UNIVERSITY OF ARIZONA COLLEGE OF MEDICINE

Pediatric Clerkship Manual

1501 N. Campbell Avenue
Room 3335
PO Box 245073
Tucson, Arizona 85724-5073
Phone 520-626-4657 • Fax 520-626-5652
# Table of Contents

Welcome ........................................................................................................................................... 1
Clerkship Organization ...................................................................................................................... 3
  Sites .................................................................................................................................................. 3
  Student Assignments to Instructional Sites ..................................................................................... 3
  Clerkship Co-Director, Coordinator and Site Directors .................................................................. 4
Course Description and Educational Objectives .............................................................................. 5
  Course Description .......................................................................................................................... 5
  Clerkship Learning Objectives ....................................................................................................... 5
Academic Participation Requirements ............................................................................................... 34
  Inpatient Clerkship Rotation .......................................................................................................... 34
  Outpatient Clerkship Rotation ....................................................................................................... 36
  Nursery Rotation ........................................................................................................................... 37
  Direct Observation Cards ................................................................................................................ 38
  Required Patient Encounters .......................................................................................................... 39
  Alternative Experience .................................................................................................................... 39
  Required Procedures ..................................................................................................................... 40
Required Seminars ............................................................................................................................ 41
  Departmental Conferences ............................................................................................................ 41
  Clerkship Seminars ......................................................................................................................... 41
  Newborn Session ............................................................................................................................ 41
  In-Depth Presentations .................................................................................................................... 42
Formative and Summative Assessment ........................................................................................... 44
  Mid-Clerkship Formative Feedback ................................................................................................ 44
  Assessment of Student Performance ............................................................................................... 44
  Grading Criteria ................................................................................................................................ 45
  Student Feedback Surveys ............................................................................................................... 47
Resources ............................................................................................................................................ 48
  Appendix A: ArizonaMed .................................................................................................................. 49
  Appendix B: Assessment Forms ....................................................................................................... 50
  Appendix C: NBME Shelf Exam Procedure ..................................................................................... 53
  Appendix D: Affiliate & Student Affairs Phone Tree ...................................................................... 55
  Appendix E: Choosing Wisely ......................................................................................................... 56
  Appendix F: Direct Observation Card .............................................................................................. 58
  Appendix G: Pediatric Faculty and Residents ............................................................................... 59
  Appendix H: Physical Examination & History ................................................................................. 63
Welcome to Pediatrics! We feel that our department’s unique contribution to your education will consist of a constellation of experiences that include an introduction to children, their uniqueness in life, their special medical problems, the techniques necessary to obtain data from them, and a beginning insight into growth and development as biologic and medical phenomena, both normal and abnormal.

Our faculty will provide you with an educational and stimulating environment in which you begin to learn the fundamentals of Pediatrics. We recognize that you cannot “learn” Pediatrics in your 6-week clerkship but you will be exposed to children in whatever area of medicine you choose for your career. During the clerkship, you can learn certain basic principles, approaches and facts that will develop as a foundation for continued learning in this discipline. The third year will allow you to start putting into use the basic principles you have acquired over the last few years and begin the exploration of the practice of medicine. The clerkship has been designed with these objectives in mind. We firmly believe in the importance of junior medical student education -- after all, that is the primary function of a medical school.

We only ask you to display an eagerness to learn and conduct yourself as a professional. For our part, we will put forth considerable effort to have you succeed in your achievement.

We should be fairly clear on what is expected of you:

1. We expect you to expand considerable effort towards your own learning by pursuing the responsibilities assigned to you. This includes patient care duties, attendance at all assigned conferences, seminars and ward rounds and a significant amount of reading related to the general principles of pediatrics as outlined in the Learning Objectives section of your clerkship manual.

2. We expect you to demonstrate an enthusiasm for the study of medicine and Pediatrics. The Department of Pediatrics will provide the opportunity, the supervision, and the guidance -- you must provide the enthusiasm.

3. We expect you to demonstrate professional integrity. This includes reporting accurately what you see, hear, feel or obtain - not what the faculty expects to hear.
4. We expect you to acquire increased abilities in several areas:

- **Pediatric Data Collection**: Obtaining a history and performing a physical examination in children from newborns to adolescents requires interactions with the child as well as the parent or caretaker. This will require a sensitive attitude and depending on the age of the child and their degree of illness, very different techniques and skills. We expect you to reach a level of competence and comfort with these skills.

- **Facts**: We expect that you will learn new information, improve and modify old information, and integrate the two. We expect that you will behave as adult learners and will read a lot independently. Rounds, conferences, conversations, and meetings can augment, amplify, help to explain and develop concepts, but only personal effort in reading will provide you with a solid foundation. We expect of you two to four hours of reading per day to cover all the required material for the clerkship. Reading and data acquisition are more meaningful when put in the context of a patient. See as much as you can! Be each other’s teachers and share and demonstrate to each other the interesting physical findings and patients.

- **Problem solving**: No one can teach you problem solving. We can model the process for you, we can critique your clinical reasoning and force you to examine your capabilities in this area, but you provide the “basic stuff” and by exercising your mind, undertake the clinical judgment process.

- **Professional attitudes**: As you pass through medical school, you combine your own personality traits with acquired behavior you learn from your patients, your peers, and your teachers. You should end up, not only a professional, but thinking of yourself as a professional.

5. Needless to say, we expect your performance to be at least at the passing level. Your evaluation will be based on a number of items:

- At the end of the clerkship you will take the NBME Pediatric Subject Examination.
- Evaluations: You will be evaluated by your faculty attendings, preceptors and house officers on the basis of your knowledge, motivation, problem-solving ability, attitude and relationship to patients, colleagues and health care personnel, an estimation of your motivation during the clerkship, your abilities to perform a history and physical examination, your sense of responsibility and your attendance.
- Overall estimate of your professionalism made by your preceptors based on their daily observations of you and their evaluation of your integrity, sense of responsibility and doctor-patient relationships.

Learning is both fun and hard work. Children are fun and challenging, so enjoy yourself and work hard. We hope to share with you the excitement that is inherent to Pediatrics. In the end, you are the beneficiary of your education and your future patients will be the ultimate benefactors.
Clerkship Organization

Sites

The six-week Pediatric clerkship is divided into two 3-week blocks. You will spend 3 weeks on the inpatient service at Banner University Medical Center-Diamond Children’s [DCMC], and 3 weeks in an outpatient clinic, either at Banner University Medical Center (BUMC), BUMC Children’s Multispecialty Center (Wilmot Clinic), an El Rio Community Health Center clinic, or a private practice clinic site (dependent on site availability). A newborn nursery experience will be part of the outpatient rotation and will occur at BUMC, no matter where the student is assigned for his/her outpatient rotation.

Student Assignments to Instructional Sites

Students may request their top choices of clinical sites prior to the distribution of the final assignment list. Clinical rotations sites are assigned by the clerkship office based on student preferences and/or site availability. If it is not possible to meet the student’s top choice(s), assignments are made with the aim of best meeting, collectively, the student’s educational goals and geographic/personal preference.

Change of Rotation Site Requests—Extreme Hardships

Although rarely granted, students who wish to change their rotation site after assignments have been made may only apply for a change of rotation site if they have an extreme hardship. Requests will be considered on a case-by-case basis. Students must complete a Change of Clinical Site request form and submit it to the responsible clinical department coordinator.

Students must provide justification for their request on the form, and if possible, must indicate the student who has agreed to exchange sites in the identical course rotation. Students are required to verify all information associated with their justification. If the request gains approval, the responsible clinical department will notify the previous and new site.

A change of rotation site may not take place unless the responsible clinical department has received the above document as early as possible after the site assignments are published but prior to the start date of the rotation.
Clerkship Co-Director, Coordinator and Site Directors

Ziad M. Shehab, M.D.
Clerkship Director, Pediatrics
Professor, Pediatrics and Pathology
Associate Department Head for Medical Education, Pediatrics
zshehab@peds.arizona.edu

Stephanie L. Samson
Program Coordinator, Sr.
Pediatric Education Programs
ssamson@peds.arizona.edu

Claudia R. Smith
Program Coordinator
Pediatric Education Programs
claudiaj@peds.arizona.edu

Pediatric Clerkship Committee:
Nicole Abdy, M.D., Assistant Professor of Pediatrics
Mark Brown, M.D., Professor of Pediatrics
Chan Lowe, M.D., Associate Professor of Pediatrics
Ricardo Samson, M.D., Professor of Pediatrics
Course Description and Educational Objectives

Course Description

The six-week Pediatric clerkship is divided into two 3-week blocks. You will spend 3 weeks on the inpatient service at Banner University Medical Center-Diamond Children’s [DCMC], and 3 weeks in an outpatient clinic, either at Banner University Medical Center (BUMC), BUMC Children’s Multispecialty Center (Wilmot Clinic), an El Rio Community Health Center clinic, or a private practice clinic site (dependent on site availability). A newborn nursery experience will be part of the outpatient rotation and will occur at BUMC, no matter where the student is assigned for his/her outpatient rotation.

Clerkship Learning Objectives

PROFESSIONAL CONDUCT AND ATTITUDES

Rationale

Knowledge, skills, clinical reasoning, and informed decision making while crucial to a physician's practice of medicine, are insufficient to guarantee successful clinical interactions. A physician must have well-developed interpersonal skills that facilitate communication, and must also demonstrate attitudes, behaviors and beliefs that serve to promote the patient's best interest. Students can learn to be professional, at least to a certain degree, in the abstract, but will acquire professional characteristics most effectively through contact with physicians chosen to serve as role models.

In particular, each student must recognize that pediatrics poses unique challenges to professional conduct and attitudes. The patient constantly changes as growth and development proceed. The patient's ability to participate actively in the clinical interaction progresses, as does his or her knowledge, experience and concerns. The adolescent presents specific challenges, including such issues as privacy, risk-taking behaviors, confidentiality and personal involvement with health. The role of parents in the clinical interaction, and their knowledge, experience, and concerns also develop and change as an individual child grows and as subsequent children are born. The way a physician communicates can have a lasting effect in how parents, children and adolescents handle situations and interact with the physician. Cultural, ethnic and socioeconomic factors also affect personal and family traits and behaviors, with varying effects on child rearing practices. Recognition of and respect for difference are important, yet the student must be alert for the child or adolescent at risk in different family environments, given that the physician’s primary obligation is to promote the best interest of the patient. Professional conduct extends to the educational process: Students have a personal responsibility for their own education and for development of life-long learning skills. They must interact with all staff, including their peers and their teachers, in a manner that demonstrates respect for each individual and that promotes personal and group learning.
<table>
<thead>
<tr>
<th>PEDIATRIC CLERKSHIP LEARNING OBJECTIVES</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe and demonstrate behaviors that respect the patient's modesty, privacy, and confidentiality.</td>
<td>PC, PRO</td>
</tr>
<tr>
<td>Describe the practical applications of the major ethical principles (i.e. justice, beneficence, non-</td>
<td>PRO</td>
</tr>
<tr>
<td>malfeasance and respect for autonomy).</td>
<td></td>
</tr>
<tr>
<td>Demonstrate communication skills with patients and families that convey respect, integrity, flexibility,</td>
<td>PRO</td>
</tr>
<tr>
<td>sensitivity, and compassion.</td>
<td></td>
</tr>
<tr>
<td>Show respect for patient, parent, and family attitudes.</td>
<td>PRO</td>
</tr>
<tr>
<td>Demonstrate behaviors and attitudes that promote the best interest of patients and families,</td>
<td>PC, PRO</td>
</tr>
<tr>
<td>including showing flexibility to meet the needs of the patient and family.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate collegiality and respect for all members of the healthcare team.</td>
<td>IPS, PRO, SBP</td>
</tr>
<tr>
<td>Exhibit a positive attitude and regard for education by demonstrating intellectual curiosity,</td>
<td>PRO</td>
</tr>
<tr>
<td>initiative, honesty, responsibility, preparedness, flexibility, and maturity in soliciting, accepting,</td>
<td></td>
</tr>
<tr>
<td>and acting on feedback.</td>
<td></td>
</tr>
<tr>
<td>Identify and explore personal strengths, weaknesses, and goals – in general and within specific</td>
<td>PRO</td>
</tr>
<tr>
<td>patient encounters.</td>
<td></td>
</tr>
<tr>
<td>Describe the impact of stress, fatigue, and personality differences on learning and performance.</td>
<td>PRO</td>
</tr>
<tr>
<td>Apply such skills as the ability to conduct an interview, perform a physical examination, manage</td>
<td>MK, PC, PRO</td>
</tr>
<tr>
<td>medical data, communicate written and oral information, integrate basic science knowledge, search and</td>
<td></td>
</tr>
<tr>
<td>read literature critically, and teach.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate sensitivity to confidentiality, privacy, and modesty during the medical interview and</td>
<td>PRO</td>
</tr>
<tr>
<td>physical examination.</td>
<td></td>
</tr>
<tr>
<td>Perform an age-appropriate history and physical examination in children of all ages.</td>
<td>MK, PC</td>
</tr>
<tr>
<td>Obtain a past history, family history, and social history in an age-appropriate and sensitive</td>
<td>PC</td>
</tr>
<tr>
<td>manner from a child and/or the accompanying adult.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate the role of patient observation in determining the nature of a child's illness and</td>
<td>MK, PC</td>
</tr>
<tr>
<td>developmental stage.</td>
<td></td>
</tr>
<tr>
<td>Conduct a pediatric physical examination appropriate to the nature of the visit or complaint (</td>
<td>MK, PC</td>
</tr>
<tr>
<td>complete vs. focused) and the age of the patient.</td>
<td></td>
</tr>
<tr>
<td>Conduct an effective interview by adapting the interview to the visit (e.g. first visit, acute care,</td>
<td>IPS, PC</td>
</tr>
<tr>
<td>health supervision), or chief complaint.</td>
<td></td>
</tr>
<tr>
<td>Demonstrate effective verbal and non-verbal communication skills with children and their parents or</td>
<td>IPS</td>
</tr>
<tr>
<td>families.</td>
<td></td>
</tr>
<tr>
<td>Correctly identify the need for an interpreter in specific patient-physician interactions.</td>
<td>IPS, PC</td>
</tr>
<tr>
<td>PEDIATRIC CLERKSHIP LEARNING OBJECTIVES</td>
<td>Competency</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Demonstrate effective oral and written communication with the health care team avoiding jargon and vague terms (e.g. clear and normal).</td>
<td>IPS</td>
</tr>
<tr>
<td>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.</td>
<td>IPS</td>
</tr>
<tr>
<td>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).</td>
<td>IPS, PC</td>
</tr>
<tr>
<td>Write admission and daily orders for a hospitalized patient.</td>
<td>MK, PC</td>
</tr>
<tr>
<td>Write a prescription specific for a child's weight.</td>
<td>MK, PC</td>
</tr>
<tr>
<td>Generate an age-appropriate differential diagnosis and problem list based on the interview and physical examination.</td>
<td>MK, PC</td>
</tr>
<tr>
<td>Search for relevant information using electronic (or other) data bases and critically appraise the information obtained to make evidence based decisions.</td>
<td>PLI</td>
</tr>
<tr>
<td>Show respect for behaviors and lifestyles, paying particular attention to cultural, ethnic, and socioeconomic influences.</td>
<td>PRO</td>
</tr>
<tr>
<td>Seek to elicit and incorporate the patient's, parent's and family's attitudes into the health care plan.</td>
<td>IPS</td>
</tr>
</tbody>
</table>

**COMPETENCIES**

**A. Humanism and Professionalism in Patient and Family Encounters**

**Knowledge**

1. Describe and demonstrate behaviors that respect the patient's modesty, privacy, and confidentiality. (U)
2. Describe the practical applications of the major ethical principles (i.e. justice, beneficence, non-malfeasance and respect for autonomy) (U)

**Skills**

1. Demonstrate communication skills with patients and families that convey respect, integrity, flexibility, sensitivity, and compassion. (U)
2. Demonstrate respect for patient, parent, and family attitudes, behaviors and lifestyles, paying particular attention to cultural, ethnic, and socioeconomic influences to include actively seeking to elicit and incorporate the patient's, parent's and family's attitudes into the health care plan. (U)
3. Demonstrate behaviors and attitudes that promote the best interest of patients and families, including showing flexibility to meet the needs of the patient and family. (U)
B. Professionalism with Members of the Health Care Team

Skills

1. Demonstrate collegiality and respect for all members of the health care team. (U)

C. Professionalism in the Learner Role

Skills

1. Demonstrate a positive attitude and regard for education by demonstrating intellectual curiosity, initiative, honesty, responsibility, dedication to being prepared, maturity in soliciting, accepting, and acting on feedback, flexibility when differences of opinion arise, and reliability (including completing all assignments with honesty). (U)
2. Identify and explore personal strengths, weaknesses, and goals – in general and within specific patient encounters. (U)
3. Describe the impact of stress, fatigue, and personality differences on learning and performance. (U)

SKILLS

Rationale
An essential skill for success as a clinician and lifelong learner is clinical problem solving. The process of going from a patient's chief complaint to the creation of an appropriate differential diagnosis and the formulation of a diagnostic therapeutic plan is the core of clinical medicine. Skills essential for competent medical care include the ability to conduct an interview, perform a physical examination, manage medical data, communicate written and oral information, integrate basic science knowledge, search and read the literature critically, and teach. The care of individual patients requires the application of all of these skills.

GENERAL COMPETENCIES

1. Demonstrate sensitivity to confidentiality, privacy, and modesty, during the medical interview and physical examination (U) (see professionalism)
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 and or the accompanying adult:

*Past History*
  - Neonatal history, including:
  - Birth weight and approximate gestational age
  - Maternal complications, such as extent of prenatal care, infections, exposure to drugs, alcohol or medications
  - Problems in the newborn period, such as prematurity, respiratory distress, jaundice and infections
  - Immunizations
Family History:
- Age and health of family members to include acute and chronic medical conditions (U)
- Drug and alcohol abuse (U)
- Construct a family pedigree

Social History:
- Household composition and socioeconomic status (U)
- School, caregiver, and peer relationships (U)
- HEADSS assessment
- Environmental and Personal Safety Assessment:
  - Seat belts and car seats
  - Bicycle helmets
  - Firearms in the home
  - Smoking (U)
  - Lead exposure
  - 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) (U) and the age of the patient
3. Demonstrate an ability to perform the following examination skills

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

Vital signs
- 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)
- 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).

Growth (See section on Growth)
- Accurately graph and interpret height (length), weight, and head circumference
- Calculate, plot, and interpret BMI (U)
- Describe the usefulness of longitudinal data in assessing growth
**Development** (See section on Development)

- Accurately identify and interpret major developmental milestones of the neonate, infant, toddler, school-aged child, and adolescent.

