Educational Objectives

The practice of Pediatrics involves addressing the health needs of children. Every child should have the opportunity to grow and develop to achieve his or her maximum potential; the job of the Pediatrician is to assist in that process by treating and preventing illness, guiding children and their families toward good health choices, and offering information and interventions that support the overall well-being of the child.

**Goals of the core pediatric clerkship:** Provide foundational skills and knowledge about the fundamental issues of childhood health and illness in order to prepare UW SOM medical students to provide safe and compassionate care to children.

**Learning Objectives:**

1. Collect both focused and comprehensive, developmentally appropriate patient histories using triadic interviewing skills.
2. Perform an age appropriate physical examination on newborns, infants and older children.
3. Construct an appropriate approach to common pediatric clinical problems by:

a. Identifying essential clinical features.

b. Outlining natural history of disease processes.

c. Creating a stratified differential diagnosis.

d. Formulating evidence-based diagnostic and therapeutic approaches.

e. Discussing how age and development influence our thinking.

1. Conduct healthcare maintenance visits that include the following components: childhood immunizations, assessment of child development and nutrition, and the principles of anticipatory guidance.
2. Discuss the effects of growth and maturation on pharmacokinetics and use this knowledge to select the appropriate treatment regimens of commonly used fluids and medications in patients of different ages.
3. Analyze common professional and ethical dilemmas in pediatrics.
4. Deliver well-organized, appropriately focused, and accurate oral patient presentations.
5. Write well-organized, appropriately focused, and accurate patient notes, including admission, progress and outpatient visit notes.
6. Demonstrate relationship building skills in each clinical encounter and interprofessional exchange.
7. Work effectively as a member of the healthcare team.
8. Elicit and recognize the perspectives and needs of families and provide care for patients within their social and cultural context.
9. Set personal and professional goals for learning.

**Pediatric Clinical Skills:**

After completing your Pediatrics clerkship, we expect that you will have gained knowledge and developed skills in the following areas related to the care of children:

1. Health Supervision/Anticipatory Guidance (includes poisoning/injury prevention)
2. Growth
3. Development and Behavior (includes issues of normal development and also concerns about behavior)
4. Nutrition for Children
5. Issues Unique to Adolescents
6. Newborn Care (includes newborn anticipatory guidance and the newborn physical exam)
7. Fluid/Electrolyte Management and Pediatric Therapeutics
8. Assessment of the Acutely Ill Child

For each area, we will describe the skills you are expected to learn and methods to demonstrate your capabilities.

**Minimal Competency Outline for Pediatric Clinical Skills**

Health Supervision/Anticipatory Guidance (includes poisoning/injury prevention)

“Anticipatory guidance” means providing information to parents and patients to maintain health, predict normal processes, and avoid problems. You should be able to provide anticipatory guidance in several areas:

|  |  |
| --- | --- |
| Specific Skills | Minimum achievement |
| Health issues, adjusted as appropriate for the age of the child* Nutrition
* Behavior
* Immunizations
* Pubertal development

See also subsequent sections in this Outline on Growth, Development and Behavior; Nutrition, etc. | * Infants - List at least two benefits of breastfeeding; tell parents no solid foods before 4-6 months of age; recommend an appropriate first solid. Address at least one principle of vitamin or mineral supplementation.
* Toddler - Address eliminating bottle feeding and limiting sugary beverage consumption.
* Preschooler/School Age- Address at least one principle of a healthy diet, such as limiting sugary beverages and junk food and encouraging fruits and vegetables.
* All ages - Ask about and/or look at immunization record.
 |
| Personal safety/Injury prevention* Motor vehicle safety
* Infant sleeping position
* Falls
* Burns
* Poisoning
* Fire safety
* Choking
* Water safety
* Bike safety
* STI (formerly called STD)
* Firearms and weapons
 | * Address at least three age-appropriate safety concerns during a health maintenance visit.
 |
| Home safety and appropriate techniques to prevent accidental ingestions | * Mention to caregiver at least one age-relevant toxin that could be a potential risk for the child; e.g. medicines, cleaning supplies, household and gardening chemicals, lead.
* Counsel caregiver about the appropriate storage of potential toxins; e.g. cabinet locks, safety caps.
* Discuss with caregiver the appropriate intervention in the event of an exposure; this must include advice about calling poison control.
 |

