I. PROFESSIONALISM:

1) Demonstrate behaviors that respect patient privacy, confidentiality and/or modesty.

2) Demonstrate communication skills with patients and their families which convey integrity, sensitivity, flexibility, respect, and compassion.

3) Demonstrate respect for patient, parent, and family attitudes, behaviors, and lifestyles (e.g., socioeconomic or ethnic and cultural influences) by actively trying to elicit, consider, and incorporate those factors into the health care plan.

4) Demonstrate attitudes and behaviors that promote the patient’s and his/her family’s best interest, by displaying flexibility in meeting their needs.

5) Demonstrate collegiality and respect for all colleagues and team-members when working on a health care team.

6) Demonstrate a positive attitude and behaviors towards education by demonstrating intellectual curiosity, initiative, honesty, responsibility, the ability to solicit, accept and act on feedback, the ability to provide feedback, respect for peers, flexibility, and dependability.

7) Describe a pediatrician’s role in society in regards to maintaining and advocating for the needs of children and adolescents and their families, and the health of the communities in which they reside.

II. HEALTH SUPERVISION:

8) List the most common morbidities in children and describe strategies for prevention.

9) Describe the components of a well-check pediatric visit including health promotion, disease prevention, injury prevention, screening tools, and immunizations.

10) Describe the rationale and current guidelines and recommendations for childhood immunizations, as well as contraindications to those immunizations.
11) Discuss the rationale and indications for common pediatric health screenings including:
- environmental lead exposure
- domestic violence
- PPD
- CBC
- urinalysis

12) Define anticipatory guidance and describe how a child’s age impacts this.

13) Demonstrate an ability to provide age-appropriate anticipatory guidance about immunizations, injury prevention, pubertal development, nutrition, behavior.

III. GROWTH

14) Describe variants of normal growth in healthy children (e.g., constitutional delay or familial short stature).

15) Identify and describe abnormal growth patterns based on a child’s previous growth, and family growth history (e.g., growth abnormalities related to specific findings, short stature, obesity, microcephaly, macrocephaly).

16) Identify failure to thrive in a child using BMI and other growth measures, and outline this differential diagnosis and initial evaluation.

17) Identify overweight/obesity in a child or adolescent using BMI and other growth measures, and outline this differential diagnosis and initial evaluation.

18) Demonstrate the ability to measure and assess growth including: height/length, weight, head circumference, body mass index (BMI) in patient encounters using standard growth charts.

IV. DEVELOPMENT

19) Describe the Denver Developmental Exam’s four developmental domains of childhood: gross motor, fine motor, language, social development

20) Articulate how abnormal findings on the developmental screening tools would be suggestive/indicative of a developmental delay diagnosis.

21) Demonstrate an ability to assess development in the following key domains in pediatric patients using appropriate resources (Denver Developmental Standard Test 2, HEADSS, Bright Futures, etc.):
   • physical maturation
   • motor development
• language
• psychosocial

A. Issues Unique To Newborns

22) Describe the transition from an intrauterine to an extraterine environment in terms of:
• temperature regulation
• glucose regulation
• cardiovascular and respiratory adjustment
• initiation of feeding

23) List the types of information from the history of pregnancy, labor, and delivery given by the parents (or from medical records), which has implications for a newborn’s health.

24) Describe how gestational age can be assessed with an instrument such as the Ballard scale.

25) Explain what the APGAR score is, and what its elements are in assessing the health of a newborn immediately after birth.

26) Describe the challenges parents face in adjusting to a new infant in the home.

27) Generate a differential diagnosis and list of complications for the following common problems that may occur in a newborn:
• jaundice
• respiratory distress
• poor feeding
• cyanosis
• congenital infections
• unusually large or small for gestational age
• tremulousness
• irritability
• lethargy
• drug withdrawal
• hypoglycemia
• sepsis
• TORCH infections
• Seizures
• hypotonia

28) Perform a complete physical examination of a newborn.

29) Give a newborn baby’s parents anticipatory guidance on the following common issues:
• normal neonatal sleep patterns
• normal urinary and bowel elimination patterns
• newborn screening tests for metabolic conditions
• newborn screening tests for infectious conditions
• newborn screening tests for hearing loss
• correct car seat use
• prevention of SIDS ("back to sleep")
• immunizations (e.g., HBV)
• medications (e.g., vitamin K and eye prophylaxis)
• the role of circumcision

B. Issues Unique To Adolescents

30) Describe the unique features of the physician-patient relationship during adolescence in terms of confidentiality, autonomy, and consent.