**HEENT**

- Observe, measure, and describe head size and shape, symmetry, facial features, and ear position as part of the examination for dysmorphic features
- Identify sutures and fontanels in neonates and interpret the findings.
- Identify the red reflex and discuss how it is used to detect corneal opacities and intraocular masses.
- Detect the corneal light reflection and discuss how it is used to identify strabismus
- Assess hydration of the mucous membranes.
- Assess dentition (U)
- Observe the tympanic membrane using an otoscope and an insufflator
- Identify the structures of the oropharynx (e.g. uvula, tonsils, palate, tongue) and recognize signs of pathology (U)

**Neck**

- Palpate lymph nodes and describe what anatomic areas they drain (U)
- Demonstrate maneuvers that test for nuchal rigidity
- Palpate the thyroid and any neck masses (U)

**Chest**

- Observe, measure and interpret the rate, pattern and effort of breathing (U)
- Identify normal variations of respiration and signs of respiratory distress e.g. grunting, flaring, and retraction (U)
- Identify normal breath sounds and findings consistent with respiratory pathology such as stridor, wheezing, crackles and asymmetric breath sounds (U)
- Identify transmitted upper airway sounds (U)
- Observe and describe breast tissue according to developmental stage (e.g. Tanner scale)

**Cardiovascular**

- Identify the pulses in the upper and lower extremities through palpation.
- Observe and palpate precordial activity (U).
- Describe cardiac rhythm, rate, and quality (such as intensity, pitch, and location) of the heart sounds and murmurs and variation with maneuvers through auscultation. (U)
- Assess peripheral perfusion, using a test for capillary refill. (U)
- Identify central versus peripheral cyanosis

**Abdomen**

- Palpate the liver, spleen and kidneys, and interpret the finding based on the age of the patient.
- Assess the abdomen for distention, tenderness, and masses through observation, auscultation, and palpation (U)
- Determine the need for a rectal examination

**Genitalia**

- Describe the difference in appearance of male and female genitalia at different ages and developmental (e.g. Tanner) stages.
- Palpate the testes and identify genital abnormalities in males, including cryptorchidism
- Recognize genital abnormalities in females including signs of virilization
Extremities

- Examine the hips of a newborn for developmental dysplasia of the hip using the Ortolani and Barlow maneuvers
- Observe and describe the gait of children at different ages.
- Recognize pathology, such as joint effusions, signs of trauma, and inflammation

Back

- Perform and interpret a screening test for scoliosis.
- Examine the back for midline tufts of hair, pits, sacral dimples, or masses.

Neurologic examination

- Elicit the primitive reflexes that are present at birth and describe how they change as the child develops.
- Assess the major developmental milestones of newborns, infants, toddlers, school aged, children, and adolescents.
Skin

- Describe and assess turgor, perfusion, color, hypo and hyperpigmented lesions, and rashes through observation and palpation (U)
- Identify jaundice, petechiae, purpura, bruising, vesicles, and urticaria. (U)

C. Patient Communication Skills

1. Conduct an effective interview by adapting the interview to the visit (e.g., first visit, acute care, health supervision), or chief complaint, (U)
2. Demonstrate effective verbal and non-verbal communications skills with children and their parents or families that include:
   - Establishment of rapport taking into account the patient’s age and development stage
   - Use of communication techniques that enable development of a therapeutic alliance being sensitive to the unique social condition and cultural background of the family (U)
   - Identification of the primary concerns of the patient and/or family (U)
   - Discussion of medical information in terms understandable to patients and families avoidance of medical jargon (U)
3. Correctly identify the need for an interpreter in specific patient-physician interactions. (U)

D. Peer Communication Skills

1. Demonstrate effective oral and written communication with the health care team avoiding jargon and vague terms (e.g. clear and normal). (U).
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. U
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). (U)
4. Write admission and daily orders for a hospitalized patient (U)
5. Write a prescription (see Therapeutics section) (U) specific for a child's weight

E. 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. Search for relevant information using electronic (or other) data bases and critically appraise the information obtained to make evidence based decisions. (U)
HEALTH SUPERVISION

RATIONALE
Health supervision which includes assessment of growth and development, prevention of disease by immunization, prevention of injury by education, screening for treatable conditions and promotion of a healthy environment and a healthy lifestyle is essential to pediatric practice and primary care.

COMPETENCIES

Knowledge

1. List the most common preventable morbidities in childhood and describe strategies for prevention.
2. Describe the components of a health supervision visit including health promotion and disease and injury prevention, the appropriate use of screening tools, and immunizations for newborns, infants, toddlers, school aged children, and adolescents.
3. Describe the rationale for childhood immunizations. (See Prevention).
4. Discuss the rational for screening tests (such as environmental lead questionnaire, domestic violence screening, CBC, urinalysis, blood lead level, and PPD).
5. Describe the indications, appropriate use of the following screening tests:
   - Neonatal screening
   - Developmental screening
   - Hearing and vision screening
   - Lead screening
   - Anemia screening
   - Tuberculosis testing
6. Define anticipatory guidance and describe how it changes based on the age of the child.

Skills.

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

PROCESSES

All students should see during the course of the Pediatric Clerkship should see an infant, toddler, school aged, and adolescent child for a health care supervision visit.

GROWTH

RATIONALE
Growth is a defining feature of childhood. Genetic and environmental factors influence the rate of growth and the final stature and body habitus the child attains. Regular monitoring of growth provides the clinician with one of the best indicators of the underlying health of the child.

COMPETENCIES

Knowledge

1. Describe variants of normal growth in healthy children, (e.g. familial short stature and constitutional delay).
2. Identify and describe abnormal growth patterns based on the family growth history and the child's previous growth e.g. microcephaly, macrocephaly, short stature, obesity, growth abnormalities related to specific physical findings.
3. Identify failure to thrive and overweight/obesity in a child or adolescent using BMI and other growth measures and outline the differential diagnosis and initial evaluation.

Skills
1. Demonstrate ability to measure and assess growth including height/length, weight, and head circumference and body mass index in patient encounters using standard growth charts.

processes
All students on the Pediatric Clerkship should see a patient with 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 gestation age). This can be in the context of a well child examination or a child with a known disorder.

Development
rationale
The physical maturation and intellectual, social and motor development of the child follow predictable patterns, and provide the physician with a good indicator of the child's health and neurological function. The clinician must be familiar with normal patterns of development in order to detect deviations that might be the first sign of a medical or psychosocial problem.

competencies

knowledge
1. Describe the four developmental domains of childhood as defined by the Denver Developmental exam (e.g. gross motor, fine motor, language, and social development.
2. Describe how abnormal findings on the development screening tools would suggest a diagnosis of developmental delay.

skills
1. 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 2, and HEADSS. Key features might include the following:
   - Newborn/Infant – Disappearance of primitive reflexes; changes in 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; sequence of language development; concept of school readiness
   - Adolescent - Sequence of physical maturation (e.g. Tanner scales), cognitive development, and assessment of psychosocial and emotional development (e.g. HEADSS).
All students on the Pediatric Clerkship should see a patient with a patient with real or possible (e.g. parental concerns) issues related to development (e.g. delayed or possibly delayed language, motor, fine motor, or social adaptive skills).

**BEHAVIOR**

**RATIONALE**
Providing anticipatory guidance especially in the areas of normative or expected behaviors and identification of abnormal behavior is critical to pediatric practice. Knowledge of age-appropriate behavior allows the physician to recognize deviant behaviors and facilitates earlier intervention.

**COMPETENCIES**

**Knowledge**

1. Identify normal pattern of behaviors in the developing child such as:
   - newborn infants: development and evolution of social skills
   - toddler: autonomy
   - school age: independence
   - adolescence: abstract thinking

2. Describe the typical presentation of common behavioral problems and issues in different age groups such as:
   - Newborn/infants: sleep problems, colic
   - toddler: temper tantrums, toilet training, feeding problems
   - school age: enuresis, attention deficit
   - adolescence: eating disorders, risk-taking behavior

3. Describe the emotional disturbances or medical conditions that may manifest as alterations in school performance and peer or family relationships.

4. Describe how somatic complaints may represent psychosocial problems (e.g. recurrent abdominal pain, headache, fatigue, and neurologic complaints (U))

5. Describe the types of situations where pathology in the family (e.g. alcoholism, domestic violence, depression) contributes to childhood behavior problems (U)

**Skills**

1. Identify behavioral and psychosocial problems of childhood using the medical history and physical examination.

**PROCESSES**
All students on the Pediatric Clerkship should see a patient or patients with an individual or parental concern over a specified behavior or group of behaviors (e.g. sleep problems, colic, temper tantrums, toilet training, feeding problems, enuresis, attention deficit, encopresis, autism, eating disorders, conduct disorders, head banging, poor school performance).
NUTRITION

RATIONALE
Proper nutrition promotes growth and helps maintain health. Some degree of assessment of nutrition is a component of almost every pediatric medical visit. In patients presenting with abnormal growth, nutritional assessment is central to diagnosis and treatment.

COMPETENCIES

Knowledge

1. Describe the advantages of breastfeeding and describe common difficulties experienced by breastfeeding mothers.
2. Describe the signs and symptoms of common nutritional deficiencies in infants and children (e.g. iron, vitamin D, fluoride, and inappropriate caloric volume) and how to prevent them.
3. Identify children with specific or special nutritional needs (e.g. patients with chronic illness, prematurity, abnormal growth patterns, failure to thrive, obesity, or when family risk factors suggest the possibility that nutritional modification will be needed).
4. Describe nutritional factors that contribute to the development of childhood obesity and to failure to thrive.
5. Discuss risk factors for the development of cardiac disease and diabetes with families. (U)

Skills

1. Obtain a dietary history in children of different ages that includes the following: o Infants: type, amount and frequency of breast or formula feeding, solid foods, and dietary supplements (vitamins, iron, fluoride). o Toddler/school age child: milk, juice, soda, fast foods, and meal patterns o Adolescents: meal patterns, nutritional supplements, milk, juice, soda, alcohol, snacking, and fad diets
2. Determine the caloric adequacy of an infant’s diet.
3. Provide nutritional advice to families regarding the following: o Breastfeeding vs. formula feeding o Addition of solids to an infant's diet o Introduction of cow's milk to an infant's diet o Healthy food choices for children and adolescents o Exercise and TV or video viewing and their effect on obesity

PROCESSES
All students on the Pediatric Clerkship should see a patient or patients with self or parental concerns or questions about appropriate nutrition (e.g. failure to thrive, questions about breast vs. bottle feeding, questions about switching to formula, when to add solids). This can be in the context of a routine health care supervision visit.

PREVENTION

RATIONALE
Physicians routinely incorporate strategies for prevention of illness and injury into routine health supervision. Immunizations have resulted in a drastic reduction in the rates of certain infectious diseases. Injuries cause the majority of deaths in childhood and adolescence. Illness and injury prevention must be a prominent and recurrent theme during health maintenance and other health care
visits. The American Academy of Pediatrics most medical groups no longer use the term "accident" as most childhood injuries are believed to be predictable and preventable.

Note: There is a significant amount of overlap with the Health Supervision portion of the curriculum. Poisoning is covered in a separate section. Domestic violence is also addressed in the sections on Behavior, Issues Unique to Adolescence, and Child Abuse.

COMPETENCIES

Knowledge

1. Describe how risk of illness and injury change during growth and development and give examples of the age-and development-related illnesses and injuries.
2. List the immunizations currently recommended from birth through adolescence and identify patients whose immunizations are delayed.
3. Describe the rationale, and general indications and contraindications of immunizations. Explain how screening for family violence may serve as an important preventive health practice.
4. Describe infection control precautions that help limit the spread of infectious diseases in patients and health care providers (e.g. hand washing, masks, and N-95 masks in patients with tuberculosis). (U)

Skills

1. Provide age-appropriate anticipatory guidance for the following: motor vehicle safety, infant sleeping position, falls, burns, poisoning, fire safety, choking, water safety, bike safety, sexually transmitted diseases, firearms and weapons.

ISSUES UNIQUE TO ADOLESCENCE

RATIONALE
Adolescence represents the stage of human growth and development between childhood and adulthood. During this time, significant physical, cognitive, and psychosocial changes occur.

COMPETENCIES

Knowledge

1. Describe the unique features of the physician-patient relationship during adolescence including confidentiality and consent.
2. Identify and describe the sequence of the physical changes of puberty (e.g. Tanner scale).
3. List the components of health supervision for an adolescent, such as personal habits, pubertal development, immunizations, acne, scoliosis, sports participation, and indications for pelvic exam.
4. Describe the common risk-taking behaviors of adolescents, such as alcohol and other drug use, sexual activity and violence
5. Describe the contributions of unintentional injuries, homicide, suicide e to the morbidity and mortality of adolescents.
6. Describe the features of common mental health problems in adolescence, including school failure, attention deficit, body image, eating disorders, depression and suicide.

Skills
1. Interview an adolescent patient, using the HEADSS method, to ask sensitive questions about lifestyle choices that affect health and safety (e.g. sexuality, drug, tobacco and alcohol use)
2. Conduct a physical examination of an adolescent that demonstrates respect for privacy and modesty, employing a chaperone when appropriate.

PROCESSES
All students on the Pediatric Clerkship should see an adolescent patient or patients.

ISSUES UNIQUE TO THE NEWBORN

RATIONALE
The transition from intrauterine life to extrauterine independent existence is a major event: physiologically for the baby, emotionally for the family, and medically for the health care team. Physicians must have an appreciation for the physiologic changes a newborn experiences. The newborn has unique needs and vulnerabilities that are distinct from other periods of infancy. Most of the information covered in this section is pertinent in the first few hours and days of life. However, the newborn period extends through to the first month of life.

COMPETENCIES

Knowledge

1. Describe the transition from the intrauterine to the extrauterine environment, including temperature regulation, cardiovascular/respiratory adjustment, glucose regulation, and initiation of feeding.
2. List the information from the history of pregnancy, labor, and delivery obtained from the parents or medical record that has implications for the health of the newborn.
3. Describe how gestational age can be assessed with an instrument such as the Ballard scale and identify key indications of gestational maturity.
4. Describe the challenges for parents adjusting to a new infant in the home.
5. List the differential diagnosis and complications for the following common problems that may occur in the newborn
   - jaundice
   - respiratory distress
   - poor feeding
   - large and small for gestation infants (e.g. congenital infection)
   - "state" abnormalities which includes tremulousness, irritability, lethargy from causes such as drug withdrawal, hypoglycemia, sepsis

Skills

1. Perform a complete physical examination of the newborn infant.
2. Give parents of a newborn anticipatory guidance for the following issues:
   - the benefits of breast-feeding vs. formula for the newborn and mother
   - normal bowel and urinary elimination patterns
   - normal neonatal sleep patterns
   - newborn screening tests to include screens for metabolic and infectious conditions and hearing loss
   - appropriate car seat use
   - prevention of SIDS ("back to sleep"): immunizations (e.g. HBV)
medications (e.g. eye prophylaxis and vitamin K)
the role of circumcision

PROCESSES
All students on the Pediatric Clerkship should see one or more newborns and a newborn with jaundice.

MEDICAL GENETICS AND DYSMORPHOLOGY

RATIONALE
A physician should be able to distinguish between congenital disorders (disorders present at birth) that are genetic from those that are non-genetic, as well as recognize common genetic diseases presenting later in childhood. Genetic abnormalities may produce congenital malformations, metabolic disturbances, specific organ dysfunction, abnormal growth patterns, and abnormalities of sexual differentiation. New technology and knowledge of genetics have raised ethical questions that physicians and society will need to address.

COMPETENCIES

Knowledge

1. Describe the genetic basis and clinical manifestations of the following syndromes, malformations, and associations:
   o Common chromosomal abnormalities, (e.g. Trisomy 21, Turner syndrome, Syndromes due to teratogens (e.g. fetal alcohol syndrome)
   o Other common genetic disorders (e.g. cystic fibrosis, sickle cell disease, hemophilia)

2. List common medical and metabolic disorders (e.g. hearing loss, hypothyroidism, PKU, hemoglobinopathies) detected through newborn screening programs.

3. Discuss the effects of maternal health and potentially teratogenic agents on the fetus and child, including maternal diabetes and age, alcohol use, illicit drug use

Skills

1. Use a family history to construct a pedigree (e.g., for the evaluation of a possible genetic disorder).

COMMON ACUTE PEDIATRIC ILLNESSES

RATIONALE

Patients often come to medical attention because of a specific problem or complaint. The physician must solve the problems posed by the patient using information obtained from the history, the physical examination and, when appropriate, laboratory tests and/or imaging studies. In the problem-solving process, the physician typically develops differential diagnoses for each of the problems identified. The diagnostic process demands knowledge of disease etiology, pathophysiology and epidemiology and of the patient's gender, ethnicity, environment and prior health status.

When the patient is an infant, child, or adolescent, the physician must also consider the effects of age, physical growth, developmental stage and family environment. Commonly occurring illnesses are first considered, but other, less common disorders may need to be included in the evaluation of various clinical problems.
COMPETENCIES

Knowledge

1. List the age appropriate differential diagnosis for pediatric patients presenting with each of the following symptoms.
   - Abdominal pain
   - Cough and/or wheeze
   - Diarrhea
   - Fever and rash
   - Fever without a source
   - Headache
   - Lethargy or irritability
   - Limp or extremity pain
   - Otalgia
   - Rash
   - Rhinorrhea
   - Seizures
   - Sore throat
   - Vomiting

2. List the age appropriate differential diagnosis for pediatric patients presenting with each of the following physical findings.
   - Abdominal mass
   - Bruising
   - Heart murmur
   - Hepatomegaly
   - Lymphadenopathy
   - Splenomegaly
   - Petechiae and/or purpura
   - Red or wandering eye
   - White pupillary reflex

3. List the age appropriate differential diagnosis for pediatric patients presenting with each of the following laboratory findings.
   - Anemia
   - Hematuria
   - Proteinuria
   - Positive Mantoux skin test (PPD)

4. Describe the epidemiology, clinical, laboratory, and radiographic findings, of each of the core pediatric level conditions listed for each presenting complaint.
5. Explain how the physical manifestations of disease and the evaluation

Skills

1. Perform an age-appropriate history and physical examination pertinent to the presenting complaint of the child (see also Skills).
2. Generate an age appropriate differential diagnosis and initial diagnostic and therapeutic plan for each patient presenting with one of the following symptoms, physical examination findings, or laboratory findings (see also Clinical Reasoning).
Symptoms
- Abdominal pain
- Cough and/or wheeze
- Diarrhea
- Fever and rash
- Fever without a source
- Headache
- Lethargy or irritability
- Limp or extremity pain
- Otalgia
- Rash
- Rhinorrhea
- Seizures
- Sore throat
- Vomiting

Physical examination findings
- Abdominal mass
- Bruising
- Heart murmur
- Hepatomegaly
- Lymphadenopathy
- Petechiae and/or purpura
- Splenomegaly
- Red or wandering eye
- White pupillary reflex

Laboratory tests
- Anemia
- Hematuria
- Proteinuria
- Positive Mantoux skin test (PPD)

PROCESSES
All students on the Pediatric Clerkship should see a patient or patients with the following system or symptom based complaints: (see appendix)

- 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 localizing findings

COMMON CHRONIC ILLNESS AND DISABILITY

RATIONALE
Pediatricians are more frequently being asked to care for children with chronic medical conditions and exacerbations of their chronic illness. Physicians will need to understand the long term medical needs, implications and complications of the disorder for the patient as well as the family.
**PREREQUISITES**
An understanding of the pathophysiology and epidemiology of the following chronic illnesses: allergies, asthma, sensory impairment, cerebral palsy disability, cystic fibrosis, sickle cell disease, seizure disorder, diabetes mellitus, childhood malignancy, AIDS.

**COMPETENCIES**

*Knowledge*

1. Describe the clinical features of chronic medical conditions seen in children such as:
   - asthma
   - atopic dermatitis
   - cerebral palsy
   - cystic fibrosis
   - diabetes mellitus
   - epilepsy
   - malignancy (e.g. acute lymphocytic leukemia and Wilms tumor)
   - obesity
   - seasonal allergies
   - sickle cell disease

2. Describe how chronic illness can influence a child's growth and development, educational achievement, and psychosocial functioning.