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| --- | --- |
| Learning Activities: * Participate in outpatient health supervision clinic visits for at least 1 infant, 1 toddler and 1 older child
* Aquifer Pediatrics cases 2, 3, 4, 5
* COMSEP Physical Examination Video
* Physical Examination Benchmarks
* Textbook (optional)
 | Assessment: * Final examination
* Clinical Performance Assessment
* CEX (older child)
 |

Growth

Normal growth is a marker of child health and well-being. Abnormal growth can be an indicator of chronic illness, genetic disorders, malnutrition, psychosocial problems, or other issues which require intervention. You should be able to address growth issues for children as follows:

|  |  |
| --- | --- |
| Specific Skills | Minimum achievement |
| Demonstrate ability to measure and assess growth including height/length, weight, head circumference, and body mass index in patient encounters using standard growth charts. | * If growth data are abnormal, recheck plot.
* Recognize normal and abnormal growth patterns.
 |

|  |  |
| --- | --- |
| Learning Activities: * Interpret growth data on all physical examinations during
	+ Outpatient clinic visits
	+ Inpatient care
	+ Newborn nursery
* Growth Chart Problem Set
* Textbook (optional)
 | Assessment:* Final examination
* Evaluations of written H&P
* Clinical Performance Assessment
* Completion and discussion of Growth Chart Problem Set
 |

Development and Behavior (includes issues of normal development and also concerns about behavior)

Although there is variation for each individual, childhood development and behavior should follow a generally recognized pattern. Abnormalities of development or behavior may suggest organic or psychosocial problems that require intervention; many problems can be avoided with appropriate guidance. You should be able to recognize and address development and behavior issues in children as follows:

|  |  |
| --- | --- |
| Specific Skills | Minimum achievement |
| Basic assessment of normal childhood development and behaviorDemonstrate an ability to assess the following in pediatric patients using appropriate resources:* Psychosocial development
* Language development
* Physical maturation
* Motor development
 | * Describe at least one aspect of psychosocial development in a specific patient.
* Describe at least one aspect of language development in a specific patient.
* Describe at least one aspect of physical development in a specific patient.
* Describe at least one aspect of motor development in a specific patient.
* Demonstrate an appropriate exam.
* Recognize at least one sign of puberty.
* Use an appropriate tool to screen and evaluate developmental progress (e.g. Denver Developmental Screening Test).
 |
| Evaluation and intervention for concerns related to childhood development and behavior* Identify behavioral and psychosocial problems of childhood using the medical history and physical examination
 | * Ask about and report behavior concerns identified in history or physical exam.
* Ask about and report psychosocial concerns identified in history or physical exam.
* Identify common abnormal behaviors seen in either infancy, childhood or adolescence such as sleep issues, toilet training.
* Identify at least one common psychosocial problem in either infancy, childhood or adolescence such as limited family resources.
 |

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| --- | --- |
| Learning Activities: * Aquifer Pediatrics cases 2, 3, 4, 5
* Patient care (inpatient/outpatient)
* Textbook (optional)
 | Assessment: * Final Examination
* Clinical Performance Assessment
* Evaluations of written H&P
 |

Nutrition for Children

Appropriate nutrition is of paramount importance so that children can achieve their goals of growth and development. Nutritional problems can interfere with growth and development and lead to health issues. During illness or in special chronic medical conditions, nutritional needs will differ from the norm. You should be able to address the following basic issues related to nutrition for children:

|  |  |
| --- | --- |
| Specific skills | Minimum achievement |
| Obtain an appropriate dietary history in children of different ages: |  |
| * 0-4 months
 | * If breastfeeding, ask frequency and duration of nursing; if bottle-feeding, ask frequency, volume and type of formula.
* Ask about elimination (number of wet diapers, stools).
* Ask if other foods or fluids are given, including water.
 |
| * 4-12 months
 | * Ask about all of the items in 0-4 months.
* Ask if child is on solids, how much, and what types.
* Ask about consumption of sugary beverages.
 |
| * 1-2 years
 | * Ask what child is eating; ask about type and amount of milk or other fluids (e.g. sugary beverages).
* Ask about elimination.
 |
| * >2 years
 | * Ask what child is eating; ask about type and amount of milk or other fluids (e.g. sugary beverages).
* Ask about elimination.
 |
| * Adolescent
 | * Ask diet history (what, when, how much).
 |

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| --- | --- |
| Learning Activities:* Aquifer Pediatrics cases 2, 3
* Patient care (inpatient/outpatient settings)
* Textbook (optional)
 | Assessment:* Final Examination
* Clinical Performance Assessment
* Evaluations of written H&P
 |

