post neonatal period.
- Recognize the signs and symptoms of other severe infections during childhood including septic arthritis, respiratory infections, and urinary tract infections.
- Recognize the signs and symptoms associated with streptococcal, staphylococcal, mycoplasma, chlamydial, and tuberculosis infections.
- Recognize the signs and symptoms associated with the major viral pathogens of childhood including adenovirus, enterovirus, parvovirus, herpes virus, cytomegalovirus, varicella zoster virus, influenza viruses, rubella, rubella, mumps, Epstein-Barr virus, human herpesvirus 6 (roseola), parainfluenza, and respiratory syncytial viruses.
- Recognize the signs and symptoms associated with pelvic inflammatory disease and other sexually transmitted diseases in adolescents and be able to manage them.
- Recognize the history and physical findings that would cause you to suspect an underlying immunodeficiency.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: Neonatal fever, viral exanthema or vaginal/penile discharge.*

**G. Care of the Child with Acute Respiratory Symptoms** – knowledge shall be demonstrated by being able to:

- Recognize the signs and symptoms associated with croup and epiglottitis.
- Discuss the common causes of pneumonia in normal infants and children as well as those that occur in the immunocompromised child.
- Recognize the signs and symptoms of common respiratory conditions, e.g., rhinitis, otitis media, croup, epiglottitis, bronchiolitis and asthma, and know the approach to treatment of these problems.
- Identify symptoms and physical findings that suggest allergic disease.

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- Discuss the basis and application of therapeutic measures used in specific allergic diseases.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: viral URI, streptococcal pharyngitis, acute otitis media, bronchiolitis, asthma, or pneumonia.*

**H. Assessment of the Child with Cardiovascular Disease** – knowledge shall be demonstrated by being able to:

- Describe the clinical features that point to the presence of a congenital heart malformation.
- Understand the anatomy and physiology of common congenital cardiac defects.
- Understand the etiology, symptoms and diagnosis of acute rheumatic fever.
- Describe the criteria for establishing a diagnosis of hypertension in a child.
- List the causes of hypertension during infancy and childhood.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: heart murmur or high blood pressure.*

**I. Assessment of the Child with a Suspected Endocrine Disorder** – knowledge shall be demonstrated by being able to:

- Recognize and discuss the symptoms, diagnosis, and management of type I and II diabetes.
- Recognize and discuss the symptoms and diagnosis of thyroid disease in children.
- Recognize and discuss the symptoms and diagnosis of pituitary disease in children.
- Recognize the presentation and laboratory abnormalities of congenital adrenal disorders.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: diabetes, goiter or pituitary mass.*

**J. Assessment of the Child with Acute Abdominal Pain and/or Diarrhea** – knowledge shall be demonstrated by being able to :

- Describe the initial information necessary to categorize the severity of the problem and the urgency of response.
- List an age appropriate differential diagnosis that reflects the degree of acuity.
- Describe the criteria for establishing a diagnosis of diarrhea.
- Explain the major risks associated with diarrhea and identify the signs and symptoms that indicate high risk to the patient.
- Select laboratory tests that complement patient management.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: diarrhea or abdominal pain.*

**K. Assessment of the Child with Suspected Genito-Urinary System Disease** – knowledge shall be demonstrated by being able to:

- Identify clinical features that suggest renal or urinary tract disease.
- Relate historical, physical, and laboratory findings to common renal pathology, including the nephrotic syndrome and glomerulonephritis.
- Recognize clinical situations that mandate urgent intervention or consultation.
- Develop an appropriate management plan for common renal or urinary system problems.
- Recognize the clinical signs and symptoms of sexually transmitted disease among males and females.
- Be able to differentiate normal from abnormal findings on a pelvic exam.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: urinary tract infection, sexually transmitted diseases, proteinuria or hematuria.*

**L. Assessment of the Child with a Suspected Neurologic Disorder** – knowledge shall be demonstrated by being able to:

- Describe the features of the history and physical examination important to the evaluation of a child with a nervous system complaint.
- Describe the common causes of altered consciousness, weakness, and ataxia in children.

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- Describe the clinical features obtained from the history and physical examination that indicate the need for immediate intervention or early consultation for a neurological condition.
- Describe the different types of seizure disorders in children.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: headache complaint or seizure disorder.*

**M. Assessment of the Child with a Fluid and/or Electrolyte Disorder** – knowledge shall be demonstrated by being able to:

- Describe the physiologic processes that maintain fluid and electrolyte homeostasis.
- Identify the clinical signs and symptoms that suggest abnormalities of fluid and electrolyte balance.
- Select the laboratory procedures appropriate to clarify the clinical findings.
- Recognize clinical situations that mandate urgent intervention or consultation.
- Apply physiologic principles to the development of a fluid and/or electrolyte management plan.
- Describe a monitoring plan for assessing the efficacy of treatment plan.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: oral rehydration, edema or dehydration.*

**N. Assessment of the Child with a Suspected Hematologic / Oncologic Disorder** – knowledge shall be demonstrated by being able to:

- Describe the findings from the history, physical exam and blood count that suggest a hematologic disorder.
- Describe the laboratory findings associated with various types of anemia.
- Recognize the historical, physical and laboratory findings associated with a bleeding disorder.
- Describe the findings from the history and physical exam that suggest malignant disease.
- Select procedures that assist in the diagnosis of a malignancy.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: anemia or leukemia.*

**O. Assessment of the Child with Suspected Acute Poisoning** – knowledge shall be demonstrated by being able to:

- Describe the history and physical examination findings in common childhood poisonings.
- Describe management measures essential to sustaining a child during a diagnostic evaluation for acute poisoning.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: patient with ingestion or contact with the Poison Control Center.*

**P. Care of the Child with an Abusive Home Situation or an Emotional Disorder** – competency shall be demonstrated by being able to:

- Discuss the clinical findings associated with psychosocial deprivation and/or physical abuse.
- Recognize the historical information and clinical signs that may indicate an abusive home situation.
- Provide information to families on community resources available for evaluating abusive home situations.
- Discuss common behavioral problems including attention deficit-hyperactivity disorder, school phobias, illicit drug use, drinking alcohol, smoking, and adolescent sexual activity that may occur among children from an abusive home situation.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: physical abuse or neglect.*

**Q. Care for the Child in Pain or with a Terminal Illness** – competency shall be demonstrated by being able to:

- Prescribe age appropriate and situation appropriate medications for an infant or child experiencing pain.
- Counsel families on the common stages of grief associated with the impending or accomplished death of an infant or child.

*Knowledge in this area may be enhanced by encountering any of the following problems during the clerkship: hospice care or chronic pain.*