3. Describe the impact that chronic illness has on the family's emotional, economic and psychosocial functioning. (U)

4. Describe the impact of a patient's culture on the understanding, reaction to, and management of a chronic illness (U)

*Skills*

1. Perform a medical interview and a physical examination in a child with a chronic illness that includes the
   - effects of the chronic illness on growth and development,
   - emotional, economic and psychosocial functioning of the patient and family, the
   - treatments used, including "complementary and alternative therapies."

**PROCESSES**
Students on the clerkship should see one or more patients with one of the chronic medical conditions listed above. This can be in the context of an acute or routine visit.

**THERAPEUTICS**

**RATIONALE**
Appropriate and successful treatment requires choice of the correct medication, the appropriate dose, and both a dosage form and a dosing regimen that will maximize compliance. The pharmacokinetics (absorption, metabolism, distribution and elimination) of medications change under the influence of growth and physiologic maturation. Child behavior and psychomotor development influence the form of medication dispensed and the expectation for compliance.

**PREREQUISITES**

- Knowledge of general pharmacokinetics and pharmacodynamics
• Knowledge of the physiologic and behavioral changes that occur during childhood

COMPETENCIES

Knowledge:

1. Describe how to assess whether a drug is excreted in the breastmilk and safe to use by a breast-feeding mother.
2. List medications such as aspirin, tetracycline, and oral retinoic acid that are contraindicated or must be used with extreme caution in specific pediatric populations.
3. Describe the appropriate use of the following common medications in the outpatient setting, including when it is NOT appropriate to treat with a medication: (U)
   o Analgesics / antipyretics
   o Antibiotics
   o Bronchodilators
   o Corticosteroids
   o Cough and cold preparations
   o Ophthalmic preparations
   o Otic preparations
   o Vitamin / mineral supplements
4. Select generally accepted pharmacologic therapy for common or life-threatening conditions in pediatric patients. These conditions could include:

   Common conditions seen in ambulatory settings:
   o Acne
   o Acute otitis media
   o Allergic rhinitis
   o Asthma
   o Atopic dermatitis
   o Candida dermatitis
   o Fever
   o Impetigo
   o Streptococcal pharyngitis
   o Common conditions seen in hospitalized patients
   o Bronchiolitis
   o Life threatening conditions
   o Sepsis/meningitis
5. Describe the ways medication errors are systemically prevented. (U)

Skills:

1. Calculate a drug dose for a child based on body weight.
2. Write a prescription e.g. for a common medication such as an antibiotic. (U)

POISONING

RATIONALE
Poisonings and ingestions are major preventable causes of childhood morbidity and mortality. Poisoning control centers across the U.S. receive more than millions calls a year regarding accidental and non-accidental ingestions and exposures to toxic materials.
COMPETENCIES

Knowledge

1. Describe the developmental vulnerability for poisoning and accidental ingestions in infants, toddlers, children, and adolescents.
2. List the ages at which prevalence of unintentional and intentional poisonings is highest and the passive and active interventions that decrease the incidence of childhood ingestions (e.g. locks or safety caps).
3. Describe the emotions of guilt and anxiety that may be present in the parent, caregiver or child at the time of ingestion.
4. Describe the environmental sources of lead, the clinical and social importance of lead poisoning, and screening tools to identify children at risk for lead poisoning.
5. Describe the acute signs and symptoms of accidental or intentional ingestion of acetaminophen, iron, alcohol, narcotics
6. Describe the immediate emergency management of children with toxic ingestions e.g. acetaminophen, iron
7. Describe the role of the Poison Control Center (1-800-222-1222) and other information resources in the management of the patient with an accidental or intentional ingestion.

Skills:

1. Provide anticipatory guidance regarding home safety and appropriate techniques to prevent accidental ingestions (see also Prevention)
2. 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) (U)
PEDiatric Emergencies

Rationale
All health care providers must be able to identify the infant, child, or adolescent with a medical emergency. A systemic and thorough approach to the seriously ill child may significantly reduce morbidity and mortality.

Competencies

Knowledge

1. List the symptoms of and describe the initial emergency management of shock, respiratory distress, lethargy, apnea, and status epilepticus in pediatric patients.
2. Describe the age-appropriate differential diagnosis and the key clinical findings that would suggest a diagnosis for each of the emergent clinical problems in the table below.
3. Describe the clinical findings for each of the diagnosis to consider in the table below.

Pediatric Emergencies Table

Core Pediatric level is that expected at the end of the clerkship.

Mastery level is that expected after advanced pediatric elective(s)

<table>
<thead>
<tr>
<th>Emergent Clinical Problem</th>
<th>Diagnoses to Consider (Core pediatric level)</th>
<th>Diagnoses to Consider (mastery pediatric level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airway Obstruction / Respiratory distress</td>
<td>Croup, bronchiolitis, asthma, pneumonia, foreign body aspiration, anaphylaxis</td>
<td>peritonsillar or retropharyngeal abscess</td>
</tr>
<tr>
<td>Altered mental status (Delirium/lethargy)</td>
<td>Head injury, increased ICP, substance abuse, infection (encephalitis, meningitis), diabetic ketoacidosis, hypoglycemia, abuse, shock, hypoxemia.</td>
<td>intussusception</td>
</tr>
<tr>
<td>Apnea</td>
<td>acute life-threatening event (ALTE), seizures, and respiratory infections (RSV and pertussis), GERD, sepsis</td>
<td>cardiac dysrhythmias, breath holding spells</td>
</tr>
<tr>
<td>Ataxia</td>
<td></td>
<td>ingestion, infection, and tumor</td>
</tr>
<tr>
<td>Gastrointestinal bleeding</td>
<td>Meckel's diverticulum, fissure, intussusception</td>
<td>inflammatory bowel disease, allergic colitis, peptic ulcer disease</td>
</tr>
<tr>
<td>Injuries and accidents</td>
<td>Animal bites, minor head injury, nursemaids elbow</td>
<td>sprains and fractures, burns, near drowning, lacerations</td>
</tr>
<tr>
<td>Proptosis</td>
<td></td>
<td>tumor and orbital cellulitis</td>
</tr>
<tr>
<td>Seizures</td>
<td>Infection (i.e., meningitis or encephalitis), status epilepticus, febrile, ingestion, hypoxemia, shock, electrolyte disturbances</td>
<td>tumor</td>
</tr>
</tbody>
</table>
Shock

Sepsis, severe dehydration, diabetic ketoacidoses, anaphylaxis, congestive heart failure and ingestion.

Burns, neurogenic shock, ductal dependent heart lesions, and adrenal insufficiency

Suicidal Ideation

Depression (U)

Skills

1. Demonstrate the appropriate anticipatory guidance to prevent life-threatening conditions (e.g. infant positioning for sudden infant death syndrome (SIDS), locks to prevent poisoning, and the use of car seats and bicycle helmets) (see also Prevention).

2. Demonstrate the "ABC" assessment as a means for identifying who requires immediate medical attention and intervention. (U)

PROCESSES
All students on the pediatric clerkship should see a patient or patients, real or simulated, with respiratory distress

CHILD ABUSE

RATIONALITY
Abuse may include physical, sexual and/or emotional trauma or may occur in the form of neglect when caregivers fail to provide basic physical, psychological or medical needs. Recognition of abuse or neglect can dramatically affect a child's life. Students and other health care providers need to understand the medical, legal, and social implications of suspected abuse and recognize the role of the physician in preventing child abuse and family violence, through routine assessment of family dynamics, early identification of children at risk, and cooperation with community services that support families.

COMPETENCIES

Knowledge

1. List characteristics of the history and physical examination that should trigger concern for possible physical, sexual, and psychological abuse and neglect e.g. such as inconsistency in the history, unexplained delays in seeking care, injuries with specific patterns or distributions on the body, or injuries incompatible with the child's development.

2. Describe the medical-legal importance of a full, detailed, carefully documented history and physical examination in the evaluation of child abuse.

3. Discuss the concurrence of domestic violence and child abuse and describe markers that suggest the occurrence of family violence. (U)

CHILD ADVOCACY

RATIONALITY
Physicians have a variety of roles in child health, including a public health role wherein they serve as patient and family advocates. Since children are unable to advocate for themselves and many of their families are not empowered, physicians must advocate for them at the individual, local, national and global level.
PREREQUISITES
Understand the role of the physician as an advocate.

COMPETENCIES

Knowledge

1. Describe barriers that prevent children from gaining access to health care, including financial, cultural and geographic barriers. CP
2. Identify opportunities for advocacy during a health supervision visit. CP
Appendix 1. Common Pediatric Illness Table.

For each presenting symptom, finding, or laboratory value the columns list the suggested differential diagnosis based on level of competence.

Core Pediatric level is that expected at the end of the clerkship.

Mastery level is that expected after advanced pediatric elective(s)

<table>
<thead>
<tr>
<th>Presenting symptom, finding, or laboratory value</th>
<th>Core pediatric level</th>
<th>Mastery level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cough and/or wheeze</td>
<td>Asthma</td>
<td>Allergic rhinitis</td>
</tr>
<tr>
<td></td>
<td>Bronchiolitis</td>
<td>Chlamydia pneumonia</td>
</tr>
<tr>
<td></td>
<td>Community acquired pneumonia</td>
<td>Cystic fibrosis</td>
</tr>
<tr>
<td></td>
<td>Croup</td>
<td>Gastroesophageal reflux (GERD)</td>
</tr>
<tr>
<td></td>
<td>Viral upper respiratory tract infection</td>
<td>Laryngomalacia and tracheomalacia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pertussis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>Fever without a focus</td>
<td>Bacteremia/sepsis</td>
<td>JRA</td>
</tr>
<tr>
<td></td>
<td>Meningitis</td>
<td>malignancy</td>
</tr>
<tr>
<td></td>
<td>Occult bacteremia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Urinary tract infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Viral illnesses</td>
<td></td>
</tr>
<tr>
<td>Sore Throat</td>
<td>Group a streptococcal pharyngitis</td>
<td>Peritonsillar abscess</td>
</tr>
<tr>
<td></td>
<td>Mononucleosis</td>
<td>Retropharyngeal abscess</td>
</tr>
<tr>
<td></td>
<td>Postnasal drip</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Viral upper respiratory tract infection</td>
<td></td>
</tr>
<tr>
<td>Otalgia</td>
<td>Otitis media, Acute and Recurrent</td>
<td>Dental caries</td>
</tr>
<tr>
<td></td>
<td>Otitis media with effusion</td>
<td>Foreign body of the canal</td>
</tr>
<tr>
<td></td>
<td>Otitis externa</td>
<td>Mastoiditis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pharyngitis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TMJ syndrome</td>
</tr>
<tr>
<td>Rhinorrhea</td>
<td>Allergic rhinitis</td>
<td>Nasal foreign body</td>
</tr>
<tr>
<td>-----------------</td>
<td>------------------</td>
<td>--------------------</td>
</tr>
<tr>
<td>Sinusitis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viral URI.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fever and rash</td>
<td>Group A streptococcal infection</td>
<td>drug reaction</td>
</tr>
<tr>
<td>Kawasaki disease</td>
<td></td>
<td>JRA</td>
</tr>
<tr>
<td>meningococcemia</td>
<td></td>
<td>Lyme disease</td>
</tr>
<tr>
<td>viral exanthem</td>
<td></td>
<td>Rickettsial disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toxic shock syndrome</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>Appendicitis</td>
<td>Bowel obstruction</td>
</tr>
<tr>
<td>Constipation/encopresis</td>
<td></td>
<td>Cholecystitis</td>
</tr>
<tr>
<td>Gastroenteritis</td>
<td></td>
<td>Dysmenorrhea</td>
</tr>
<tr>
<td>HSP</td>
<td></td>
<td>Gastritis</td>
</tr>
<tr>
<td>intussusception</td>
<td></td>
<td>Incarcerated hernia</td>
</tr>
<tr>
<td>Pelvic inflammatory disease</td>
<td></td>
<td>Inflammatory bowel disease</td>
</tr>
<tr>
<td>Urinary tract infection/pyelonephritis</td>
<td></td>
<td>Malignancy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malrotation and volvulus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ovarian or testicular torsion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pancreatitis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Peptic ulcer disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>pregnancy</td>
</tr>
<tr>
<td>Diarrhea</td>
<td>Gastroenteritis</td>
<td>Celiac Disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clostridium difficile infection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Encopresis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inflammatory Bowel Disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Malabsorption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Toddlers diarrhea</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Gastroenteritis</td>
<td>Bowel obstruction</td>
</tr>
<tr>
<td>Gastroesophageal reflux</td>
<td></td>
<td>Congenital adrenal hyperplasia</td>
</tr>
<tr>
<td>Pyloric stenosis</td>
<td></td>
<td>Diabetic Ketoacidosis</td>
</tr>
<tr>
<td>UTI/pyelonephritis</td>
<td></td>
<td>Eating disorder</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>Inborn errors of metabolism</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Inborn errors of metabolism</td>
<td>Inborn errors of metabolism</td>
<td></td>
</tr>
<tr>
<td>Intracranial process (increased intracranial pressure)</td>
<td>Meningitis</td>
<td></td>
</tr>
<tr>
<td>poisoning</td>
<td>Pregnancy</td>
<td></td>
</tr>
<tr>
<td>Volvulus/malrotation</td>
<td>Rash</td>
<td></td>
</tr>
<tr>
<td>Atopic dermatitis</td>
<td>drug reaction</td>
<td></td>
</tr>
<tr>
<td>Contact dermatitis</td>
<td>erythema toxicum</td>
<td></td>
</tr>
<tr>
<td>cellulitis</td>
<td>molluscum contagiosum</td>
<td></td>
</tr>
<tr>
<td>impetigo</td>
<td>warts</td>
<td></td>
</tr>
<tr>
<td>lice</td>
<td>monilial infections</td>
<td></td>
</tr>
<tr>
<td>scabies</td>
<td>seborrhea</td>
<td></td>
</tr>
<tr>
<td>urticaria</td>
<td>viral enanthem</td>
<td></td>
</tr>
<tr>
<td>viral exanthem</td>
<td>Limp or extremity pain</td>
<td></td>
</tr>
<tr>
<td>developmental dysplasia of the hip</td>
<td>Acute rheumatic fever</td>
<td></td>
</tr>
<tr>
<td>fracture</td>
<td>Henoch Schönlein purpura</td>
<td></td>
</tr>
<tr>
<td>Legg-Calve-Perthes disease</td>
<td>JRA</td>
<td></td>
</tr>
<tr>
<td>Nursemaid elbow</td>
<td>Lyme disease</td>
<td></td>
</tr>
<tr>
<td>Osgood Schlatter disease</td>
<td>malignancy</td>
<td></td>
</tr>
<tr>
<td>Osteomyelitis</td>
<td>reactive arthritis</td>
<td></td>
</tr>
<tr>
<td>Septic arthritis</td>
<td>sickle cell crisis</td>
<td></td>
</tr>
<tr>
<td>Slipped capital femoral epiphysis</td>
<td>transient synovitis</td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>meningitis</td>
<td></td>
</tr>
<tr>
<td>tension headache</td>
<td>concussion</td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Hydrocephalus</td>
<td>Increased Intracranial Pressure</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Seizures</td>
<td>Febrile Seizures</td>
<td>Idiopathic Seizures</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bruising</td>
<td>Trauma</td>
<td>Coagulopathy</td>
</tr>
<tr>
<td>Petechiae/Purpura</td>
<td>ITP</td>
<td>Leukemia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Murmur</td>
<td>Innocent Murmur</td>
<td>Anemia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lymphadenopathy</td>
<td>Bacterial Adenitis</td>
<td>Cat Scratch Disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Splenomegaly</td>
<td>Malignancy (E.g. Leukemia)</td>
<td>Hemolytic Anemia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition</td>
<td>Diagnosis</td>
<td>Condition</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Hepatomegaly</td>
<td>hepatitis</td>
<td>congestive heart failure</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abdominal mass</td>
<td>hydrenephrosis</td>
<td>malignancy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>stool</td>
</tr>
<tr>
<td>White pupillary reflex</td>
<td>cataracts</td>
<td>retinoblastoma</td>
</tr>
<tr>
<td>Red or wandering eye</td>
<td>conjunctivitis</td>
<td>allergy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>strabismus</td>
</tr>
<tr>
<td></td>
<td></td>
<td>exotropia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>trauma</td>
</tr>
<tr>
<td>Anemia</td>
<td>iron deficiency anemia</td>
<td>anemia of chronic disease</td>
</tr>
<tr>
<td></td>
<td>sickle cell anemia</td>
<td>bone marrow failure</td>
</tr>
<tr>
<td></td>
<td>thalassemia</td>
<td>hemolytic anemia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>malignancy</td>
</tr>
<tr>
<td>Hematuria</td>
<td>glomerulonephritis</td>
<td>benign familial hematuria</td>
</tr>
<tr>
<td></td>
<td>trauma</td>
<td>hemolytic uremic syndrome</td>
</tr>
<tr>
<td></td>
<td>UTI</td>
<td></td>
</tr>
<tr>
<td>Proteinuria</td>
<td>nephrotic syndrome</td>
<td>transient proteinuria</td>
</tr>
<tr>
<td></td>
<td>orthostatic proteinuria</td>
<td>glomerulonephritis</td>
</tr>
<tr>
<td>Positive Mantoux skin test</td>
<td>latent tuberculosis</td>
<td>non-tuberculosis mycobacterial</td>
</tr>
<tr>
<td></td>
<td></td>
<td>infection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>active tuberculosis</td>
</tr>
</tbody>
</table>
Academic Participation Requirements

Inpatient Clerkship Rotation

Students will be assigned to a ward team, consisting of interns and senior residents. Students will be following patients directly with an intern and will be expected to:

1. Obtain a complete data base (history, physical examination) on all patients admitted by the intern. If the patient is not acutely ill, the student should be allowed to obtain the initial history and perform the first physical examination. Oftentimes, interns and students have found it productive to work jointly in obtaining the initial information; the method is left to your discretion.

2. Have an average daily census of 3 patients. The student should also write daily progress notes for all the patients he/she is following; these notes should be submitted to the student attending. The student is expected to know all patients admitted to the wards. Although he/she need not write H&Ps on all of the patients, the patients might well be used during the attending's problem solving sessions. The student is also expected to make daily sign out rounds to the student on-call.

3. Write orders and prescriptions for their patients. The student is responsible for making sure that these orders are immediately reviewed and co-signed by a licensed practitioner.

4. Present their patients on work and attending rounds. They should also present their assessment, differential diagnosis and plan for the patient.

5. Turn in to the student attending a comprehensive write-up on at least two patients per week. (Minimum total of write-ups: 4 for the 3 week inpatient rotation.) This write-up should include a working diagnosis, differential diagnosis and a discussion of the differential diagnosis. A copy of the write-up should be given to the Student Attending. The write-up should be completed within 24 hours of the admission. The write-ups should include an assessment (including working diagnosis) and plan with a discussion of the differential diagnosis supported by textbook and primary literature review. These write-ups and all patients actively followed by the student (i.e. those on whom progress notes are written) must be entered in the ArizonaMed patient log on at least weekly.

At the beginning of the inpatient rotation, the student will be oriented to the wards by the Chief Resident or Senior Resident on the ward.

House officers are expected to notify the student on call for every admission to the service.

