

CLINICAL PROBLEM SOLVING SKILLS (MS III) (Ward)

General Competencies

1. Demonstrate sensitivity to confidentiality, privacy, and modesty, during the medical interview and physical examination.
2. Demonstrate an ability to perform an age-appropriate history and physical examination in children of all ages.

Specific Skills

A. Interviewing Skills

1. Demonstrate an ability to obtain the following information in an age-appropriate and sensitive manner from a child or the accompanying adult:
 - a. **Past History**
 - i. Neonatal history, including:
 - ii. Birth weight and approximate gestational age
 - iii. Maternal complications, such as extent of prenatal care, infections, exposure to drugs, alcohol, and/or medications
 - iv. Problems in the newborn period, such as prematurity, respiratory distress, jaundice, and infections
 - v. Immunizations
 - vi. Previous hospitalizations
 - vii. Surgeries
 - viii. Medications and medication allergies
 - ix. Chronic medical conditions
 - x. Growth and development
 - xi. Nutrition
 - b. **Family History**
 - i. Age and health of family members to include acute and chronic medical conditions
 - ii. Drug and alcohol abuse
 - iii. Construct a family pedigree
 - c. **Social History**
 - i. Household composition and socioeconomic status
 - ii. School, caregiver, and peer relationships
 - iii. HEADSS assessment
 - iv. Environmental and Personal Safety Assessment:
 1. Seat belts and car seats
 2. Bicycle helmets
 3. Firearms in the house
 4. Smoking
 5. Lead exposure
 6. Home safety (for infants and toddlers)

B. Physical Examination Skills

1. Demonstrate the role of patient observation in determining the nature of a child's illness and developmental stage.
2. Conduct a pediatric physical examination appropriate to the nature of the visit or complaint (complete vs. focused) and the age of the patient.
3. Demonstrate an ability to perform the following examination skills:
 - a. **Appearance**
 - i. Interpret the general appearance of the child, including size, morphologic features, development, behaviors, and interaction of the child with the parent and examiner.
 - ii. Identify signs of acute and chronic illness in a neonate, infant, toddler, school-aged child, and adolescents as evidenced by skin color, respiration, hydration, mental status, cry, and social interaction.

- b. **Vital signs**
 - i. Measure vital signs, demonstrating knowledge of the appropriate blood pressure cuff size and normal variation in temperature depending on the route of measurement (oral, rectal, axillary, or tympanic)
 - ii. Identify variations in vital signs based on age of the patient, the presence or absence of disease, and testing modalities (e.g. blood pressure cuff size).
- c. **Growth** (Note: All students on the Pediatric Clerkship should see a patient with real or possible (e.g. parental concern) issues related to growth (e.g. failure to thrive, obesity, short stature, macrocephaly, microcephaly, constitutional delay, small for gestational age). This can be in the context of a well child examination or a child with a known disorder.)
 - i. Accurately graph and interpret height (length), weight, and head circumference
 - ii. Calculate, plot, and interpret BMI
 - iii. Describe the usefulness of longitudinal data in assessing growth
- d. **Development** (Note: All students on the Pediatric Clerkship should see a patient with real or possible (e.g. parental concerns) issues related to development (e.g. delayed or possible delayed language, motor, fine motor, or social adaptive skills.)
 - i. Demonstrate an ability to assess psychosocial, language, physical maturation, and motor development in pediatric patients using appropriate resources (e.g. Bright Futures, the Denver Developmental Standard Test, and HEADSS) Key feature might include the following:
 1. Newborn/Infant – Disappearance of primitive reflexes; changes in tone and posture; cephalocaudal progression of motor milestones during the first year; stranger anxiety
 2. Toddler/Child – Separation and autonomy in two- to three-year-olds; sequence of language development; concept of school readiness
 3. Adolescent – Sequence of physical maturation (e.g. Tanner scales); cognitive development; and assessment of psychosocial and emotional development (e.g. HEADSS)
- e. **HEENT**
 - i. Observe, measure, and describe head size and shape, symmetry, facial features, and ear position as part of the examination for dysmorphic features
 - ii. Identify sutures and fontanels in neonates and interpret findings
 - iii. Identify the red reflex and discuss how it is used to detect corneal opacities and intraocular masses
 - iv. Detect the corneal light reflection and discuss how it is used to identify strabismus
 - v. Assess hydration of the mucous membranes
 - vi. Assess dentition
 - vii. Observe the tympanic membrane using an otoscope and an insufflator
 - viii. Identify the structures of the oropharynx (e.g. uvula, tonsils, palate, tongue) and recognize signs of pathology
- f. **Neck**
 - i. Palpate the lymph nodes and describe what anatomic areas they drain
 - ii. Demonstrate maneuvers that test for nuchal rigidity
 - iii. Palpate the thyroid and any neck masses
- g. **Chest**
 - i. Observe, measure, and interpret the rate, pattern, and effort of breathing
 - ii. Identify normal variations of respiration and signs of respiratory distress (e.g. grunting, flaring, and retraction)
 - iii. Identify normal breath sounds and findings consistent with respiratory pathology such as stridor, wheezing, and asymmetric breath sounds
 - iv. Identify transmitted upper airway sounds
 - v. Observe and describe breast tissue according to developmental stage
- h. **Cardiovascular**
 - i. Identify the pulses in the upper and lower extremities through palpation
 - ii. Observe and palpate precordial activity