31) Identify and describe the sequence of physical changes that occur during puberty according to the Tanner Scale.

32) List the components of health supervision for adolescent patients including:
• personal habits
• pubertal development
• immunizations
• acne
• scoliosis
• sports participation
• indications for pelvic/gynecological examination

33) Describe common risk-taking behaviors that adolescent patients may engage in, such as alcohol use, drug use, sexual activity, violence

34) Describe the factors that contribute to adolescent mortality, including accidents and other unintentional injuries, homicide, and suicide.

35) Describe the features of common mental health problems in adolescence including:
• school failure
• attention deficit disorder
• body image disorder
• eating disorders
• depression
• suicide

36) Interview and appropriately advise an adolescent patient, using the HEADSS method to ask sensitive questions about lifestyle choices that impact health and well-being.
including:
- sexuality
- drug use
- tobacco use
- alcohol use

37) Conduct a physical examination on an adolescent patient, demonstrating respect for privacy and modesty, and using a chaperone when appropriate.

V. BEHAVIOR

38) Identify normal behavior patterns in developing children at each stage, including:
- Newborn/Infants: development and evolution of social skills
- Toddler: autonomy
- School Age: independence
- Adolescence: abstract thinking

39) Describe the typical presentation of common behavioral problems and issues at different stages of childhood, including:
- Newborns/Infants: sleep problems/colic
- Toddler: temper tantrums, toilet training, feeding problems
- School Age: enuresis, attention deficit hyperactivity disorder or attention deficit disorder
- Adolescence: eating disorders, risk-taking behavior

40) Describe some medical conditions or emotional disturbances which may manifest in altered school performance or altered relationships with peers/family.

41) Explain the way in which somatic complaints may signal psychosocial problems (e.g., headaches, fatigue, abdominal pain and neurological complaints).

42) Describe how family dysfunction/pathology (e.g., substance abuse, alcoholism, domestic violence, mental illness) may contribute to childhood behavior problems.

VI. NUTRITION

43) Explain the advantages of breastfeeding.

44) Identify children with special nutritional needs including:
- certain chronic illnesses
- obesity
- prematurity
- abnormal growth patterns
- failure to thrive
- family risk factors
• metabolic disorders

Describe the nutritional factors that contribute to:
• failure to thrive
• obesity

45) List common signs and symptoms of common childhood nutritional deficiencies (e.g., vitamin D, iron) and how to prevent them.

46) Obtain a dietary history of patients at different developmental stages of childhood: Infancy: type amount and frequency of breast or formula feeding, solid foods, dietary supplements (including iron, fluoride, and vitamins)
Toddler/School Age: milk, juice, soda, fast food, meal patterns
Adolescents: meal patterns, nutritional supplements, milk, juice, soda, fast food, snacks, fad diets, alcohol

47) Determine the caloric adequacy of infant diets.

48) Provide basic nutritional advice to an infant’s or child’s family regarding these topics:
• Breastfeeding vs. formula feeding
• Use of supplements, including fluoride
• Introduction of solid foods to an infant’s diet
• Introduction of cow’s milk to an infant’s diet
• Healthy food choices for children
• Healthy food choices for adolescents
• Exercise
• Television-watching, computer-screen-time, and video-game playing effects on obesity

VII. PREVENTION:

49) Explain how the risk of illnesses and injuries change during growth and development, and give examples of some common age-related or development-related illnesses and injuries.

50) Explain how and why screening for family or domestic violence in a pediatric-care setting may serve an important role in preventive health practice.

51) Provide age-appropriate anticipatory guidance for the following safety-related concerns:
• Seatbelts
• Motor-vehicle safety
• Child car seats
• Infant sleeping position
• Falls
• Poisoning
• Burns
• Fire Safety
• Water Safety
• Choking
• Bicycle Safety
• Helmets and head injury prevention
• Firearms and weapons
• Sexually Transmitted Diseases

VIII. CHILD ABUSE

52) List findings on a history and physical exam that should trigger concern for possible physical, sexual and psychological abuse and neglect.

53) Describe the medical-legal importance of a complete and detailed, documented history and physical examination in evaluating child abuse.

54) Discuss the concurrence of child abuse and domestic violence and describe markers that indicate the possible presence of family violence.

IX. CHILD ADVOCACY

55) Describe the barriers that may prevent children’s access to health care including: financial, cultural, geographic

56) Identify opportunities for advocacy during a well-check/health supervision pediatric visit.