A. Responsibilities of PL-1s

The PL-1 should serve as a role model for the students, reviewing and/or supervising their interviews and comparing physical examination findings. PL-1s should co-sign and supplement the student's daily progress notes and chart orders and discuss patient management.
B. Responsibilities of PL-2s, PL-3s, PL-4s
PL-3s and PL-2s are expected to assist the PL-1s with their responsibilities to students as listed above. They are to teach physical examination skills by demonstration of findings on patients; help students complete required tasks, such as behavior counseling, poison counseling; provide mini-lectures (as time permits) covering common problems in Pediatrics and emergency Pediatrics; critique the student's case presentations on rounds, especially problem-solving ability; provide supplemental references; and supervise student's performance of procedures.

C. Responsibilities of Student Attending
In order to provide consistent faculty contact during the in-patient component of the clerkship, a faculty member, referred to as the “student attending”, is assigned to student teams with a rotation matching that of the students. The student attending’s function on the wards is primarily educational.

1. The student attending will review, correct, and discuss each of the student's write-ups and provide feedback regarding areas that warrant improvement. The write-up is to be reviewed and returned to the student in a timely manner (24-48 hours).

2. The student attending is responsible for spending a minimum of three hours per week with the students. These sessions are meant to include problem-solving sessions, discussions of differential diagnosis and management, review of physical findings, etc. The preceptor is given latitude in the manner in which these sessions are conducted, but some of the time should be "at the bedside" reviewing physical findings and interview skills, etc. The preceptor is expected to observe each student at least once doing a physical examination.

3. The student attending is responsible for giving the student a face-to-face evaluation using the completed assessment form and writing a narrative summary of the student's performance based on the LCME competencies and whatever other observations are made. The evaluation should be based on the student attending direct observations and input from the ward attending(s) (typically the hospitalists).

It is important to keep the students informed of their progress throughout the rotation and to offer assistance and remediation if necessary. This includes giving the student feedback and constructive criticism regarding write-ups, examination, case presentations, critical thinking and attitude on a regular basis throughout your contact.

The student attending and the housestaff will each be responsible to give the student mid-segment formative feedback about 10 days into the rotation. The common form used for this purpose can be found on the Arizona Med website as well as in the resources chapter of this syllabus.
Outpatient Clerkship Rotation

OBJECTIVES:
1. To appreciate normal development of the well infant, child, and adolescent.
2. To provide preventive health care to infants, children, and adolescents.
3. To evaluate and manage children presenting to clinic with acute and chronic illnesses.
4. To attend scheduled conferences and do any readings assigned by the attending.

PERFORMANCE EXPECTATIONS:
1. To evaluate and do formal write-ups on several clinic patients for each clinic day.
2. To attend scheduled conferences and do any readings assigned by the attending.

PATIENT EVALUATION
Students will evaluate several patients in the general pediatric clinic each day of their clinic rotation. The patients will be assigned to them by their faculty or resident preceptor. For each patient, the student is expected to perform the following:

1. Take a history and perform a complete physical examination according to the format described below.
2. Synthesize the data collected from the history, physical examination, lab work, radiological examination, to formulate a differential diagnosis and define a problem list.
3. Present the case to an attending physician; the presentation should be orderly, concise and well organized.
4. With assistance from the attending/resident, formulate a management plan for each patient seen and arrange for follow-up of the patient's problem.
5. Perform specific lab tests under supervision (urinalysis, etc.).
6. Complete the chart write-up in problem-oriented style for each patient seen, including assessment of the clinical problem, the problem list, growth charts, Denver II and other forms as appropriate.
7. Provide instructions to the patients on the management plan.
8. Write prescriptions as appropriate and have these signed by the attending physician.
9. When presented with lab results from follow-up, take appropriate action to ensure the patient's problem is managed (in conjunction with the clinic attending).
The extent of historical data gathered from the patient during the encounter depends upon the nature of the patient’s problem and the degree of illness of the child. Students should seek guidance from the attending physician, but the following serve as general guidelines. In the patient who is acutely ill, the following information will be obtained:

1. A complete account of the presenting problems, including the nature and duration of the symptoms, exposure to contagious disease, etc.

2. A review of main organ systems.

3. Relevant past medical history, including previous hospitalizations, current medications and specific allergies, chronic disease.

4. The immunization status.

5. The usual source of patient care.

When a patient's problem requires a comprehensive history, the following should also be included:

1. History of the pregnancy, delivery, neonatal course (for infants and pre-school children).

2. The milestones for growth and development for all children.

3. The medical history of the family.

4. The social and economic history of the family.

**Nursery Rotation**

Each student will be assigned to the nursery for one week during the outpatient component of the clerkship (see schedule for individual assignment dates).

In the nursery/outpatient rotation, you will be exposed to a variety of attendings and clinical settings. To help clarify the goals of this experience, the objectives, specific student requirements, and attending duties are listed below for each section of the rotation.

**NEWBORN NURSERY** (supervised by ambulatory attending and resident)

**OBJECTIVES:**

1. To learn how to evaluate the normal newborn and his family from both a medical and psychosocial perspective.

2. To know how to identify both medical and social high risk factors in newborns and how to proceed with appropriate follow-up.
3. To develop some expertise in talking with families about anticipatory guidance and well child care.

PERFORMANCE REQUIREMENTS:

1. To see (at least) one mother-infant pair daily and continue daily follow-up of the pair while they remain in the hospital. The student should have assessed his/her patient and be ready to present the patient to the attending or resident by 7:30 am. The assessment of the infant and the mother should include the following:

   a. Examine infant as soon as possible after birth (preferably in transitional nursery), assign gestational age, plot infant on intrauterine growth curve.

   b. Conduct initial interview with family as soon as possible after birth.

   c. Write-up a complete H&P based upon information obtained from maternal OB records, intrapartum record, transitional record, interview with mother, physical exam.

   d. Formulate a problem list: write an assessment and plan of management for each problem listed.

   e. Write daily progress notes (which need to be countersigned by a resident).

   f. Write discharge note, make discharge plans after discussing with resident or attending.

2. Discuss your patients on a daily basis with the ambulatory attending or the resident.

3. At discharge, consider appropriate follow-up plans for your patient and discuss the rationale for these plans with your attending.

Direct Observation Cards

Students are required to complete four Direct Observation Cards during the course of the clerkship, two during the inpatient portion and two during the outpatient portion. Completed cards must be returned to the Clerkship office by the last day of the rotation.
## Required Patient Encounters

The following patient encounters are REQUIRED during the pediatric clerkship. You should make every effort to see at least one patient with each of the following conditions during the clerkship.

Passing the clerkship is contingent upon documentation of these encounters. Should it not be possible for you to see all of the required conditions, completion of a CLIPP case covering the topic is mandatory in order to fulfill this requirement. Note that discussion of a case in a conference, on rounds or during a seminar does not qualify as fulfillment of this requirement. The table below details the condition, setting, your role and the alternative CLIPP case.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Setting</th>
<th>Role</th>
<th>CLIPP case</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Care Maintenance: Infant</td>
<td>Outpatient</td>
<td>Active</td>
<td>#2</td>
</tr>
<tr>
<td>Health Care Maintenance:: Toddler</td>
<td>Outpatient</td>
<td>Active</td>
<td>#3</td>
</tr>
<tr>
<td>Health Care Maintenance:: School age child</td>
<td>Outpatient</td>
<td>Active</td>
<td>#4</td>
</tr>
<tr>
<td>Health Care Maintenance:: Adolescent</td>
<td>Outpatient</td>
<td>Active</td>
<td>#5</td>
</tr>
<tr>
<td>Developmental delay/concerns</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#28</td>
</tr>
<tr>
<td>Growth delay/concerns</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#26</td>
</tr>
<tr>
<td>Abdominal pain</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#27</td>
</tr>
<tr>
<td>Fever and rash</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#11</td>
</tr>
<tr>
<td>Fever without a source</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#10</td>
</tr>
<tr>
<td>Upper respiratory tract infection</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#14</td>
</tr>
<tr>
<td>Lower respiratory tract infection</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#12</td>
</tr>
<tr>
<td>Hyperbilirubinemia</td>
<td>Outpatient or Inpatient</td>
<td>Active</td>
<td>#8</td>
</tr>
</tbody>
</table>

Additionally, all patient encounters during the course of the clerkship must be logged into Arizona Med. Cases must be logged at least once per week and will be monitored by the clerkship office.

To access CLIPP cases, visit [http://app.med-u.org/player/app/homepage.html?language=english](http://app.med-u.org/player/app/homepage.html?language=english). New users must register by clicking on the “First time User?” link. Once registered, the student will have access to these cases for the remainder of their medical school career.

## Alternative Experience

When a student must complete an alternative experience, the following procedures should be followed:

1. The student requests an alternate experience through Arizona Med.
2. When the alternative experience is approved by the clerkship, the student completes the online case.
3. When complete, the student then logs the experience.
**Required Procedures**

Students are required to perform the following procedures during the clerkship. Performance of these procedures must be supervised by the appropriate attending, resident or nurse. Student must document procedures by completing the procedure log on Arizona Med. This documentation is required to pass the clerkship.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Number required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretation of vital signs – birth-12 m.o.</td>
<td>3</td>
</tr>
<tr>
<td>Interpretation of vital signs – 1-5 y.o.</td>
<td>3</td>
</tr>
<tr>
<td>Interpretation of vital signs – 6-12 y.o.</td>
<td>3</td>
</tr>
<tr>
<td>Interpretation of vital signs – 13-20 y.o.</td>
<td>3</td>
</tr>
<tr>
<td>Prescription writing</td>
<td>5</td>
</tr>
<tr>
<td>Accurately plot and interpret wt, ht, ofc</td>
<td>5</td>
</tr>
<tr>
<td>Calculation and interpretation of BMI</td>
<td>5</td>
</tr>
<tr>
<td>Interpretation of Chest X-ray</td>
<td>3</td>
</tr>
<tr>
<td>Counseling – behavior/nutrition/injury prevention</td>
<td>3</td>
</tr>
<tr>
<td>Intramuscular injection</td>
<td>1</td>
</tr>
<tr>
<td>Subcutaneous Injection</td>
<td>1</td>
</tr>
</tbody>
</table>
Required Seminars

Departmental Conferences

**Grand Rounds (Sept-June):** Conferences are held the second and fourth Thursdays of each month in BUMC room 8403 (for a complete listing of conferences, please visit [http://www.peds.arizona.edu/physicians/calendar.asp](http://www.peds.arizona.edu/physicians/calendar.asp)).

Student attendance is expected for those at BUMC. Students at sites other than BUMC are expected to view the live stream available at [http://streaming.biocom.arizona.edu/home/](http://streaming.biocom.arizona.edu/home/).

Clerkship Seminars

A clerkship seminar series is scheduled for all clerkship students. **ATTENDANCE IS MANDATORY!** Refer to your seminar schedule for dates, times, topics and reading assignments.

The purposes of the clerkship seminar series are to (1) ensure that you have been exposed to necessary background information in certain areas in pediatrics; (2) offer you an opportunity to approach diagnostic problems in children; (3) allow an opportunity for you to expand your knowledge base by discussing cases with experts in the various fields.

**All students must attend all clerkship seminars during the clerkship. If you must be absent for any reason, alert the Clerkship office.**

Each seminar will be conducted in a patient-oriented, problem-solving format with a single professor for the group. **YOU ARE EXPECTED TO HAVE READ THE ASSIGNMENTS FOR EACH SEMINAR PRIOR TO THE SESSION** (see materials linked to each lecture on the Arizona Med website or in clerkship syllabus binder).

In addition, there are a host of specialty texts, online articles, serials, periodicals, and the like to which you will occasionally be referred for specific areas. We encourage you to utilize these sources to increase the scope of your knowledge of medicine in general and Pediatrics specifically.

Newborn Session

The first week of the clerkship rotation, students will meet with a general pediatrics faculty member to become acquainted with the normal newborn nursery. In this session, the students will go over a newborn physical exam and will be guided through a variety of topics relating to the newborn, including psycho-social issues, management of common problems, and feeding issues.

The goal of this seminar is to provide an overview of the field of Neonatal Medicine, emphasizing the uniqueness of newborn problems.

When possible, clinical relevance of these topics will be illustrated by presentation of cases in the newborn nurseries.
The goal of this presentation is to give an opportunity to the student who is interested in an in-depth review of a pediatric topic to have a forum whereby the presentation is evaluated by faculty members of the Department of Pediatrics and by peers. The topic of this presentation should be related to pediatrics and the presentation should be well-focused. The presentation will consist of an in-depth primary literature review of a topic of the student’s choice and lasts about 15 minutes with 5 minutes allowed for questions. The target audience are your peers on the pediatric clerkship as well as faculty members in attendance.

This presentation is optional (attendance is not). Those students interested in this exercise should notify the Clerkship Coordinator by the end of the second week of their pediatric clerkship. The student presentations will be scheduled for the fourth and fifth weeks of the pediatric clerkship. Students who begin the clerkship on outpatient will do their presentations the fourth week of the clerkship; students who begin on inpatient will do their presentations the fifth week. Upon deciding the topic of the presentation, the student should discuss the appropriateness of the topic and the general plan of the presentation with the clerkship director. If other input is necessary from faculty in the department, the student will be directed to those faculty members for assistance and advice.

The presentation will be scored by the faculty on a 0-3 point scale. The average score accrued from this presentation will be added to the final total score of the evaluations of the student at the end of the clerkship and, therefore, will count towards the achievement of an honors grade as outlined in the syllabus of the clerkship manual. Please see the grading system portion of the manual for examples of how the point system of the in-depth presentation works.

IN-DEPTH PRESENTATION POINTERS

This is a VOLUNTARY exercise! Please notify the clerkship coordinator of your decision to participate or not by the end of the second week of the rotation.

Keep in mind that the purpose of this presentation is to review a topic that relates to pediatrics in depth. Therefore, a general review (textbook chapter or review article type) is not appropriate. Rather, ask a specific question you would like to investigate, research it and present the most up-to-date and relevant research to answer the question you are asking.

Please be sure to review the topic and presentation with Dr. Shehab before you go too far in your preparations.

Remember you have 15 minutes for the presentation and 5 additional minutes are reserved for questions. It would be good practice to time your talk in order to stay within these time limits.

If a handout or overhead projection enhances your presentation, please use them. A computer and projector will be set up for your use.

Do not hesitate to call on any faculty member for help and critique of your project.

The faculty who attend will evaluate the presentation and award points (0-3).
IN-DEPTH PRESENTATION HINTS

**DO:**
1. Introduce yourself
2. Speak clearly and slowly
3. Stand up!
4. Speak to the audience, not the screen.

**DON'T:**
1. Attempt to present too much data!

POWER POINT/PREZI PRESENTATIONS

*Slides are useful if they:*

1. Contain only enough information to illustrate one major idea.
2. Are visible even in the last row of a large auditorium.
3. Show something that cannot be explained as well.
4. Should have no more than 9 lines.

**HINTS FOR SLIDES:**

1. Use a large type style that is clear and easy to read.
2. Keep the layout simple, with plenty of open space.
3. Do not crowd the slide. Two or more simple slides are better than one crowded one.
4. Limit each overhead/slide to one major idea.
5. Use a pointer or the computer cursor if you want to refer to certain information in the slide. Pointing at the screen is distracting and ineffective in focusing on your point.
6. In general, tables copied from books/articles do not project well. It is better to extract the specific information you wish to present and create a new table. Remember to orient your audience to the table and indicate the critical elements you want them to pay attention to.
7. Don't show slide contents until idea has been identified.
Formative and Summative Assessment

Mid-Clerkship Formative Feedback

Students will receive mid-clerkship formative feedback from attending physicians and housestaff midway through each half of the rotation using the Midway Feedback Form (Appendix B).

Assessment of Student Performance

During the course of the Pediatric clerkship you will be evaluated as follows:

1. Faculty and Housestaff Evaluations:
   You will be evaluated by each of your faculty preceptors and house officers on the basis of the LCME competencies. Each evaluator will rate your performance and describe your strengths and weaknesses.

2. Written Cognitive Examination:
   During the final week of the rotation you will be given the Pediatric Subject exam of the NBME. It consists of 100 questions. The exam lasts 2 hours and 30 minutes.
   
   The passing score on the final examination is 61.

   A student receiving a score of 60 or lower on the final written examination will receive a "failing" score on the examination. Failure on this test alone will not constitute failure of the clerkship if the student has a satisfactory clinical performance based on clinical evaluations. The student will receive a final grade of "incomplete" and is required to take a second written examination. This examination will be taken during an academic recess.

3. Overall estimate of your professionalism will be made by your preceptors based upon daily observation and evaluation of your maturity, integrity, doctor-patient relationships, and attitudes. If you receive a failing evaluation in this area, you will be required to repeat the clerkship. A serious breach of integrity or unethical behavior (i.e., dishonesty, cheating, falsifying records, and other unprofessional acts) will result in a negative recommendation to the Dean of Students and further action if necessary.
Grading Criteria

**FINAL EXAMINATION GRADE:** The examination grade is based on the student’s performance on the NBME Pediatric Subject Examination as follows:

<table>
<thead>
<tr>
<th>NBME Pediatric Subject Score</th>
<th>Points for periods 1 &amp; 2</th>
<th>Points for periods 3 &amp; 4</th>
<th>Points for periods 5 &amp; 6</th>
<th>Points for periods 7 &amp; 8 and 4th year students taking clerkship</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;93</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>93</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>92</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>91</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>90</td>
<td>40</td>
<td>40</td>
<td>39</td>
<td>39</td>
</tr>
<tr>
<td>89</td>
<td>40</td>
<td>40</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>88</td>
<td>40</td>
<td>39</td>
<td>37</td>
<td>37</td>
</tr>
<tr>
<td>87</td>
<td>39</td>
<td>38</td>
<td>36</td>
<td>36</td>
</tr>
<tr>
<td>86</td>
<td>38</td>
<td>37</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>85</td>
<td>37</td>
<td>36</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>84</td>
<td>36</td>
<td>35</td>
<td>33</td>
<td>33</td>
</tr>
<tr>
<td>83</td>
<td>35</td>
<td>34</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>82</td>
<td>34</td>
<td>33</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td>81</td>
<td>33</td>
<td>32</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>80</td>
<td>32</td>
<td>31</td>
<td>29</td>
<td>29</td>
</tr>
<tr>
<td>79</td>
<td>31</td>
<td>30</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td>78</td>
<td>30</td>
<td>29</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>77</td>
<td>29</td>
<td>28</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td>76</td>
<td>28</td>
<td>27</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>75</td>
<td>27</td>
<td>26</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>74</td>
<td>26</td>
<td>25</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>73</td>
<td>25</td>
<td>24</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>72</td>
<td>24</td>
<td>23</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>71</td>
<td>23</td>
<td>22</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>70</td>
<td>22</td>
<td>21</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>69</td>
<td>21</td>
<td>20</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>68</td>
<td>20</td>
<td>19</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>67</td>
<td>19</td>
<td>18</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>66</td>
<td>18</td>
<td>17</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>65</td>
<td>17</td>
<td>16</td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>64</td>
<td>16</td>
<td>15</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>63</td>
<td>15</td>
<td>14</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>62</td>
<td>14</td>
<td>13</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>61</td>
<td>13</td>
<td>12</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>60</td>
<td>12</td>
<td>11</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>59</td>
<td>11</td>
<td>10</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td>58</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>57</td>
<td>9</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>56</td>
<td>8</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55</td>
<td>7</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>&lt;54</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade</th>
<th>NBME Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors</td>
<td>&gt;75&lt;sup&gt;th&lt;/sup&gt; percentile</td>
</tr>
<tr>
<td>Hi Pass</td>
<td>51&lt;sup&gt;st&lt;/sup&gt;-74&lt;sup&gt;th&lt;/sup&gt; percentile</td>
</tr>
<tr>
<td>Pass</td>
<td>Below 50&lt;sup&gt;th&lt;/sup&gt; percentile and above 3&lt;sup&gt;rd&lt;/sup&gt; percentile</td>
</tr>
<tr>
<td>Fail</td>
<td>Below 2&lt;sup&gt;nd&lt;/sup&gt; percentile</td>
</tr>
</tbody>
</table>
**CLINICAL GRADE:** The clinical grade is based on the sum of points derived from the evaluation forms in the outpatient clinic and the inpatient service. The inpatient evaluations account for 50% of the clinical grade and the outpatient evaluation for the other 50% of the clinical grade. Each student will have two inpatient evaluations (attending and housestaff evaluations which are weighed equally and averaged) and one outpatient evaluation.