Issues Unique to Adolescents

The changes of adolescence present unique health issues and new challenges for the patient, family, and pediatrician. You should be able to recognize and address these issues when caring for adolescents:

|  |  |
| --- | --- |
| Specific skills | Minimum achievement |
| Medical interview of the adolescent* Interview an adolescent patient with emphasis on sensitive questions about behaviors that affect health and safety (e.g. sexuality, drug, tobacco and alcohol use)
 | * Separate (or attempt to) patient from parent/guardian for part of the interview.
* Address confidentiality with patient.
* Ask a psychosocial history (e.g. HEADSS or other appropriate tool) that includes screening for at least two risk-taking behaviors.
 |
| Physical examination of the adolescent* Conduct a physical exam of an adolescent that demonstrates respect for privacy and modesty, employing a chaperone when appropriate
 | * Identify the need for chaperone when appropriate.
* Utilize appropriate draping techniques.
* Assess SMR (sexual maturity rating, formerly "Tanner stage") of breast, pubic hair, and genitalia.
* Assess for scoliosis.
 |
| Health supervision of the adolescent* Provide information and guidance for issues related to adolescents with appropriate screening and preventive measures
 | * Give basic preventive counseling for common adolescent issues (e.g. diet, exercise, sexuality, substance use, safety).
 |

|  |  |
| --- | --- |
| Learning Activities: * Aquifer Pediatrics case 5,6
* COMSEP Physical Examination Video
* Physical Examination Benchmarks
* Patient Care (inpatient/outpatient)
* Textbook (optional)
 | Assessment: * Final examination
* Clinical Performance Assessment
 |

Newborn Care (includes newborn anticipatory guidance and the newborn physical exam)

Pediatric care begins at birth, with careful evaluation of the newborn and support to the parents; this holds true for the normal infant and for those with health challenges. You should be able to assess and provide guidance for a newborn as follows:

|  |  |
| --- | --- |
| Specific skills | Minimum achievement |
| Give anticipatory guidance to parents of a newborn for the following issues:* Feeding
* Normal bowel and urinary elimination patterns
* Jaundice
* Appropriate car seat use
* SIDS prevention
* Health maintenance/prevention
* Identifying illness
 | * Ask about plans for feeding.
* Ask about duration, frequency and volume of feeding.
* List 2 benefits of breastfeeding/breast milk.
* Display nonjudgmental attitude.
* Ask about frequency of urine and stool output.
* Ask if parents have a car seat; ask about car seat positioning (e.g. rear-facing, front vs. back seat).
* Inquire about sleep position.
* Ask about smoke exposure.
* Ask about plan for follow-up care.
* Ask if newborn received Hepatitis B vaccine.
* Verify that hearing and newborn screening done before discharge.
* Give at least 2 reasons to call health care provider.
 |
| Perform a complete physical exam of the newborn infant | As outlined in Physical Examination Benchmarks |

|  |  |
| --- | --- |
| Learning Activities: * Aquifer Pediatrics cases 1, 2, 7, 8, 9
* Newborn nursery experience
* COMSEP Physical Examination Video
* Physical Examination Benchmarks
* Textbook (optional)
 | Assessment: * Final examination
* CEX (Newborn)
* Clinical Performance Assessment
 |

Fluid/Electrolyte Management and Pediatric Therapeutics

Maintaining effective circulating volume is necessary to assure organ perfusion. Children may be at increased risk for volume depletion due to their smaller size and higher propensity to develop volume-depleting ailments. Assessment of volume status and correction of fluid/electrolyte abnormalities are core pediatric skills. Since children come in many sizes, understanding how to address fluid or medication management that is appropriately scaled to the individual patient is of paramount importance. You should understand and be able to address the issues listed below:

|  |  |
| --- | --- |
| Specific skills | Minimum achievement |
| Fluid/electrolyte management:* Obtain history and physical finding information necessary to assess the volume status of a child.
* Calculate and write orders for intravenous maintenance fluids for a child considering daily water and electrolyte requirements.
* Calculate and write orders for the fluid therapy for a child with volume depletion caused by gastroenteritis to include "rescue" fluid to replenish circulating volume, deficit fluid, and ongoing maintenance.
* Explain to parents how to use oral rehydration therapy for mild to moderate volume depletion.
 | * Ask about intake and output.
* Assess at least 2 physical exam findings and 1 vital sign relevant to intravascular volume status.
* Choose appropriate intravenous fluid (water, sodium, glucose, other additives as indicated).
* Calculate maintenance fluid delivery correctly using weight or BSA.
* Choose isotonic fluid at 10-20 mL/kg for volume expansion ("rescue" IV bolus).
* Reassess patient after intervention.
* Choose appropriate oral rehydration solution and recognize when it is indicated.
 |
| Medication dosing and therapeutics* Calculate a drug dose for a child based on patient size.
* Write a prescription, for a common medication such as an antibiotic.
 | * Record child’s weight in kilograms.
* Record medications as “per kg” or “per body surface area” (i.e., scaled to patient size).
* Assure that recommended dosing regimen scaled to patient size does not exceed adult maximum dose.
* Starting with a medication and patient measurements, write an appropriate prescription including: name of medication, formulation, dose, dosing schedule, route, duration, amount and refills.
 |

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| --- | --- |
| Learning Activities: * Aquifer Pediatrics case 15 (and various other cases that have medication administration)
* Patient care (inpatient and outpatient)
* Required Problem Sets
* Textbook (optional)
 | Assessment: * Final examination
* Clinical Performance Assessment
* Completion and discussion of Required Problem Sets
 |

Assessment of the Acutely Ill Child

You may be called upon to provide emergency care to a patient at any time. One must be able to recognize and rapidly assess a sick child and understand how the presentation of illness may differ from that seen in an adult. Basic topics in pediatric acute assessment and emergency care, with which you should be familiar, include the following:

|  |  |
| --- | --- |
| Specific skills | Minimum achievement |
| Basic evaluation of the acutely ill patient* Demonstrate the "ABC" assessment as a means for identifying who requires immediate medical attention and intervention.
* Recognize that vital signs and other clinical clues to acute illness are different for children as compared to adults, and will vary for children of different ages.
* Develop a framework to identify a child who needs acute, urgent, or emergent care.
 | * Inspect airway:
	+ Look and listen
	+ Auscultate lungs
	+ Correctly articulate patency of airway
* Inspect for chest movement.
* Recognize signs of respiratory distress (retractions, cyanosis, apnea, tachypnea).
* Assess circulation:
	+ Feel for a pulse
	+ Assess capillary refill
	+ Assess heart rate
* Recognize signs of circulatory compromise (tachycardia, bradycardia, weak pulse, prolonged capillary refill).
* Note mental status as a marker of overall illness (calm, fussy, inconsolable, agitated, somnolent, obtunded).
* Note general appearance as a marker of overall illness (alert, floppy, weak cry, etc.).
 |
| Specific topics in pediatric acute care* Obtain history relevant to a pediatric patient with an urgent medical problem, with special recognition of variations in presentation for different age groups.
* Identify need for acute, urgent, or emergent care for certain specific pediatric issues:
	+ Ingestions –accidental/intentional
	+ Asthma/respiratory distress
	+ Dehydration/volume depletion
	+ Foreign body ingestion
	+ Fever in the neonate
	+ Non-accidental trauma
 | * Make a rapid assessment of the patient’s clinical status.
* Obtain assistance as indicated.
* Obtain focused history with further details as necessary or appropriate.
 |

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| --- | --- |
| Learning Activities: * Aquifer Pediatric Active Learning Module: Fever
* Aquifer Pediatrics Cases 19, 23, 24, 25
* Acute Care in/out patient experience
* Textbook (optional)
 | Assessment* Final Examination
* Clinical Performance Assessment
* Completion of Aquifer Pediatric Active Learning Module: Fever
 |

The previous section outlined specific **skills** that you are expected to obtain during your rotation. In addition, you are expected to obtain core medical knowledge related to the care of pediatric patients and their medical conditions. Specific objectives related to these activities include:

1. Construct an appropriate approach to common pediatric clinical problems by:
	* Identifying essential clinical features
	* Outlining natural history of disease processes
	* Creating a stratified differential diagnosis
	* Formulating evidence-based diagnostic and therapeutic approaches
	* Discussing how age and development influence essential clinical features, natural history of disease processes, differential diagnosis as well as diagnostic and therapeutic approach

|  |  |
| --- | --- |
| Learning Activities: * Aquifer Pediatrics Cases (1-32)
* Didactics
* Patient Care (inpatient/outpatient settings)
* Written H&P
* Textbook (optional)
 | Assessment: * Final Examination
* Evaluation of written H&P
* Clinical Performance Assessment
 |