X. MEDICAL GENETICS/DYSMORPHOLOGY

57) Describe the genetic basis and clinical manifestations of the following syndromes and malformations:
   A. Common Chromosomal Abnormalities:
   • Trisomy 21, Trisomy 13 Trisomy 18
   • Turner Syndrome
   • Klinefelter Syndrome
   • Fragile X Syndrome

   B. Syndromes Due to Teratogens:
   Fetal Alcohol Syndrome
   Infant of a diabetic mother

   C. Other Genetic Disorders:
   • Cystic Fibrosis
• Sickle Cell Anemia
• Hemophilia
• Neurofibromatosis

58) List common metabolic disorders that are detected via newborn screening programs:

• hearing loss
• Phenylketonuria (PKU)
• hemoglobinopathies
• hypothyroidism
• MCAD deficiency
• galactosemia

59) Discuss the effects of maternal health and teratogenic agents on the fetus and child including:

• alcohol
• illicit drugs
• diabetes
• maternal age

60) Construct a family genetic pedigree, using a family history, in order to evaluate a possible genetic disorder.

XI. COMMON ACUTE PEDIATRIC ILLNESSES

61) List the age-appropriate differential diagnosis and initial diagnostic and therapeutic plan for children and adolescents presenting each of these common symptoms and problems:

• abdominal pain
• headache
• sore throat
• rhinorrhea
• otalgia
• coughing/wheezing
• diarrhea
• vomiting
• limping
• lethargy and irritability
• seizures
• fever of unknown source
• fever and rash

62) List the age-appropriate differential diagnosis and initial diagnosis and treatment plan for pediatric patients who present with each of these physical findings:
- heart murmur
- abdominal mass
- lymphadenopathy
- splenomegaly
- bruising
- strabismus

63) List age appropriate differential diagnosis and initial diagnosis and treatment plan for pediatric patients with each of these laboratory findings:
- anemia
- proteinuria
- hematuria
- positive PPD

64) Describe the epidemiology, clinical, laboratory, and imaging/radiographic findings of each of the core pediatric level conditions listed for each presenting problem.

XII. COMMON CHRONIC PEDIATRIC ILLNESSES AND DISABILITIES

65) Describe the clinical features of chronic medical conditions commonly seen in children, such as:
- asthma
- diabetes
- atopic dermatitis
- seasonal allergies
- cancer—e.g., acute lymphocytic leukemia or Wilm’s Tumor
- obesity
- sickle cell disease
- epilepsy
- cerebral palsy
- acute rheumatic fever
- juvenile rheumatoid arthritis

66) Describe how chronic illnesses can influence growth and development, educational achievement, and psychosocial functioning.

67) Describe the impact chronic illness has on the family of the affected child, including psychosocial functioning, emotional impact and economic impact.

68) Describe the impact of a patient’s culture on the reaction to, understanding of, and management of a child’s chronic illness and/or disability.

69) Perform a medical interview and physical examination in a child affected by chronic illness or disability, including: effect of condition on growth and development effect on family treatments/therapies
XIII. PHARMACOLOGY/MEDICATIONS

70) List medications that are commonly contraindicated in children, or which must be used with extreme caution in specific pediatric populations and explain why they warrant caution or should not be used.

- aspirin
- tetracycline
- oral retinoic acid

71) Describe how the following common drugs are used for pediatric patients:

- analgesics/antipyretics
- antibiotics
- bronchodilators
- corticosteroids
- cold/cough medicines
- eyedrops/ophthalmic preparations
- eardrops/otic preparations
- vitamin/mineral supplements

72) Select the generally accepted, appropriate drug therapy for common pediatric conditions including:

A. Ambulatory Settings:

- acne
- acute otitis media
- allergic rhinitis
- atopic dermatitis
- asthma
- fever
- impetigo
- streptococcal pharyngitis

B. Inpatient Settings: bronchiolitis

C. Life-Threatening Conditions:

- meningitis
- sepsis
- status epilepticus

73) Calculate a drug dose for a child based upon body weight.

74) Write a prescription for a common pediatrically prescribed medication such as an antibiotic.
XIV. FLUID AND ELECTROLYTE MANAGEMENT:

75) Describe the conditions in pediatric patients where fluid administration may need to be restricted.

76) Describe the conditions in pediatric patients where fluid administration may need to be increased.

77) Describe the physical findings associated with hypovolemic shock and the means by which circulating fluid volume can be restored.

78) Describe the causes and effects of the various fluid and electrolyte imbalances that lead to dehydration:
   - hypernatremia
   - hyponatremia
   - hyperkalemia
   - hypokalemia
   - acidosis

79) Obtain the information on a history and physical examination needed to assess a child’s hydration status.