<table>
<thead>
<tr>
<th>OVERALL GRADE:</th>
<th>COMPONENT</th>
<th>MAX # OF POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Inpatient (35% of grade)</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Outpatient (35% of grade)</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Exam (30% of grade)</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>In-depth presentation*</td>
<td>Up to 3</td>
</tr>
<tr>
<td></td>
<td>Additional Overall Clerkship Professionalism**</td>
<td>5</td>
</tr>
</tbody>
</table>

* Students who elect to give an in-depth presentation may obtain up to three (3) additional points (based on faculty evaluations of the presentation) added to their overall score.

** Students will be evaluated for professionalism by the faculty, housestaff and other team members based on behaviors in the clinical setting. In addition, five (5) points may be subtracted from the overall score at the discretion of the Clerkship Director based on but not limited to: failure to complete case logs in a timely fashion; failure to turn in Direct Observation Cards in a timely fashion; failure to give adequate notice of requests for time off; unexcused or unexplained absences from clinical duties or didactic sessions; other behaviors deemed unprofessional by the Clerkship Director.

<table>
<thead>
<tr>
<th>GRADE</th>
<th>CRITERIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors</td>
<td>&gt;110 points AND Grade of Honors or High Pass on exam AND clinical grades</td>
</tr>
<tr>
<td>Hi Pass</td>
<td>109-98 points OR &gt;110 points AND Grade of Pass on exam</td>
</tr>
<tr>
<td>Pass</td>
<td>97-63 points AND exam grade of Pass or higher</td>
</tr>
<tr>
<td>Incomplete</td>
<td>Pass clinical rotations BUT exam grade = Fail</td>
</tr>
<tr>
<td>Fail</td>
<td>See criteria below</td>
</tr>
</tbody>
</table>

A student who scores below the pass threshold (see chart) on the exam will be allowed to take the test one additional time. Successful passing of the examination on the second attempt will change the grade from “Incomplete” to “Pass”. The repeat exam can be taken only during non-academic periods per EPC policy.

*If the student fails the exam on the second attempt, the student will fail the clerkship in accordance with the COM EPC policy.*

**CRITERIA FOR "FAIL" GRADE IN PEDIATRICS**
A student will receive a grade of "Fail" for the pediatric clerkship if:

1. He/she receives an evaluation of “Far below expectations” in any category on the evaluation form by the attending on either segment of the rotation
2. He/she receives a final exam score of less than 55 on the Pediatric Subject Examination Score and points of <21 on either segment of the clerkship
3. Failure after the second attempt at taking the clerkship examination.
4. He/she displays documented unethical or unprofessional behavior.

A “Fail” grade will require retaking the entire 6-week pediatric clerkship.
Student Feedback Surveys

Students must complete program evaluation surveys for each assigned site within a clerkship as well as evaluations of attendings and residents. **Clerkship grades will be withheld unless surveys are completed within 2 weeks of the clerkship’s end date.**

These evaluations will be available in New Innovations. An email will be sent as a reminder when they open as well as periodically thereafter until completed. If you have any questions, please consult with the clerkship coordinator.
Resources

Appendix A: ArizonaMed

Appendix B: Assessment Forms:
Assessment of Student Performance
Mid-Clerkship Feedback Form

Appendix C: NBME Shelf Exam Procedure

Appendix D: Affiliate and Student Affairs Phone Tree

Appendix E: Choosing Wisely

Appendix F: Direct Observation Card

Appendix G: Pediatric Faculty and Residents

Appendix H: Physical Examination & History
Appendix A: ArizonaMed

ArizonaMed Online was built to be the tool to report our curriculum to the AAMC. On top of that tool sits an interface for both faculty and students to access all material relevant to the curriculum. ArizonaMed Online is a repository for all learning elements (lecture and lab notes, images, PowerPoint presentation slides, cases, Independent Learning Modules, etc.) used in the curriculum. It has interactive tools for students to access material for any learning session as well as a daily calendar, surveys, announcements and more. **Not all ArizonaMed Online functions used in preclinical years are currently available to students doing clinical clerkships.**

You will be required to Login with your UA NetID and password. Instructions on how to access particular functions will be described in detail in other sections of this manual, as appropriate.

All assessment forms may be located and printed from ArizonaMed.
## Appendix B: Assessment Forms

### University of Arizona College of Medicine

**Assessment of Student Performance in the Pediatric Clerkship**

- **STUDENT NAME:**
- **EVALUATOR NAME:**
- **ROTATION DATES:**
- **ROLE:**
- **# OF STUDENT ABSENCES:**
- **SITE:**

**PLEASE “X” CORRECT BOX. PLEASE BE LIBERAL IN WRITING COMMENTS, INCLUDING STRENGTHS, WEAKNESSES, AND SUGGESTIONS.**

<table>
<thead>
<tr>
<th>Medical Knowledge</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibits an appropriate fund of knowledge and an understanding of basic pathophysiological processes</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Demonstrates the ability to apply knowledge to specific clinical situations</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Demonstrates an understanding of psychosocial influences on illness and treatment</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Demonstrates critical thinking and clinical decision making</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Comments regarding Medical Knowledge:**

<table>
<thead>
<tr>
<th>Patient Care</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducts accurate history and physical exams, covering all essential aspects</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Suggests and/or performs appropriate diagnostic tests</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Appropriately manages patient care</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Works effectively with health care professionals</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Comments regarding Patient Care:**

<table>
<thead>
<tr>
<th>Interpersonal &amp; Communication Skills</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creates &amp; sustains a therapeutically and ethically sound relationship with patients and families</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Clearly documents &amp; presents patient data and clinical information</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Demonstrates effective listening skills</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

**Comments regarding Interpersonal & Communication Skills:**
<table>
<thead>
<tr>
<th>Professionalism</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrates punctuality, accountability, honesty</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Actively seeks responsibility beyond the scope of expectations</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Demonstrates sensitivity and responsiveness to diversity, including culture, ethnicity, income</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Demonstrates respect for:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• patients and families</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• physician colleagues (residents &amp; attendings) and peers</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>• other patient care providers &amp; hospital personnel</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Comments regarding Professionalism:

<table>
<thead>
<tr>
<th>Practice-based Learning Improvement</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exhibits skills of self-directed learning</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Uses evidence-based approaches to pt care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Appropriately self-assesses and incorporates feedback to improve performance</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Comments regarding Practice-based Learning Improvement:

<table>
<thead>
<tr>
<th>Systems-based Practice</th>
<th>Far Above Expectations</th>
<th>Above Expectations</th>
<th>Meets Expectations</th>
<th>Below Expectations</th>
<th>Far Below Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advocates for quality patient care and access</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Knows and works appropriately within delivery systems, health costs</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Knows the role of MD in community health &amp; prevention and applies to patient care</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Applies knowledge of disease prevalence/incidence to the clinical care of patients.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

Comments regarding Systems-based Practice:

Summary Comments:
(Please provide comments on the overall performance of a student, such as how s/he integrates the multiple competencies and his/her strengths and weaknesses.)

Signature of Student: ___________________________ Date _______________

Signature of evaluator: ___________________________ Date _______________

STUDENT COMMENTS:

PERSONS CONTRIBUTING TO THIS EVALUATION (List all that apply):

______________________________________________________________
## Mid-Clerkship Feedback Form

<table>
<thead>
<tr>
<th>CHECK ONE:</th>
<th>Student Name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs Improvement</td>
<td>Evaluator Name:</td>
</tr>
<tr>
<td>Meets Expectations</td>
<td>Site:</td>
</tr>
<tr>
<td>Patient care</td>
<td>Date:</td>
</tr>
<tr>
<td>Medical knowledge</td>
<td></td>
</tr>
<tr>
<td>PBLI (self-directed read)</td>
<td></td>
</tr>
<tr>
<td>ICS (communication)</td>
<td></td>
</tr>
<tr>
<td>Professionalism</td>
<td></td>
</tr>
</tbody>
</table>

### REVIEW

<table>
<thead>
<tr>
<th></th>
<th>H&amp;P/ SOAP Notes</th>
<th>Required Encounters/ Procedure Logging</th>
<th>Direct Observation Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>□</td>
<td></td>
<td></td>
<td>□</td>
</tr>
</tbody>
</table>

### PRIME +

<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professionalism</td>
<td>Reminds evaluators to incorporate comments about professionalism into each domain listed below.</td>
</tr>
<tr>
<td>Reporter</td>
<td>Learners’ ability to obtain information from a patient or family interview, to review a medical record, and to report findings coherently in oral presentations and written notes.</td>
</tr>
<tr>
<td>Interpreter</td>
<td>This domain addresses how well a learner can interpret data collected from the history, physical examination, medical record, laboratory data, and radiologic studies; prioritize the most urgent problems; and formulate a well-reasoned differential diagnosis.</td>
</tr>
<tr>
<td>Manager</td>
<td>As a manager, a learner would formulate diagnostic and therapeutic patient plans and manage all aspects of care for the most common complaints. Management includes performing simple procedures and managing one’s own time.</td>
</tr>
<tr>
<td>Educator</td>
<td>Includes learners’ abilities to educate themselves via self-directed learning, appropriately accepting and responding to feedback, and critical interpretation of the medical literature. Learners can teach by locating relevant articles, and also can teach patients about health conditions.</td>
</tr>
<tr>
<td>Areas of improvement</td>
<td>Suggest an area for focused improvement and development, giving learners feedback that will help them progress along the continuum of medical education.</td>
</tr>
</tbody>
</table>

### FOR STUDENT TO COMPLETE:

<table>
<thead>
<tr>
<th>Learning goal(s) (AT LEAST ONE REQUIRED):</th>
<th>Was this feedback meaningful to you?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ YES  □ NO</td>
</tr>
</tbody>
</table>

If “no”, please explain:

---

Signature – Evaluator | Date | Signature – Student | Date

~ 52 ~
Appendix C: NBME Shelf Exam Procedure

All clerkships administer the NBME Shelf Exam (electronic) on the last day of each rotation to all students. Coordinators from each clerkship will be present to proctor. The time allotted for the exam is 2 hours and 30 minutes.

Each student will take the electronic shelf exam using his/her laptop. Prior to test day an email will be sent with instructions to run an exam compatibility check (URL is http://wbt.nbme.org/exam). Select the “Prior to Test Day” icon. If the exam compatibility check “passes”, instructions will appear for launching the sample test. If the exam check “fails”, instructions will appear to fix any issues and once fixed the sample test may be launched. Please consult with the IT Help Desk (626-8721) if needed.

Laptops must be equipped with the following:

<table>
<thead>
<tr>
<th>SYSTEM REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Windows</strong></td>
</tr>
<tr>
<td>Windows 7, Windows 8</td>
</tr>
<tr>
<td>1GHz processor or higher</td>
</tr>
<tr>
<td>13” screen or larger (Laptops)</td>
</tr>
<tr>
<td>A minimum screen resolution of 1024x768 is required with a 32 bit color setting</td>
</tr>
<tr>
<td>Virtual machines and applications are not allowed</td>
</tr>
<tr>
<td>iPads/tablets are not allowed</td>
</tr>
<tr>
<td>Internet Explorer 8, 9, 10, 11</td>
</tr>
<tr>
<td>Chrome 34.0.1847 or higher</td>
</tr>
<tr>
<td>Firefox 29 or higher</td>
</tr>
<tr>
<td>Do not use beta versions. Other browsers are not supported.</td>
</tr>
</tbody>
</table>

Browser Settings
- JavaScript Enabled
- Cookies Enabled
- CSS Enabled
- Disable pop-up blockers
- Broadband Internet connection (DSL, Cable or T1)
- Network bandwidth of 256Kbps or higher per workstation (including Internet access)
- Disable Toolbars, Adware or Spyware programs. They may adversely affect the computer’s performance and cause delays in loading test questions.
- Turn off Windows updates or virus scanner updates to avoid interruptions during testing.
Workstation Certification for Examinees with Personal Laptops

The instructions below are to be performed prior to exam day.

1. Go to [http://wbt.nbme.org/exam](http://wbt.nbme.org/exam) and follow the on-screen instructions to run the Secure Browser.
2. Select the **Workstation Certification** icon.
3. Select the **Examinee Personal Laptop Certification** link. The utility will test the laptop for compatibility with web based testing.

If the test is successful, you will be prompted to launch a sample exam as the final step. If the test is not successful, the system will provide feedback.

**Students must arrive no later than 30 minutes prior to the start of the exam. If you arrive after the scheduled exam start time, you may not be admitted. If you arrive more than 30 minutes after the scheduled exam start time, you will not be admitted and must pay a fee to reschedule your test.**

Before the exam begins, students should be sure no unauthorized personal items and/or devices are in the testing room. These items include, but are not limited to the following:

- Cell phones
- iPods/ iPads
- Watches with alarms, computer or memory capability
- Calculators
- Paging devices
- Recording/filming devices
- Reference materials (book, notes, papers)
- Backpacks, briefcases, or luggage
- Beverages or food or any type
- Coats, outer jackets or headwear

Students will be provided with scratch paper to make notes or calculations once the exam begins. These will be collected at the end of the examination session.

If a restroom break is needed during the examination, click the **Pause** button at the bottom of your screen. A screen saver will appear. However, this pause does not stop the timer for the exam. Students will be escorted one at a time to the restroom.

If the screen freezes, raise your hand and a proctor will assist you.
Appendix D: Affiliate & Student Affairs Phone Tree

Clinical Affiliate Phone Tree

Clinical Affiliate can reach any of the individuals in the red boxes. This will initiate the Student Affairs Phone Tree.

Student Affairs Phone Tree

- **Violet Siwik**
  - 2106
  - O: 520-626-9016
  - C: 520-237-5726

- **Joe "Skip" Garcia**
  - O: 520-626-0998

- **Kevin Moynahan**
  - O: 525-626-6505
  - C: 520-425-0614

- **Amy Waer**
  - O: 520-626-8074
  - C: 520-661-9899

- **Violet Siwik**
  - 2106
  - O: 520-626-9016
  - C: 520-237-5726

- **Karen Flores**
  - O: 520-626-2252
  - C: 520-971-4725

- **Tanisha Price-Johnson**
  - O: 520-626-8626
  - C: 520-250-7306

- **Jessica LeDuc**
  - O: 520-626-7145
  - C: 520-334-8502

- **Athena Ganchorre**
  - O: 520-626-2203
  - C: 520-329-9566

- **TBA**

- **TBA**

- **Med Student Listservs If appropriate**

- **Scott Pun**
  - O: 520-626-8138
  - C: 408-340-0307
Appendix E: Choosing Wisely

1. Antibiotics should not be used for apparent viral respiratory illnesses (sinusitis, pharyngitis, bronchitis).

Although overall antibiotic prescription rates for children have fallen, they still remain alarmingly high. Unnecessary medication use for viral respiratory illnesses can lead to antibiotic resistance and contributes to higher healthcare costs and the risks of adverse events.

2. Cough and cold medicines should not be prescribed or recommended for respiratory illnesses in children under four years of age.

Research has shown these products offer little benefit to young children and can have potentially serious side effects. Many cough and cold products for children have more than one ingredient, increasing the chance of accidental overdose if combined with another product.

3. Computed tomography (CT) scans are not necessary in the immediate evaluation of minor head injuries; clinical observation/Pediatric Emergency Care Applied Research Network (PECARN) criteria should be used to determine whether imaging is indicated.

Minor head injuries occur commonly in children and adolescents. Approximately 50% of children who visit hospital emergency departments with a head injury are given a CT scan, many of which may be unnecessary. Unnecessary exposure to x-rays poses considerable danger to children including increasing the lifetime risk of cancer because a child’s brain tissue is more sensitive to ionizing radiation. Unnecessary CT scans impose undue costs to the healthcare system. Clinical observation prior to CT decision-making for children with minor head injuries is an effective approach.

4. Neuroimaging (CT, MRI) is not necessary in a child with simple febrile seizure.

CT scanning is associated with radiation exposure that may escalate future cancer risk. MRI also is associated with risks from required sedation and high cost. The literature does not support the use of skull films in the evaluation of a child with a febrile seizure. Clinicians evaluating infants or young children after a simple febrile seizure should direct their attention toward identifying the cause of the child’s fever.

5. Computed tomography (CT) scans are not necessary in the routine evaluation of abdominal pain.

Utilization of CT imaging in the emergency department evaluation of children with abdominal pain is increasing. The increased lifetime risk for cancer due to excess radiation exposure is of special concern given the acute sensitivity of children’s organs. There also is the potential for radiation overdose with inappropriate CT protocols.

These items are provided solely for informational purposes and are not intended as a substitute for consultation with a medical professional. Patients with any specific questions about the items on the list or their individual situation should consult their physician.
How This List Was Created
The American Academy of Pediatrics (AAP) employed a three-stage process to develop its list. Using the Academy's varied online, print and social media communication vehicles, the first stage invited leadership of the Academy's 88 national clinical and health policy-driven committees, councils and sections to submit potential topics via an online survey. The second stage involved expert review and evaluation of the management groups that oversee the functions of the committees, councils and sections. Based on a set of criteria (evidence to document proven clinical benefit, potential to cause harm, over-prescribed and utilized, and within the purview of pediatrics) a list of more than 100 topics was narrowed down to five. Finally, the list was reviewed and approved by the Academy’s Board of Directors and Executive Committee.

AAP's disclosure and conflict of interest policy can be found at www.aap.org.

Sources


About the ABIM Foundation
The mission of the ABIM Foundation is to advance medical professionalism to improve the health care system. We achieve this by collaborating with physicians and physician leaders, medical trainees, health care delivery systems, payers, policymakers, consumer organizations and patients to foster a shared understanding of professionalism and how they can adopt the tenets of professionalism in practice.

To learn more about the ABIM Foundation, visit www.abimfoundation.org.

About the American Academy of Pediatrics
The American Academy of Pediatrics is an organization of approximately 87,000 primary care pediatricians, pediatric medical subspecialists and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents and young adults.

For more information, visit www.aap.org.