<ul style="list-style-type: none"> iii. Describe cardiac rhythm, rate, and quality (such as intensity, pitch, and location) of the heart sounds and murmurs and variation with maneuvers through auscultation iv. Assess peripheral perfusion, using a test for capillary refill v. Identify central versus peripheral cyanosis <ul style="list-style-type: none"> i. Abdomen <ul style="list-style-type: none"> i. Palpate the liver, spleen, and kidneys, and interpret the finding based on the age of the patient ii. Assess the abdomen for distention, tenderness, and masses through observation, auscultation, and palpation iii. Determine the need for a rectal examination j. Genitalia <ul style="list-style-type: none"> i. Describe the difference in appearance of male and female genitalia at different ages and developmental stages ii. Palpate the testes and identify genital abnormalities in males, including cryptorchidism iii. Recognize genital abnormalities in females including signs of virilization k. Extremities <ul style="list-style-type: none"> i. Examine the hips of a newborn for developmental dysplasia of the hip using the Ortolani and Barlow ii. Observe and describe the gait of children at different ages iii. Recognize pathology, such as joint effusions, signs of trauma, and inflammation l. Back <ul style="list-style-type: none"> i. Elicit the primitive reflexes that are present at birth and describe how they change as the child develops ii. Assess the major developmental milestones of newborns, infants, toddlers, school aged, children, and adolescents m. Skin <ul style="list-style-type: none"> i. Describe and assess turgor, perfusion, color, hypo and hyperpigmented lesions, and rashes through observation and palpation ii. Identify jaundice, petechiae, purpura, bruising, vesicles, and urticaria
C. Therapeutic Skills
<ol style="list-style-type: none"> 1. Write admission and daily orders for a hospitalized patient to be cosigned by intern or resident 2. Use a family history to construct a pedigree
D. Fluid and Electrolyte Management
<ol style="list-style-type: none"> 1. Obtain historical and physical finding information necessary to assess the hydration status of a child. 2. Calculate and write orders for intravenous maintenance fluids for a child considering daily water and electrolyte requirements. 3. Calculate and write orders for the fluid therapy for a child with severe dehydration caused by gastroenteritis to include "rescue" fluid to replenish circulating volume, deficit fluid, and ongoing maintenance. 4. Explain to parents how to use oral rehydration therapy for mild to moderate dehydration.
E. Pediatric Emergency Management
<ol style="list-style-type: none"> 1. Elicit a complete history when evaluating an unintentional ingestion or exposure to a toxic substance (including the substance, the route of exposure, the quantity, timing, and general preventive measures in the household.) 2. Demonstrate the "ABC" assessment as a means for identifying who requires immediate medical attention and intervention.
F. Patient Communication Skills
<ol style="list-style-type: none"> 1. Conduct an effective interview by adapting the interview to the visit or chief complaint 3. Demonstrate effective verbal and non-verbal communication skills with children and their parents or families that include: <ul style="list-style-type: none"> i. Establishment of rapport taking into account the patient's age and development stage ii. Use of communication techniques that enable the development of a therapeutic alliance being sensitive to the unique social condition and cultural background of

- the family
- iii. Identification of the primary concerns of the patient and/or family
- iv. Discussion of medical information in terms understandable to patients and families (e.g. avoidance of medical jargon)

4. Correctly identify the need for an interpreter in specific patient-physician interactions

G. Peer Communication Skills

1. Demonstrate effective oral and written communication with the health care team avoiding jargon and vague terms

2. Present a complete, well-organized verbal summary of the patient's history and physical examination findings, including an assessment and plan modifying the presentation to fit the time constraints and educational goals of the situation

3. Document the history, physical examination, and assessment and plan using a format appropriate to the clinical situation (e.g. inpatient admission, progress note, office or clinic visit, acute illness, health supervision visit, and interval care visits)

A. Problem Solving Skills

1. Demonstrate an ability to generate an age-appropriate differential diagnosis and problem list based on the interview and physical examination

2. Generate an age-appropriate differential diagnosis and initial diagnostic and therapeutic plan for each patient presenting with one of the following symptoms, physical findings, or laboratory findings:

- a. Symptoms
 - i. Abdominal pain
 - ii. Cough and/or wheeze
 - iii. Diarrhea
 - iv. Fever and rash
 - v. Fever without source
 - vi. Headache
 - vii. Lethargy or irritability
 - viii. Limb or extremity pain
 - ix. Otagia
 - x. Rash
 - xi. Rhinorrhea
 - xii. Seizures
 - xiii. Sore throat
 - xiv. Vomiting
- b. Physical examination findings
 - i. Abdominal mass
 - ii. Bruising
 - iii. Heart murmur
 - iv. Hepatomegaly
 - v. Lymphadenopathy
 - vi. Petechiae and/or purpura
 - vii. Splenomegaly
 - viii. Red or wandering eye
 - ix. White papillary reflex
- c. Laboratory tests
 - i. Anemia
 - ii. Hematuria
 - iii. Proteinuria
 - iv. Positive Mantoux skin test (PPD)

Processes

1. All students on the Pediatric Clerkship should see a patient or patients with the following system or symptom-based complaints:
 - Upper respiratory tract complaint (e.g. sore throat, difficulty swallowing, otalgia)
 - Lower respiratory tract complaint (e.g. cough, wheeze, shortness of breath)
 - Gastrointestinal tract complaint (e.g. nausea, vomiting, diarrhea, abdominal pain)
 - Skin or mucous membrane complaint (e.g. rash, pallor)
 - Central nervous system complaint (e.g. headache, lethargy, Irritability, fussiness)
 - Fever without localized findings
2. All students on the pediatric clerkship should see a patient or patients with respiratory distress.
3. Search for relevant information using electronic (or other) data bases and critically appraise the **information obtained to make evidence-based decisions**