80) Calculate and write orders for intravenous fluids for a pediatric patient, based on daily water intake requirements and electrolyte status.

81) Calculate and write orders for fluid therapy for a pediatric patient with severe dehydration brought on by gastroenteritis.

XV. POISONING

82) Describe the developmental vulnerability for poisoning and accidental ingestions in different pediatric populations (infants, toddlers, children, adolescents).

83) List the ages at which prevalence of unintentional and intentional poisonings is highest.

84) List the active and passive interventions that can decrease the incidence of childhood ingestions.

85) Describe the acute signs and symptoms of accidental or intentional poisonings including:
   - acetaminophen
   - iron
   - alcohol
   - narcotics
86) Describe the immediate emergency management of children presenting with poisoning

87) Describe the role of a Poison Control Center.

88) Elicit a complete history when evaluating an unintentional ingestion or exposure to toxic substances including:
- the type of substance
- route of exposure
- quantity
- timing

XVI. PEDIATRIC EMERGENCIES

89) Identify the symptoms, and describe the initial emergency management of the following pediatric emergencies:
- shock
- respiratory distress
- lethargy
- apnea
- status epilepticus

90) Describe age-appropriate differential diagnoses and key clinical findings that would point to the following emergency problems:
- airway obstruction/respiratory distress
- altered mental status
- apnea
- injuries/accidents
- seizures
- shock
- suicidal ideation
- gastrointestinal bleeding

91) Describe the signs and symptoms of the following possible acute pediatric diagnoses:
- Croup
- Bronchitis
- Asthma
- Pneumonia
- Foreign Body
- Aspiration
- Kawasaki disease
- Head injury
• increased intracranial pressure
• substance abuse
• encephalitis
• meningitis
• diabetic ketoacidosis
• hypoglycemia
• abuse
• shock
• hypoxemia
• seizures
• respiratory infections
• GERD
• sepsis
• animal bites
• concussion
• fissures
• nursemaids elbow
• ingestion
• high fever
• anaphylaxis
• congestive heart failure
• depression

92) Demonstrate appropriate anticipatory guidance to prevent pediatric emergencies.

93) Demonstrate the A-B-C assessment to identify who requires immediate medical attention and intervention.

XVII. SPECIFIC SKILLS:

A. Interviewing:

94) Demonstrate an ability to obtain information in an age-appropriate and sensitive manner from a child and or the accompanying adult.

95) Obtain a neonatal history including: birth weight and approximate gestational age.

96) Obtain history of maternal complications including:
• extent of prenatal care
• maternal infections
• exposure to drugs, alcohol or medications

97) Obtain a history of problems in the newborn period including:
• prematurity
• respiratory distress
• jaundice
• cyanosis
• infections

98) Obtain a history of immunizations, previous hospitalizations, surgeries, medications, allergies, chronic problems, growth/development, and nutrition.

99) Obtain the age and health of family members, including chronic and acute medical conditions.

100) Obtain a family drug/alcohol abuse history.

101) Construct a family genetic pedigree.

102) Obtain information about a pediatric patient’s household composition and socioeconomic status.

103) Perform the HEADSS assessment.

104) Obtain a history of environmental and personal safety, including:
• seat belt use
• car seat use
• bicycle helmet use
• presence of firearms in the home
• smoking in the household
• lead exposure

B. Physical Examination Skills:

105) Distinguish between a complete vs. focused pediatric physical examination.

106) Conduct a pediatric examination appropriate to the nature of the visit or complaint, and the patient’s age.

107) Demonstrate an ability to perform the following examination skills:

A. Appearance:

108) Interpret the general appearance of the child, including size, morphologic features, development, behaviors, and interaction of child with the parent and with the examiner.

B. Vital Signs:

109) Identify variations in vital signs based on patient’s age, presence or absence of disease, and testing modality used.
C. **HEENT:**

110) Observe, measure and describe head size and shape, symmetry, facial features, and ear position as part of the examination for dysmorphic features.

111) Identify sutures and fontanels in neonates and interpret the findings.

112) Identify the red reflex and discuss how it is used to detect corneal opacities and intraocular masses.

113) Detect the corneal light reflection and discuss how it is used to identify strabismus.

114) Assess hydration of the mucous membranes.

115) Assess dentition.

116) Observe the tympanic membrane using an otoscope and an insufflator.

117) Identify the structures of the oropharynx (e.g. uvula, tonsils, palate, tongue) and recognize signs of pathology.