For more information or to see other lists of Five Things Physicians and Patients Should Question, visit www.choosingwisely.org.
# Appendix G: Pediatric Faculty and Residents

## RESIDENT CONTACT LIST

<table>
<thead>
<tr>
<th>Last</th>
<th>First</th>
<th>Level</th>
<th>Program</th>
<th>Pager</th>
<th>Peds Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alden</td>
<td>Michelle</td>
<td>1</td>
<td>Pediatrics</td>
<td>4780</td>
<td><a href="mailto:malden@peds.arizona.edu">malden@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Baksh</td>
<td>Aureen</td>
<td>1</td>
<td>Pediatrics</td>
<td>2213</td>
<td><a href="mailto:aureenbaksh@peds.arizona.edu">aureenbaksh@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Boltron</td>
<td>Gail</td>
<td>1</td>
<td>Pediatrics</td>
<td>2464</td>
<td><a href="mailto:gboltron@peds.arizona.edu">gboltron@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Chiacchio</td>
<td>Stepghany</td>
<td>1</td>
<td>Peds/EM</td>
<td>6936</td>
<td><a href="mailto:Schiacchio@aemrc.arizona.edu">Schiacchio@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Clendenen</td>
<td>Jordan</td>
<td>1</td>
<td>Pediatrics</td>
<td>3010</td>
<td><a href="mailto:jclendenen@peds.arizona.edu">jclendenen@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Forte</td>
<td>Helen (Marlee)</td>
<td>1</td>
<td>Pediatrics</td>
<td>1412</td>
<td><a href="mailto:hforte@peds.arizona.edu">hforte@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Furmick</td>
<td>Julie</td>
<td>1</td>
<td>Pediatrics</td>
<td>2388</td>
<td><a href="mailto:jfurmick@peds.arizona.edu">jfurmick@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Havens</td>
<td>Tara</td>
<td>1</td>
<td>Pediatrics</td>
<td>4777</td>
<td><a href="mailto:tnhavens@peds.arizona.edu">tnhavens@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Hodgdon</td>
<td>Kathryn</td>
<td>1</td>
<td>Peds/EM</td>
<td>6803</td>
<td><a href="mailto:khodgdon@aemrc.arizona.edu">khodgdon@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Khan</td>
<td>Maria</td>
<td>1</td>
<td>Pediatrics</td>
<td>8651</td>
<td><a href="mailto:mkhan@peds.arizona.edu">mkhan@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Kurland</td>
<td>Yonatan</td>
<td>1</td>
<td>Pediatrics</td>
<td>8589</td>
<td><a href="mailto:ykurland@peds.arizona.edu">ykurland@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Malburg</td>
<td>Louise</td>
<td>1</td>
<td>Pediatrics</td>
<td>2752</td>
<td><a href="mailto:lmalburg@peds.arizona.edu">lmalburg@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Manzo</td>
<td>Rachel</td>
<td>1</td>
<td>Pediatrics</td>
<td>1664</td>
<td><a href="mailto:rbmanzo@peds.arizona.edu">rbmanzo@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Olsen</td>
<td>Bryce</td>
<td>1</td>
<td>Pediatrics</td>
<td>2449</td>
<td><a href="mailto:bryceolsen@peds.arizona.edu">bryceolsen@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Retterath</td>
<td>Lindsey</td>
<td>1</td>
<td>Peds/EM</td>
<td>2218</td>
<td><a href="mailto:lrettterath@aemrc.arizona.edu">lrettterath@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Stetkevich</td>
<td>Nicholas</td>
<td>1</td>
<td>Pediatrics</td>
<td>1420</td>
<td><a href="mailto:stetkevichn@peds.arizona.edu">stetkevichn@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Szweda</td>
<td>Acacia</td>
<td>1</td>
<td>Pediatrics</td>
<td>4775</td>
<td><a href="mailto:aszweda@peds.arizona.edu">aszweda@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Wensman</td>
<td>Sierra</td>
<td>1</td>
<td>Pediatrics</td>
<td>2451</td>
<td><a href="mailto:swensman@peds.arizona.edu">swensman@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Yastic</td>
<td>Melissa</td>
<td>1</td>
<td>Pediatrics</td>
<td>4779</td>
<td><a href="mailto:melissayastic@peds.arizona.edu">melissayastic@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Baig</td>
<td>Muhammad (Usman)</td>
<td>2</td>
<td>Pediatrics</td>
<td>2448</td>
<td><a href="mailto:mbaig1@peds.arizona.edu">mbaig1@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Bartholomew</td>
<td>Ashley</td>
<td>2</td>
<td>Pediatrics</td>
<td>2452</td>
<td><a href="mailto:abarthol@peds.arizona.edu">abarthol@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Cosentino</td>
<td>Anna-Marie</td>
<td>2</td>
<td>Pediatrics</td>
<td>9587</td>
<td><a href="mailto:cosentin@peds.arizona.edu">cosentin@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Dardis</td>
<td>Danielle</td>
<td>2</td>
<td>Peds/EM</td>
<td>4225</td>
<td><a href="mailto:ddardis@aemrc.arizona.edu">ddardis@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Dill</td>
<td>James</td>
<td>2</td>
<td>Peds/EM</td>
<td>1097</td>
<td><a href="mailto:jdill@aemrc.arizona.edu">jdill@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Hartenstein</td>
<td>Parvana (Perri)</td>
<td>2</td>
<td>Pediatrics</td>
<td>2446</td>
<td><a href="mailto:hartenstein@peds.arizona.edu">hartenstein@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Hollinger</td>
<td>Jennifer</td>
<td>2</td>
<td>Pediatrics</td>
<td>1669</td>
<td><a href="mailto:jenhollinger@peds.arizona.edu">jenhollinger@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Ishii</td>
<td>Jon</td>
<td>2</td>
<td>Pediatrics</td>
<td>2453</td>
<td><a href="mailto:jonishii@peds.arizona.edu">jonishii@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Jarczyk</td>
<td>John (JP)</td>
<td>2</td>
<td>Pediatrics</td>
<td>1450</td>
<td><a href="mailto:jarczyk@peds.arizona.edu">jarczyk@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Jones</td>
<td>Trahern (TW)</td>
<td>2</td>
<td>Pediatrics</td>
<td>9931</td>
<td><a href="mailto:trahernj@peds.arizona.edu">trahernj@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Lawson</td>
<td>Emily</td>
<td>2</td>
<td>Pediatrics</td>
<td>9932</td>
<td><a href="mailto:emlawson@peds.arizona.edu">emlawson@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Leitner</td>
<td>Katherine</td>
<td>2</td>
<td>Pediatrics</td>
<td>9124</td>
<td><a href="mailto:kleitner@peds.arizona.edu">kleitner@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Liu</td>
<td>Julia</td>
<td>2</td>
<td>Pediatrics</td>
<td>3904</td>
<td><a href="mailto:juliail@peds.arizona.edu">juliail@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Placzek</td>
<td>Elizabeth</td>
<td>2</td>
<td>Pediatrics</td>
<td>2458</td>
<td><a href="mailto:eplaczek@peds.arizona.edu">eplaczek@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Rawani Patel</td>
<td>Priti</td>
<td>2</td>
<td>Peds/EM</td>
<td>2949</td>
<td><a href="mailto:ppatel@aemrc.arizona.edu">ppatel@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Walpert</td>
<td>Adam</td>
<td>2</td>
<td>Pediatrics</td>
<td>2447</td>
<td><a href="mailto:walpert@peds.arizona.edu">walpert@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Watkins</td>
<td>Brent</td>
<td>2</td>
<td>Pediatrics</td>
<td>9967</td>
<td><a href="mailto:watkinsb@peds.arizona.edu">watkinsb@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Young</td>
<td>Krista</td>
<td>2</td>
<td>Pediatrics</td>
<td>1413</td>
<td><a href="mailto:kristayoung@peds.arizona.edu">kristayoung@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Zahedieh</td>
<td>Sareh</td>
<td>2</td>
<td>Pediatrics</td>
<td>2466</td>
<td><a href="mailto:sarezh@peds.arizona.edu">sarezh@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Bhatt</td>
<td>Heli</td>
<td>3</td>
<td>Pediatrics</td>
<td>2462</td>
<td><a href="mailto:hbhatt1@peds.arizona.edu">hbhatt1@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Bramble</td>
<td>Rebecca</td>
<td>3</td>
<td>Pediatrics</td>
<td>1434</td>
<td>rb <a href="mailto:Bramble@peds.arizona.edu">Bramble@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Coynor</td>
<td>Seth</td>
<td>3</td>
<td>Pediatrics</td>
<td>1665</td>
<td><a href="mailto:sethcoynor@peds.arizona.edu">sethcoynor@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Cramer</td>
<td>Natan</td>
<td>3</td>
<td>Pediatrics</td>
<td>2460</td>
<td><a href="mailto:ncramer1@peds.arizona.edu">ncramer1@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Last</td>
<td>First</td>
<td>Level</td>
<td>Program</td>
<td>Pager</td>
<td>Peds Email</td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td>-------</td>
<td>-----------</td>
<td>--------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>Greenfield</td>
<td>Lisa</td>
<td>3</td>
<td>Peds/EM</td>
<td>9586</td>
<td><a href="mailto:lgreenfield@aemrc.arizona.edu">lgreenfield@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Halloran</td>
<td>Katrina</td>
<td>3</td>
<td>Pediatrics</td>
<td>2455</td>
<td><a href="mailto:kathalhalloran@peds.arizona.edu">kathalhalloran@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Hudson</td>
<td>Alicia</td>
<td>3</td>
<td>Pediatrics</td>
<td>2753</td>
<td><a href="mailto:aliciab@peds.arizona.edu">aliciab@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Jenkins</td>
<td>Lydia</td>
<td>3</td>
<td>Pediatrics</td>
<td>1662</td>
<td><a href="mailto:ljenks@peds.arizona.edu">ljenks@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Johnston</td>
<td>Casey</td>
<td>3</td>
<td>Pediatrics</td>
<td>2459</td>
<td><a href="mailto:cajohnston@peds.arizona.edu">cajohnston@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Justice</td>
<td>Jordan</td>
<td>3</td>
<td>Peds/EM</td>
<td>4847</td>
<td><a href="mailto:jjjustice@aemrc.arizona.edu">jjjustice@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Muhlbauer</td>
<td>Nicole</td>
<td>3</td>
<td>Pediatrics</td>
<td>1671</td>
<td><a href="mailto:nmuhlbauer@peds.arizona.edu">nmuhlbauer@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Murphy</td>
<td>Jennifer</td>
<td>3</td>
<td>Pediatrics</td>
<td>2465</td>
<td><a href="mailto:jlmurphy@peds.arizona.edu">jlmurphy@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Paul</td>
<td>Megan</td>
<td>3</td>
<td>Pediatrics</td>
<td>2224</td>
<td><a href="mailto:meganpaul@peds.arizona.edu">meganpaul@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Sekhon</td>
<td>Mehtab (Maggie)</td>
<td>3</td>
<td>Pediatrics</td>
<td>1668</td>
<td><a href="mailto:msekhon@peds.arizona.edu">msekhon@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Shwaish</td>
<td>Natalie</td>
<td>3</td>
<td>Pediatrics</td>
<td>8570</td>
<td><a href="mailto:shwaish@peds.arizona.edu">shwaish@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Williamson</td>
<td>Sarah</td>
<td>3</td>
<td>Pediatrics</td>
<td>1672</td>
<td><a href="mailto:sarahw13@peds.arizona.edu">sarahw13@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Wilson</td>
<td>Bryan</td>
<td>3</td>
<td>Peds/EM</td>
<td>3078</td>
<td><a href="mailto:bwilson@aemrc.arizona.edu">bwilson@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Witt</td>
<td>Norina</td>
<td>3</td>
<td>Pediatrics</td>
<td>2456</td>
<td><a href="mailto:norinawitt@peds.arizona.edu">norinawitt@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Wormley</td>
<td>Molly</td>
<td>3</td>
<td>Peds/EM</td>
<td>7507</td>
<td><a href="mailto:mwormley@aemrc.arizona.edu">mwormley@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Yacoub</td>
<td>Mais</td>
<td>3</td>
<td>Pediatrics</td>
<td>2457</td>
<td><a href="mailto:myacoub@peds.arizona.edu">myacoub@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Ellingson</td>
<td>Clifford</td>
<td>4</td>
<td>Peds/EM</td>
<td>4302</td>
<td><a href="mailto:cellingson@aemrc.arizona.edu">cellingson@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Escalante</td>
<td>Aluvia</td>
<td>4</td>
<td>Pediatrics</td>
<td>Chief pgr 3932</td>
<td><a href="mailto:aluviae@peds.arizona.edu">aluviae@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Huang</td>
<td>Christine</td>
<td>4</td>
<td>Peds/EM</td>
<td>9031</td>
<td><a href="mailto:chuang@aemrc.arizona.edu">chuang@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Thomas</td>
<td>Ian</td>
<td>4</td>
<td>Pediatrics</td>
<td>Chief pgr 3932</td>
<td><a href="mailto:ianthomas@peds.arizona.edu">ianthomas@peds.arizona.edu</a></td>
</tr>
<tr>
<td>Kiebel</td>
<td>Whitney</td>
<td>5</td>
<td>Peds/EM</td>
<td>8580</td>
<td><a href="mailto:wkiebel@aemrc.arizona.edu">wkiebel@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Pacheco</td>
<td>Garrett</td>
<td>5</td>
<td>Peds/EM</td>
<td>9611</td>
<td><a href="mailto:gpacheco@aemrc.arizona.edu">gpacheco@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Tromble</td>
<td>Erin</td>
<td>5</td>
<td>Peds/EM</td>
<td>8997</td>
<td><a href="mailto:etromble@aemrc.arizona.edu">etromble@aemrc.arizona.edu</a></td>
</tr>
<tr>
<td>Combo Name</td>
<td>Degree</td>
<td>Division</td>
<td>Email</td>
<td>Beeper</td>
<td>PHONE</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
<td>---------------------</td>
<td>------------------------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>ABDY, NICOLE</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:nabdy@peds.arizona.edu">nabdy@peds.arizona.edu</a></td>
<td>4077</td>
<td>626-0923</td>
</tr>
<tr>
<td>AGGARWAL, MRIDULA</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:maggarwal@email.arizona.edu">maggarwal@email.arizona.edu</a></td>
<td>446-1827</td>
<td>626-6614</td>
</tr>
<tr>
<td>APOSTOL, EMMANUEL</td>
<td>MD</td>
<td>NEPHROLOGY</td>
<td><a href="mailto:eapostol@peds.arizona.edu">eapostol@peds.arizona.edu</a></td>
<td>513-2591</td>
<td>626-6182</td>
</tr>
<tr>
<td>BADER, MOHAMMAD</td>
<td>MD</td>
<td>NEONATOLOGY</td>
<td><a href="mailto:mbader@email.arizona.edu">mbader@email.arizona.edu</a></td>
<td>218-3204</td>
<td>626-6627</td>
</tr>
<tr>
<td>BERGER, MARC D</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:march@peds.arizona.edu">march@peds.arizona.edu</a></td>
<td>446-1469</td>
<td>626-5485</td>
</tr>
<tr>
<td>BHASIN, NEHA</td>
<td>MD</td>
<td>HEM/ONC</td>
<td><a href="mailto:bhasin@peds.arizona.edu">bhasin@peds.arizona.edu</a></td>
<td>662-4851</td>
<td></td>
</tr>
<tr>
<td>BROWN, MARK A</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:mabrown@arc.arizona.edu">mabrown@arc.arizona.edu</a></td>
<td>1455</td>
<td>626-7780</td>
</tr>
<tr>
<td>CHIN, CINDY</td>
<td>MD</td>
<td>ENDOCRINOLOGY</td>
<td><a href="mailto:cchin@peds.arizona.edu">cchin@peds.arizona.edu</a></td>
<td>218-6075</td>
<td>626-9272</td>
</tr>
<tr>
<td>CLEMENS, CONRAD J</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:cclemen1@email.arizona.edu">cclemen1@email.arizona.edu</a></td>
<td>6306</td>
<td>626-0923</td>
</tr>
<tr>
<td>COX, MELICSA</td>
<td>DO</td>
<td>HOSPITALIST</td>
<td><a href="mailto:mcox@peds.arizona.edu">mcox@peds.arizona.edu</a></td>
<td>446-1419</td>
<td>626-6614</td>
</tr>
<tr>
<td>CRAMTON, RACHEL</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:rrcramton@email.arizona.edu">rrcramton@email.arizona.edu</a></td>
<td>446-1184</td>
<td>626-6614</td>
</tr>
<tr>
<td>DAINES, CORI</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:cdaines@arc.arizona.edu">cdaines@arc.arizona.edu</a></td>
<td>8909</td>
<td>626-7780</td>
</tr>
<tr>
<td>DAINES, MICHAEL</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:mdaines@arc.arizona.edu">mdaines@arc.arizona.edu</a></td>
<td>6764</td>
<td>626-6754</td>
</tr>
<tr>
<td>DAVENPORT, KAREN M</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:karend@peds.arizona.edu">karend@peds.arizona.edu</a></td>
<td>218-0567</td>
<td>626-6303</td>
</tr>
<tr>
<td>DESHPANDE, DEEPTI</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:deepi@email.arizona.edu">deepi@email.arizona.edu</a></td>
<td>446-1091</td>
<td>626-6614</td>
</tr>
<tr>
<td>EBERT, VALERIE</td>
<td>DO</td>
<td>HOSPITALIST</td>
<td><a href="mailto:yebert@email.arizona.edu">yebert@email.arizona.edu</a></td>
<td>446-1439</td>
<td>626-6614</td>
</tr>
<tr>
<td>ELLIOTT, SEAN</td>
<td>MD</td>
<td>ID</td>
<td><a href="mailto:selliott@peds.arizona.edu">selliott@peds.arizona.edu</a></td>
<td>531-2605</td>
<td>626-6507</td>
</tr>
<tr>
<td>FEERICK, JOHN</td>
<td>MD</td>
<td>GASTRO</td>
<td><a href="mailto:jfeerick@peds.arizona.edu">jfeerick@peds.arizona.edu</a></td>
<td>446-0342</td>
<td>626-4140</td>
</tr>
<tr>
<td>FRANKE, HILLARY</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:hfranke@peds.arizona.edu">hfranke@peds.arizona.edu</a></td>
<td>446-0036</td>
<td>626-5485</td>
</tr>
<tr>
<td>GASPER, MARY G.</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:mgaspers@peds.arizona.edu">mgaspers@peds.arizona.edu</a></td>
<td>446-0551</td>
<td>626-5485</td>
</tr>
<tr>
<td>GERHART, KIMBERLY</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:gerhart@peds.arizona.edu">gerhart@peds.arizona.edu</a></td>
<td>8802</td>
<td>626-6303</td>
</tr>
<tr>
<td>GHISHAN, FAYEZ K</td>
<td>MD</td>
<td>ADMINISTRATION</td>
<td><a href="mailto:fghishan@peds.arizona.edu">fghishan@peds.arizona.edu</a></td>
<td>3232</td>
<td>626-5170</td>
</tr>
<tr>
<td>GRAD, RONI</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:rgrad@arc.arizona.edu">rgrad@arc.arizona.edu</a></td>
<td>9577</td>
<td>626-7780</td>
</tr>
<tr>
<td>HAR, AILEEN</td>
<td>MD</td>
<td>GASTRO</td>
<td><a href="mailto:ahar@email.arizona.edu">ahar@email.arizona.edu</a></td>
<td>446-0023</td>
<td>626-4140</td>
</tr>
<tr>
<td>HASSAN, HASSAN H.</td>
<td>MD</td>
<td>GASTRO</td>
<td><a href="mailto:hassan@peds.arizona.edu">hassan@peds.arizona.edu</a></td>
<td>446-1979</td>
<td>626-4140</td>
</tr>
<tr>
<td>HIRANRATTANA, ANUNYA</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:ahiranrattana@email.arizona.edu">ahiranrattana@email.arizona.edu</a></td>
<td></td>
<td>626-7780</td>
</tr>
<tr>
<td>JUODAKIS, ANN</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:ajuodakis@peds.arizona.edu">ajuodakis@peds.arizona.edu</a></td>
<td>446-3321</td>
<td>626-6614</td>
</tr>
<tr>
<td>KATSANIS, EMMANUEL</td>
<td>MD</td>
<td>HEM/ONC</td>
<td><a href="mailto:katsanis@peds.arizona.edu">katsanis@peds.arizona.edu</a></td>
<td></td>
<td>626-4851</td>
</tr>
<tr>
<td>KHERA, SOFIA</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:skhera@email.arizona.edu">skhera@email.arizona.edu</a></td>
<td>446-1443</td>
<td>626-6614</td>
</tr>
<tr>
<td>KLEWER, SCOTT</td>
<td>MD</td>
<td>CARDIOLOGY</td>
<td><a href="mailto:sklewer@peds.arizona.edu">sklewer@peds.arizona.edu</a></td>
<td>3548</td>
<td>626-5585</td>
</tr>
<tr>
<td>KOPP, LISA</td>
<td>DO</td>
<td>HEM/ONC</td>
<td><a href="mailto:lkopp@peds.arizona.edu">lkopp@peds.arizona.edu</a></td>
<td>586-212-6781 c</td>
<td>626-4851</td>
</tr>
<tr>
<td>KYLATHU, RANJIT</td>
<td>MD</td>
<td>NEONATOLOGY</td>
<td><a href="mailto:rkylat@peds.arizona.edu">rkylat@peds.arizona.edu</a></td>
<td>218-1406</td>
<td>626-6627</td>
</tr>
<tr>
<td>LAU, JANET</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:jla@peds.arizona.edu">jla@peds.arizona.edu</a></td>
<td>446-1903</td>
<td>626-6614</td>
</tr>
<tr>
<td>LAX, DANIELA</td>
<td>MD</td>
<td>CARDIOLOGY</td>
<td>d <a href="mailto:lax@peds.arizona.edu">lax@peds.arizona.edu</a></td>
<td>1418</td>
<td>626-6508</td>
</tr>
<tr>
<td>LIVINGSTON, JOE</td>
<td>MD</td>
<td>NEONATOLOGY</td>
<td><a href="mailto:livingstonjoemd@email.arizona.edu">livingstonjoemd@email.arizona.edu</a></td>
<td>218-3862</td>
<td>626-6627</td>
</tr>
<tr>
<td>LOUE, CHAN</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:lowe@peds.arizona.edu">lowe@peds.arizona.edu</a></td>
<td>446-0674</td>
<td>626-6614</td>
</tr>
<tr>
<td>MARSHALL JR, WILLIAM N</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:marshall@peds.arizona.edu">marshall@peds.arizona.edu</a></td>
<td>6292</td>
<td>626-6303</td>
</tr>
<tr>
<td>MARTINEZ, FERNANDO</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:fernando@resp-sci.arizona.edu">fernando@resp-sci.arizona.edu</a></td>
<td>1452</td>
<td>626-6387</td>
</tr>
<tr>
<td>METZ, STEPHEN</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:smetz@peds.arizona.edu">smetz@peds.arizona.edu</a></td>
<td>446-3050</td>
<td>626-6614</td>
</tr>
<tr>
<td>Combo Name</td>
<td>Degree</td>
<td>Division</td>
<td>Email</td>
<td>Beeper</td>
<td>PHONE</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>--------</td>
<td>-------------------</td>
<td>-------------------------------------------------------</td>
<td>----------</td>
<td>-----------</td>
</tr>
<tr>
<td>MEYER, ROBYN J</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:rjmeyer@peds.arizona.edu">rjmeyer@peds.arizona.edu</a></td>
<td>531-5973</td>
<td>626-5485</td>
</tr>
<tr>
<td>MOORE, MELISSA</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:melissamoore@peds.arizona.edu">melissamoore@peds.arizona.edu</a></td>
<td>3655</td>
<td>626-0923</td>
</tr>
<tr>
<td>MORGAN, WAYNE J</td>
<td>MD</td>
<td>PULMONARY</td>
<td><a href="mailto:wmorgan@arc.arizona.edu">wmorgan@arc.arizona.edu</a></td>
<td>1454</td>
<td>626-7780</td>
</tr>
<tr>
<td>MORTAZAVI, MO</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:mmortazavi@email.arizona.edu">mmortazavi@email.arizona.edu</a></td>
<td>6288</td>
<td>626-0923</td>
</tr>
<tr>
<td>NATHALANG, DAVID</td>
<td>DO</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:dnathalang@peds.arizona.edu">dnathalang@peds.arizona.edu</a></td>
<td>446-2178</td>
<td>626-5485</td>
</tr>
<tr>
<td>NGUYEN, TIEN</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:ttnguyen@email.arizona.edu">ttnguyen@email.arizona.edu</a></td>
<td>446-4226</td>
<td>626-6614</td>
</tr>
<tr>
<td>OLSON, MARIE</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:molson@peds.arizona.edu">molson@peds.arizona.edu</a></td>
<td>446-0031</td>
<td>626-6614</td>
</tr>
<tr>
<td>RASTEGAR-MURPHY, HENGEMAH</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:Hengameh.Rastegar@bannerhealth.com">Hengameh.Rastegar@bannerhealth.com</a></td>
<td>531-2613</td>
<td>626-6614</td>
</tr>
<tr>
<td>REIN, JEFFREY</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:jrein@peds.arizona.edu">jrein@peds.arizona.edu</a></td>
<td>446-1827</td>
<td>626-6614</td>
</tr>
<tr>
<td>RICE, SYDNEY</td>
<td>MD</td>
<td>DVLP BEHAVIORIAL</td>
<td><a href="mailto:srice@peds.arizona.edu">srice@peds.arizona.edu</a></td>
<td>5727</td>
<td>626-6615</td>
</tr>
<tr>
<td>SAMSON, RIC</td>
<td>MD</td>
<td>CARDIOLOGY</td>
<td><a href="mailto:rsamson@peds.arizona.edu">rsamson@peds.arizona.edu</a></td>
<td>1298</td>
<td>626-6508</td>
</tr>
<tr>
<td>SECKELER, MIKE</td>
<td>MD</td>
<td>CARDIOLOGY</td>
<td><a href="mailto:mseckeler@peds.arizona.edu">mseckeler@peds.arizona.edu</a></td>
<td>9224</td>
<td>626-5585</td>
</tr>
<tr>
<td>SENGUTTUVAN, RAJAN</td>
<td>MD</td>
<td>ENDOCRINOLOGY</td>
<td><a href="mailto:rajansenguttuvan@email.arizona.edu">rajansenguttuvan@email.arizona.edu</a></td>
<td>626-9272</td>
<td></td>
</tr>
<tr>
<td>SESERINAC, JASNA</td>
<td>MD</td>
<td>HOSPITALIST</td>
<td><a href="mailto:jasnas@peds.arizona.edu">jasnas@peds.arizona.edu</a></td>
<td>531-2565</td>
<td>626-6614</td>
</tr>
<tr>
<td>SHEHAB, KAREEM</td>
<td>MD</td>
<td>ID</td>
<td><a href="mailto:kshehab@peds.arizona.edu">kshehab@peds.arizona.edu</a></td>
<td>446-0151</td>
<td>626-6507</td>
</tr>
<tr>
<td>SHEHAB, ZIAD M</td>
<td>MD</td>
<td>ID</td>
<td><a href="mailto:zshehab@u.arizona.edu">zshehab@u.arizona.edu</a></td>
<td>531-2717</td>
<td>626-6507</td>
</tr>
<tr>
<td>THEODOROU, ANDREAS</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:aat@peds.arizona.edu">aat@peds.arizona.edu</a></td>
<td>2756</td>
<td>626-5485</td>
</tr>
<tr>
<td>TYPPO, KATRI</td>
<td>MD</td>
<td>CRITICAL CARE</td>
<td><a href="mailto:ktyppo@peds.arizona.edu">ktyppo@peds.arizona.edu</a></td>
<td>446-0014</td>
<td>626-5485</td>
</tr>
<tr>
<td>WAHL, RICHARD A</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:rwahl@peds.arizona.edu">rwahl@peds.arizona.edu</a></td>
<td>531-2474</td>
<td>626-6303</td>
</tr>
<tr>
<td>WHEELER, MARK D.</td>
<td>MD</td>
<td>ENDOCRINOLOGY</td>
<td><a href="mailto:mwheeler@peds.arizona.edu">mwheeler@peds.arizona.edu</a></td>
<td>218-6075</td>
<td>626-6077</td>
</tr>
<tr>
<td>WILCOX, GRACIE</td>
<td>MD</td>
<td>GENERAL PEDS</td>
<td><a href="mailto:gwilcox@peds.arizona.edu">gwilcox@peds.arizona.edu</a></td>
<td>2932</td>
<td>626-0923</td>
</tr>
<tr>
<td>ZENG, YI</td>
<td>MD</td>
<td>HEM/ONC</td>
<td><a href="mailto:yzeng@peds.arizona.edu">yzeng@peds.arizona.edu</a></td>
<td>4869</td>
<td>626-7053</td>
</tr>
<tr>
<td></td>
<td>PhD</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix H: Physical Examination & History

The following outline for the Pediatric History and Physical Examination is comprehensive and detailed. In order to assimilate the information most easily, it is suggested that you read through the whole section before examining your first patient to get a general idea of the scope of the pediatric evaluation. Then, as you encounter patients with specific problems, you may return to the individual sections most pertinent to these patients to absorb the information in detail. Repeat practice with a variety of patients of different ages is crucial to the acquisition of skills in data collection. You should use every opportunity possible to evaluate patients in order to develop a sense of normal growth and development and appreciate the variations in patient encounter that is necessary to perform appropriate evaluation children of different ages.

HISTORY

I. Presenting Complaint  (Informant/Reliability of informant)

Patient's or parent's own brief account of the complaint and its duration. Use the words of the informant whenever possible.

II. Patient Profile

A good patient profile will eliminate the need for a social history. It should include information relative to the child's living conditions, what the family unit is like, where the patient fits into this unit, background and education of parents, father's work or lack of such, how child spends an average day (plays in house, plays outside with many friends, etc.). In the school age child, information should be checked relative to his functioning in school, and the presence of specific learning or behavior problems. The family's socio-economic situation should be asked about as well as medical insurance. This paragraph is most useful for paramedical personnel as it gives them a summary of the "whole" child.

III. Present Illness

Begin with statement that includes age, sex, color and duration of illness, ex.: This is the first UMC admission for this 8 year old white male who has complained of headache for 12 hours TPA. When was the patient last entirely well? How and when did the disturbance start? Health immediately before the illness. Progress of disease; order and date of onset of new symptoms. Specific symptoms and physical signs that may have developed. Pertinent negative data obtained by direct questioning. Aggravating and alleviating factors. Significant medical attention and medications given and over what period.

In acute infections, statement of type and degree of exposure and interval since exposure.

For the well child, determine factors of significance and general condition since last visit.

IV. Past Medical History

A. Antenatal: Health of mother during pregnancy. Medical supervision, drugs, diet, infections such as rubella, etc., other illnesses, vomiting, toxemia, other complications; Rh typing and serology, pelvimetry, medications, x-ray procedure, maternal bleeding, mother's previous pregnancy history.

B. Natal: Duration of pregnancy, birth weight, kind and duration of labor, type of delivery, presentation, sedation and anesthesia (if known), state of infant at birth, resuscitation required, onset of respiration, first cry.

C. Neonatal: APGAR score; color, cyanosis, pallor, jaundice, cry, twitchings, excessive mucus, paralysis, convulsions, fever, hemorrhage, congenital abnormalities, birth injury. Difficulty in sucking, rashes,
excessive weight loss, feeding difficulties. You might discover a problem area by asking if baby went home from hospital with his mother.

D. Growth and Development:
1. Mother and Mental Development
   a. First raised head, rolled over, sat alone, pulled up, walked with help, walked alone, talked (meaningful words; sentences), DDST when appropriate.
   b. Urinary continence during night; during day.
   c. Control of feces.
   d. Comparison of development with that of siblings and parents.
   e. School grade, quality of work.

2. Physical Growth: Gather any available data regarding sequential weights and lengths for later plotting of growth charts. Ask about unusual gain or loss of weight. Ask about dentition, i.e., when first tooth erupted and whether teeth were normal.

E. Nutrition
1. Breast or Formula: Type, duration, major formula changes, time of weaning, difficulties. Be specific about how much milk or formula the baby receives.
2. Vitamin Supplements: Type, when started, amount, duration.
4. Appetite: Food likes and dislikes, idiosyncrasies or allergies, reaction of child to eating. An idea of child's usual daily intake is important.

F. Past Illnesses - A comment should first be made relative to the child's previous general health, then the specific areas listed below should be explored.
1. Infections: Age, types, number, severity.
2. Contagious Diseases: Age, complications following measles, rubella, chickenpox, mumps, pertussis, diphtheria, scarlet fever.
3. Past Hospitalizations: including operations, age.
4. Allergies, with specific attention to drug allergies - detail type of reaction.
5. Medications patient is currently taking.

G. Immunizations and Tests - Be familiar with departmental recommendations for immunizations. List date and type of immunization as well as any complications or reactions.

H. Accidents and Injuries (include ingestions)
   Nature, severity, sequelae.

I. Behavioral History
1. Does child manifest any unusual behavior such as thumb sucking, excessive masturbation, severe and frequent temper tantrums, negativism, etc.?
2. Sleep disturbances.
3. Phobias.
4. Pica (ingestions of substances other than food).
5. Abnormal bowel habits, ex. - stool holding.
6. Bed wetting (applicable only to child out of diapers).

V. Family History - use family tree whenever possible
A. Father and mother (age and condition of health). What sort of people do the parents characterize themselves as being?

B. Marital relationships. Little information should be sought at first interview; most information will be obtained indirectly.
C. Siblings. Age, condition of health, significant previous illnesses and problems.

D. Stillbirths, miscarriages, abortions; age at death and cause of death of immediate members of family.

E. Tuberculosis, allergy, blood dyscrasias, mental or nervous diseases, diabetes, cardiovascular diseases, kidney disease, rheumatic fever, neoplastic diseases, congenital abnormalities, cancer, convulsive disorders, others.

F. Health of contacts.

VI. Social History

VII. Environmental History

VIII. System Review

A system review will serve several purposes. It will often bring out symptoms or signs missed in collection of data about the present illness. It might direct the interviewer into questioning about other systems that have some indirect bearing on the present illness (ex. - eczema in a child with asthma). Finally, it serves as a screening device for uncovering symptoms, past or present, which were omitted in the earlier part of the interview. There is no need to repeat previously recorded information in writing a Review of Systems.

A. Skin: Ask about rashes, hives, problems with hair, skin texture or color, etc.

B. Eyes: Have the child's eyes ever been crossed? Any foreign body or infection, glasses for any reason.

C. Ears, Nose and Throat: Frequent colds, sore throat, sneezing, stuffy nose, discharge, post-nasal drip, mouth breathing, snoring, otitis, hearing, adenitis.

D. Teeth: Age of eruption of deciduous and permanent; number at one year; comparison with siblings.

E. Cardiorespiratory: Frequency and nature of disturbances. Dyspnea, chest pain, cough, sputum, wheeze, expectoration, cyanosis, edema, syncope, tachycardia.

F. Gastrointestinal: Vomiting, diarrhea, constipation, type of stools, abdominal pain or discomfort, jaundice.

G. Genitourinary: Enuresis, dysuria, frequency, polyuria, pyuria, hematuria, character of stream, vaginal discharge, menstrual history, bladder control, abnormalities of penis or testes.

H. Neuromuscular: Headache, nervousness, dizziness, tingling, convulsions, habit spasms, ataxia, muscle or joint pains, postural deformities, exercise tolerance, gait.

I. Endocrine: Disturbances of growth, excessive fluid intake, polyphagia, goiter, thyroid disease.

J. Special senses.

Every child should receive a complete systematic examination at regular intervals. One should not restrict the examination to those portions of the body considered to be involved on the basis of the presenting complaint.

**Approaching the Child**

Adequate time should be spent in becoming acquainted with the child and allowing him/her to become acquainted with the examiner. The child should be treated as an individual whose feelings and sensibilities are well developed, and the examiner's conduct should be appropriate to the age of the child. A friendly manner, quiet voice, and a slow and easy approach will help to facilitate the examination.

**Observation of the Patient**

Although the very young child may not be able to speak, one still may receive much information from him/her by being observant and receptive. The total evaluation of the child should include impressions obtained from the time the child first enters until s/he leaves; it should not be based solely on the period during which the patient is on the examining table. In general, more information is obtained by careful inspection than from any of the other methods of examination.

**Sequence of Examination**

Skill, tact and patience are required to gather an optimal amount of information when examining a child. There is no routine one can use and each examination should be individualized. Ham it up and regress. Get down to the child's level and try to gain his/her trust. The order of the exam should conform to the age and temperament of the child. For example, many infants under 6 months are easily managed on the examining table, but from 8 months to 3 years you will usually have more success substituting the mother's lap. Certain parts of the exam can sometimes be done more easily with the child in the prone position or held against the mother. After 4 years, they are often cooperative enough for you to perform the exam on the table again.

Wash your hands with warm water before the examination begins. You will impress your patient's mother and not begin with an adverse reaction to cold hands in your patients. With the younger child, get to the heart, lungs and abdomen before crying starts. Save looking at the throat and ears for last. If part of the examination is uncomfortable or painful, tell the child in a warm, honest, but determined tone that this is necessary. Looking for animals in their ears or listening to birdies in their chests is often another useful approach to the younger child.

If your bag of tricks is empty and you've become hoarse from singing and your lips can no longer bring forth a whistle, you may have to turn to muscle. Various techniques are used to restrain children and experience will be your best ally in each type of situation.

Remember that you must respect modesty in your patients, especially as they approach pubescence. Sometime during the examination, however, every part of the child must have been undressed. It usually works out best to start with those areas which would least likely make your patient anxious and interfere with his developing confidence in you.

**General Physical Examination**

I. **Vital Signs and Measurements**

Temperature, pulse rate, and respiratory rate (TPR); blood pressure (the cuff should cover 2/3 of the upper arm), weight, height, and head circumference. The weight should be recorded at each visit; the height should be determined at monthly intervals during the first year, at 3-month intervals in the second year, and twice a year thereafter. The height, weight, and circumference of the child should be compared with standard charts and the approximate percentiles recorded. Multiple measurements at intervals are of much greater value than single ones since they give information regarding the pattern of growth that cannot be determined by single measurements.

II. **General Appearance**
Does the child appear well or ill? Degree of prostration; degree of cooperation; state of comfort, nutrition, and consciousness; abnormalities, gait, posture, and coordination; estimate of intelligence; reaction to parents, physician, and examination; nature of cry and degree of activity, facies and facial expression.

III. Skin

Color (cyanosis, jaundice, pallor, erythema), texture, eruptions, hydration, edema, hemorrhagic manifestations, scars, dilated vessels and direction of blood flow, hemangiomas, café-au-lait areas and nevi, Mongolian (blue-black) spots, pigmentation, turgor, elasticity, and subcutaneous nodules. Striae and wrinkling may indicate rapid weight gain or loss. Sensitivity, hair distribution and character, and desquamation.

Practical notes:

A. Loss of turgor, especially of the calf muscles and skin over abdomen, is evidence of dehydration.
B. The soles and palms are often bluish and cold in early infancy; this is of no significance.
C. The degree of anemia cannot be determined reliably by inspection, since pallor (even in the newborn) may be normal and not due to anemia.
D. To demonstrate pitting edema in a child it may be necessary to exert prolonged pressure.
E. A few small pigmented nevi are commonly found, particularly in older children.
F. Spider nevi occur in about 1/6 children under 5 years of age and almost ½ of older children.
G. "Mongolian spots" (large, flat black or blue-black areas) are frequently present over the lower back and buttocks; they have not pathologic significance.
H. Cyanosis will not be evident unless at least 5 gm of reduced hemoglobin are present; therefore, it develops less easily in an anemic child.
I. Carotenemic pigmentation is usually most prominent over the palms and soles and around the nose, and spares the conjunctivas.