D. **Neck:**

118) Palpate lymph nodes and describe what anatomic areas they drain.

119) Demonstrate maneuvers that test for nuchal rigidity.

120) Palpate the thyroid and any neck masses.

E. **Chest:**

121) Observe, measure, and interpret the rate, pattern, and effort of breathing.

122) Identify normal variations of respiration and signs of respiratory distress e.g. grunting, flaring, and retraction.

123) Identify normal breath sounds and findings consistent with respiratory pathology such as stridor, wheezing, crackles, and asymmetric breath sounds.

124) Identify transmitted upper airway sounds.

125) Observe and describe breast tissue according to developmental stage (e.g. Tanner scale).

F. **Cardiovascular:**
126) Identify the pulses in the upper and lower extremities through palpation.

127) Observe and palpate precordial activity.

128) Describe cardiac rhythm, rate, and quality (such as intensity, pitch, and location) of the heart sounds and murmurs and variation with maneuvers through auscultation.

129) Address peripheral perfusion using a test for capillary refill.

130) Identify central versus peripheral cyanosis.

G. Abdomen:

131) Palpate the liver, spleen, and kidneys, and interpret the findings based on the age of the patient.

132) Assess the abdomen for distention, tenderness, and masses through observation, auscultation, and palpation.

133) Determine the need for a rectal examination.

H. Genitalia:

134) Describe the difference in appearance of male and female genitalia at different ages and developmental (e.g. Tanner) stages.

135) Palpate the testes and identify genital abnormalities in males, including cryptorchidism and hypospadias.

136) Recognize genital abnormalities in females including signs of virilization.

I. Extremities:

137) Examine the hips of a newborn for developmental dysplasia of the hip using the Ortolani and Barlow maneuvers.

138) Observe and describe the gait of children at different ages.

139) Recognize pathology, such as joint effusions, signs of trauma, and inflammation.

J. Back:

140) Perform and interpret a screening test for scoliosis.

141) Examine the back for midline tufts of hair, pits, sacral dimples, or masses.
K. Neurologic:

142) Elicit the primitive reflexes that are present at birth; describe how they change as the child develops.

L. Skin:

143) Describe and assess turgor, perfusion, color, hypo- and hyperpigmented lesions, and rashes through observation and palpation.

144) Identify jaundice, petechiae, purpura, bruising, vesicles, and urticaria.

Problem List
Following is a list of pediatric problems, which you may encounter during the rotation. This list is not completely inclusive, but contains many of the areas with which you should become familiar. Some topics in this list will be covered in CLIPP cases, in the core lectures, and others will form the basis for independent reading. Remember you are reading to participate in patient care, and also in preparation for the Step 2 exam of the USMLE.

1) Growth & Development (motor, language, cognitive)

2) Adolescence (growth, sexual development, behavioral issues)

3) Talking with parents and children

4) Evaluation of the newborn (sizing, prematurity, jaundice, respiratory distress, resuscitation, sepsis, TORCH infections)

5) Fluid and Electrolytes (management and disorders)

6) Heart Disease (murmurs, congenital defects, preventive cardiology)

7) Nutrition (feeding, malnutrition, calcium/phosphorous metabolism, vitamins)

8) Genetics (clinical cytogenetics, inborn errors of metabolism, congenital malformations, syndromes)

9) Hematologic Disorders (anemia, coagulation disorders, transfusion issues, purpura)

10) Infectious diseases (meningitis, pneumonia, bronchitis, pneumococcal disease, strep infections, sepsis, croup, epiglottitis, osteomyelitis, rubella, rubeola, mumps, varicella, roseola, viral infections, URI's, UTI's, otitis media)
11) Endocrine disorders (diabetes, adrenal hyperplasia, hypo- & hyperthyroidism, growth failure, hypoglycemia, delayed puberty, hypoparathyroidism)

12) GI disorders (chronic diarrhea, gastroesophageal reflux, intussusception, malabsorption, celiac disease)

13) Malignancy (leukemia, solid tumors)

14) Renal diseases (glomerulonephritis, renal failure, nephrotic syndrome, hemolytic uremic syndrome)

15) Immunodeficiency (congenital and acquired)

16) Sudden Infant Death Syndrome (SIDS)

17) Poisoning (pica)

18) Seizures

19) Orthopedic problems (simple fractures, dislocations, foot problems)

20) Strabismus and eye injuries

21) Child Abuse

22) Substance Abuse

23) Ethics

24) Miscellaneous - Kawasaki disease, cystic fibrosis.