IV. Lymph Nodes

Location, size, sensitivity, mobility, consistency. One should routinely attempt to palpate suboccipital, preauricular, anterior cervical, posterior cervical, submaxillary, sublingual, axillary, epitrochlear, and inguinal lymph nodes.

Practical notes:

A. Enlargement of the lymph nodes occurs much more readily in children than in adults.
B. Small inguinal lymph nodes are palpable in almost all healthy young children. Small, mobile, non-tender shotty nodes are commonly found in residue of previous infection.

V. Head

Size, shape, circumference, asymmetry, cephalhematoma, bosses, craniotabes, control, molding, bruit, fontanel (size, tension, number, abnormally late or early closure), sutures, dilated veins, scalp, hair (texture, distribution, parasites), face, transillumination.
Practical notes:

A. The head is measured at its greatest circumference; this is usually at the midforehead anteriorly and around to the most prominent portion of the occiput posteriorly. The ratio of head circumference to circumference of the chest or abdomen is usually of little value.

B. Fontanel tension is best determined with the quiet child in the sitting position.

C. Slight pulsations over the anterior fontanel may occur in normal infants.

D. Although bruits may be heard over the temporal areas in normal children, the possibility of an existing abnormality should not be overlooked.

E. Craniotabes may be found in the normal newborn infant (especially the premature) and for the first 2-4 months.

F. A positive Macewen's sign ("cracked pot" sound when skull is percussed with one finger) may be present normally as long as the fontanel is open.

G. Transillumination of the skull can be performed by means of a flashlight with a sponge rubber collar so that it forms a tight fit when held against the head.

VI. Face
Symmetry, paralysis, distance between nose and mouth, depth of nasolabial folds, bridge of nose, distribution of hair, size of mandible, swellings, hypertelorism, Chvostek's sign, tenderness over sinuses.

VII. Eyes
Photophobia, visual acuity, muscular control, nystagmus, Mongolian slant, Brushfield spots, epicanthic folds, lacrimation, discharge, lids, exophthalmos or enophthalmos, conjunctivae; pupillary size, shape, reaction to light and accommodation; media (corneal opacities, cataracts), fundi, visual fields (in older children). At 2-4 weeks an infant will follow light. By 3-4 months, coordinated eye movements should be seen.

Practical notes:

A. The newborn infant will usually open his eyes if he/she is placed in the prone position, supported with one hand on the abdomen, and lifted over the examiner's head.

B. Not infrequently, one pupil is normally larger than the other. This sometimes occurs only in bright or in subdued light.

C. Examination of the fundi should be part of every complete physical examination, regardless of the age of the child; dilatation of pupils may be necessary for adequate visualization.

D. A mild degree of strabismus may be present during the first 6 months of life but should be considered abnormal after that time.

E. To test for strabismus in the very young or uncooperative child, note where a distant source of light is reflected from the surface of the eyes; the reflection should be present on corresponding portions of the two eyes.

F. Small areas of capillary dilatation are commonly seen on the eyelids of normal newborn infants.

G. Most infants produce visible tears during the first few days of life.

VIII. Nose
Exterior, shape, mucosa, patency, discharge, bleeding, pressure over sinuses, flaring of nostrils, septum.

At birth the maxillary antrum and anterior and posterior ethmoid cells are present. At 2-4 years pneumatization of the frontal sinus takes place but is rarely a site of infection until the 6th - 10th year. Though the sphenoid sinus is present at birth, it does not assume clinical significance until the 5th to 8th year.

IX. Mouth

Lips (thinness, downturning, fissures, color, cleft), teeth (number, position, caries, mottling, discoloration, notching, malocclusion or malalignment), mucosa (color, redness of Stensen’s duct, enanthems, Bohn’s nodules, Epstein’s pearls), gum, palate, tongue, uvula, mouth breathing, geographic tongue (usually normal).

X. Throat

Tonsils (size, inflammation, exudate, crypts, inflammation of the anterior pillars), mucosa, hypertrophic lymphoid tissue, postnasal drip, epiglottis, voice (hoarseness, stridor, grunting, type of cry, speech). The number and condition of the teeth should be recorded. (A child should have 20 teeth by age 2½ years. When the teeth begin to erupt is quite variable but most infants have their two lower central incisors by 8-10 months.

Practical notes:

A. Before examining a child's throat it is advisable to examine his mouth first. Permit the child to handle the tongue blade, nasal speculum and flashlight so that he/she can overcome his fear of the instruments. Then ask the child to stick out his tongue and say "Ah" louder and louder. In some cases this may allow an adequate examination. In others, if the child is cooperative enough, he/she may be asked to "pant like a puppy;" while he/she is doing this, the tongue blade is applied firmly to the rear of the tongue. Gagging need not be elicited in order to obtain a satisfactory examination. In still other cases, it may be expedient to examine one side of the tongue at a time, pushing the base of the tongue to one side and then to the other. This may be less unpleasant and is less apt to cause gagging.

B. Young children may have to be restrained to obtain an adequate examination of the throat. Eliciting a gag reflex may be necessary if the oral pharynx is to be adequately seen.

C. The small child's head may be restrained satisfactorily by having the mother place her hands at the level of the child's elbows while the arms are held firmly against the sides of his head.

D. If the child can sit up, the mother is asked to hold him erect in her lap with his back against her chest. She then holds his left hand in her left hand and his right hand in her right hand, and places them against the child’s groin or lower thighs to prevent him from slipping down from her lap. If the throat is to be examined in natural light, the mother faces the light. If artificial light and a head mirror are used, the mother sits with her back to the light. In either case, the physician uses one hand to hold the head in position and the other to manipulate the tongue blade.

E. Young children seldom complain of sore throat even in the presence of significant infection of the pharynx and tonsils.

XI. Ears

Pinnas (position, size), canals, tympanic membranes (landmarks, mobility, perforation, inflammation, discharge), mastoid tenderness and swelling, hearing (including hearing screen).
Practical notes:

A. A test for hearing is an important part of the physical examination of every infant.

B. The ears of all sick children should be examined.

C. Before actually examining the ears, it is often helpful to place the speculum just within the canal, remove it and place it lightly in the other ear, remove it again, and proceed in this way from one ear to the other, gradually going farther and farther, until satisfactory examination is completed.

D. In examining the ear, as large a speculum as possible should be used and should be inserted no farther than necessary, both to avoid discomfort and to avoid pushing wax in front of the speculum so that it obscures the field. The otoscope should be held balanced in the hand by holding the handle at the end nearest the speculum. One finger should rest against the head to prevent injury resulting from sudden movement by the child.

E. The child may be restrained most easily if he/she is lying on his abdomen.

F. Low-set ears are present in a number of congenital syndromes, including several that are associated with mental retardation. The ears may be considered low-set if they are below a line drawn from the lateral angle of the eye and the external occipital protuberance.

G. Congenital anomalies of the urinary tract are frequently associated with abnormalities of the pinna.

H. To examine the ears of an infant it is usually necessary to pull the auricle backward and downward; in the older child the external ear is pulled backward and upward.

XII. Neck

Position (torticollis, opisthotonus, inability to support head, mobility), swelling, thyroid (size, contour, bruit, isthmus, nodules, tenderness), lymph nodes, veins, position of trachea, sternocleidomastoid (swelling, shortening), webbing, edema, auscultation, movement, tonic neck reflex.

Practical notes:

In the older child, the size and shape of the thyroid gland may be more clearly defined if the gland is palpated from behind.

XIII. Thorax

Shape and symmetry, veins, retractions and pulsations, beading, Harrison's groove, flaring of ribs, pigeon breast, funnel shape, size and position of nipples, breasts, length of sternum, intercostal and substernal retraction, asymmetry, scapulas, clavicles.

Practical notes:

At puberty, in normal children, one breast usually begins to develop before the other. In both sexes tenderness of the breasts is relatively common. Gynecomastia is not uncommon in the male.

XIV. Lungs

Type of breathing, dyspnea, prolongation of expiration, cough, expansion, fremitus, flatness or dullness to percussion, resonance, breath and voice sounds, rales, wheezing.
Practical notes:

A. Breath sounds in infants and children normally are more intense and more bronchial, and expiration is more prolonged, than in adults.

B. Most of the young child's respiratory movement is produced by abdominal movement; there is very little intercostal motion.

C. If one places the stethoscope over the mouth and subtracts the sounds heard by this route from the sounds heard through the chest wall, the difference usually represents the amount produced intrathoracically.

XV. Heart

Location and intensity of apex beat, precordial bulging, pulsation of vessels, thrills, size, shape, auscultation (rate, rhythm, force, quality of sounds - compare with pulse as to rate and rhythm; friction rub-variation with pressure), murmurs (location, position in cycle, intensity, pitch, effect of change of position, transmission, effect of exercise).

Practical notes:

A. Many children normally have sinus arrhythmia. The child should be asked to take a deep breath to determine its effect on the rhythm.

B. Extrasystoles are not uncommon in childhood.

C. The heart should be examined with the child recumbent.

XVI. Abdomen

Size and contour, visible peristalsis, respiratory movements, veins (distension, direction of flow), umbilicus, hernia, musculature, tenderness and rigidity, tympany, shifting dullness, tenderness, rebound tenderness, pulsation, palpable organs or masses (size, shape, position, mobility), fluid wave, reflexes, femoral pulsations, bowel sounds. If the liver is palpable below the right costal margin, its total span must be recorded. A deep abdomen palpation must be done on every child.

Practical notes:

A. The abdomen may be examined while the child is lying prone in the mother's lap or held over her shoulder, or seated on the examining table with his back to the doctor. These positions may be particularly helpful where tenderness, rigidity, or a mass must be palpated. In the infant the examination may be aided by having the child suck at a "sugar tip" or nurse at a bottle.

B. Light palpation, especially for the spleen, often will give more information than deep.

C. Umbilical hernias are common during the first 2 years of life. They usually disappear spontaneously.

XVII. Male Genitalia

Circumcision, meatal opening, hypospadias, phimosis, adherent foreskin, size of testes, cryptorchidism, scrotum, hydrocele, hernia, pubertal changes.

Practical notes:

A. In examining a suspected case of cryptorchidism, palpation for the testicles should be done before the child has fully undressed or become chilled or had the cremasteric reflex stimulated. In some cases, examination while the child is in a hot bath may be helpful. The boy should also be examined while
sitting in a chair holding his knees with his heels on the seat; the increased intra-abdominal pressure may push the testes into the scrotum.

B. To examine for cryptorchidism, one should start above the inguinal canal and work downward to prevent pushing the testes up into the canal or abdomen.

C. In the obese body, the penis may be so obscured by as to appear abnormally small. If this fat is pushed back, a penis of normal size is usually found.

XVIII. Female Genitalia

Vagina (imperforate, discharge, adhesions), hypertrophy of clitoris, pubertal changes.

Practical note:

Digital or speculum examination is rarely done until after puberty.

XIX. Rectum and Anus

Irritation, fissures, prolapse, imperforate anus. The rectal examination should be performed with the little finger (inserted slowly). Note muscle tone, character of stool, masses, tenderness, sensation. Examine stool on glove finger (gross, microscopic, culture, guaiac), as indicated.

XX. Extremities

A. General: Deformity, hemiatrophy, bowlegs (common in infancy), knock-knees (common after age 2), paralysis, edema, coldness, posture, gait, stance, asymmetry.

B. Joints: Swelling, redness, pain, limitation, tenderness, motion, rheumatic nodules, carrying angle of elbows, tibial torsion.

C. Hands and feet: Extra digits, clubbing, simian lines, curvature of little finger, deformity of nails, splinter hemorrhages, flat feet (feet commonly appear flat during first 2 years), abnormalities of feet, dermatoglyphics, width of thumbs and big toes, syndactyly, length of various segments, dimpling of dorsa, temperature.

D. Peripheral Vessels: Presence, absence or diminution of arterial pulses.

XXI. Spine and Back

Posture, curvatures, rigidity, webbed neck, spina bifida, pilonidal dimple or cyst, tufts of hair, mobility, Mongolian spots, tenderness over spine, pelvis or kidneys.

XXII. Neurologic Examination

A. Cerebral Function: General behavior, level of consciousness, intelligence, emotional status, memory, orientation, illusions, hallucinations, cortical sensory interpretation, cortical motor integration, ability to understand and communicate, auditory-verbal and visual-verbal comprehension, recognition of visual object, speech, ability to write, performance of skilled motor acts.

B. Cranial Nerves:
   1. I (olfactory) - Identify odors; disorders of smell
   2. II (optic) - Visual acuity, visual fields, ophthalmoscopic examination, retina.
   3. III (oculomotor), IV (trochlear), and VI (abducens) - Ocular movements, ptosis, dilatation of pupil, nystagmus, pupillary accommodation, and pupillary light reflexes.
   4. V (trigeminal) - Sensation of face, corneal reflex, masseter and temporal muscles, maxillary reflex (jaw jerk).
5. **VII (facial)** - Wrinkle forehead, frown, smile, raise eyebrows, asymmetry of face, strength of eyelid muscles, taste on anterior portion of tongue.

6. **VIII (acoustic)** -
   a. Cochlear portion - Hearing, lateralization, air and bone conduction, tinnitus.
   b. Vestibular - Caloric tests.

7. **IX (glossopharyngeal), X (vagus)** - Pharyngeal gag reflex, ability to swallow and speak clearly; sensation of mucosa of pharynx, soft palate, and tonsils; movement of pharynx, larynx, and soft palate; autonomic functions.

8. **XI (accessory)** - Strength of trapezius and sternocleidomastoid muscles.

9. **XII (hypoglossal)** - Protrusion of tongue, tremor, strength of tongue.

C. **Cerebellar Function**: Finger to nose, finger to examiner’s finger, rapidly alternating pronation and supination of hands; ability to run heel down other shin and to make a requested motion with foot; ability to stand with eyes closed; walk; heel to toe walk; tremor; ataxia; posture; arm swing when walking; nystagmus; abnormalities of muscle tone or speech.

D. **Motor System**: Muscle size, consistency, and tone; muscle contours and outlines; muscle strength; myotonic contraction; slow relaxation; symmetry or posture; fasciculations; tremor; resistance to passive movement; involuntary movement.

E. **Sensory System**: Hearing, vision, light touch, pain, position, vibration.

F. **Reflexes**:

   1. **Deep reflexes** - Biceps, brachioradialis, triceps, patellar, Achilles; rapidity and strength of contraction and relaxation.
   2. **Superficial reflexes** - Abdominals, cremasteric, plantar, gluteal.

G. **Newborn Neurological Examination - Practical Points**:

Observe the normal flexion of the term infant in contrast to the nonflexed, even flaccid appearance of the normal resting premature. The shape of the premature skull is usually dolichocephalic (long and narrow). Elicit the normal reflexes of grasping (hand and foot), sucking, rooting, Moro and automatic walking. Palpate the head to identify the anterior and posterior fontanelles as well as the sagittal, coronal, metopic and lambdoid sutures.
NORMAL NEWBORN: HISTORY AND PHYSICAL EXAM OUTLINE

Infant: Birth weight, gestational age, intrauterine growth (AGA, SGA, LGA), race, sex, date and time of birth.

Maternal: Age; Gravida _____, Para _____, SAB _____, TAB _____, SB_____, LC_____; blood type, VDRL/RPR (date and results), race, EDC. Previous complications of pregnancy, labor, delivery. Type of contraception used, if any. Was present pregnancy planned?

Pregnancy: Location of prenatal care and number of visits. Complications of pregnancy: Special test, ultrasound exams, stress tests. Medications - drug, dose, route, length of therapy, indication, when used during pregnancy.

Labor and Delivery:
Labor spontaneous or induced? Complications of labor Fetal monitoring? Fetal distress? Rupture of membranes: artificial or spontaneous, hours before delivery, character of fluid. Medications - including analgesia and anesthesia: drug, dose, route, time prior to delivery Duration - Stage I, Stage II, Stage III Vaginal - or C-section delivery Fetal presentation and position Forceps used? If so, state type and indication Apgars 1 min/5 min (Specify points lost at each) Resuscitation: none; bulb suction; free flowing oxygen; bag and mask; intubation, drugs used (dose and route)

Transitional Nursery:
VS on admission (including BP and temperature) Hematocrit Dextrostic Problems: cyanosis, respiratory distress, etc. Estimate of gestational age by Dubowitz - physical score, neuromuscular score

Family: Relationship of neonate's mother and father (married, divorced, cohabiting, live apart, no contact maintained, etc.)

Mother: amount of education, and is she employed outside of the home?

Father: age, amount of education, occupation

Any illnesses or other problems in household members?

Any significant illnesses (physical, mental, growth failure) in other members of father's or mother's family? If so, what?

Is there any disorder(s) in particular that mother worries her child might develop?

Environment:
Type of housing (trailer, apartment, etc.)
Number of bedrooms; running water, bath; explain problems. Is adequate heating or cooling a problem? If yes, explain. Is there a crib or adequate substitute for the baby? Do any of the children sleep in the same bed or same room as their parents?
Are there adults other than the parents sleeping or living in the house?
Approximate level of income. Are there a lot of debts?
Will the baby be an added financial stress?
Any previous contact with social agencies? If so, which ones and opinions about the reasons for using the resources.
Any relatives or friends in town? Type of support systems they provide?

**Mother-Child Relationship:**
Mother's affect; attitude toward the child; knowledge of child care.

**PHYSICAL EXAMINATION**

**Vital Signs:**
- T ___ °C  Weight ___gm (% of Colorado Intrauterine Growth Curve)
- P ___  Length ___cm (% of Colorado Intrauterine Growth Curve)
- R ___  Head Circumference ___cm (% " " )
- BP ___ Chest Circumference ___cm (% " " )

**General:**
Describe resting posture, activity, gross abnormality, color (pink, cyanotic/acrocyanotic, pale mottled)

**Skin:**
Texture, lanugo, vernix, meconium staining, icterus, hemangioma, nevi, rash, excoriation, petechiae, bruises.

**Head:**
General shape, molding, caput, cephalohematome, sutures (over-riding, separated), craniotabes.
Fontanel - anterior, posterior (presence, size, flat/full). Texture of hair.

**Eyes:**
Edema, conjunctival or anterior chamber hemorrhage, discharge. Size of eye; cornea, iris normal? Lens clear? Red reflex present? Retina visualized? PERL?

**Nose:**
Internal and external nares patent? Septum midline? Drainage present?

**Ears:**
Cartilaginous development of the ear lobe, position of ears, shape of auricle (normal/abnormal), preauricular sinus or skin tags. External auditory canal patent.

**Mouth:**
Palate (intact, narrow or high arched), Epstein's pearls, mucosal cysts, teeth, tongue (size, position), frenulum, uvula.

**Chin:**
Micrognathia.

**Neck:**
Trachea position. Masses (thyroid, sternocleidomastoid, etc.), cysts, sinus tracts, movement, nodes.

**Chest:**

**Lungs:**
Retractions, flaring, grunting, tachypnea, auscultation (rales, rhonchi, wheezes)

**CVS:**
PMI, rhythm, rate (tachycardia, bradycardia)
S1, S2 (amplitude equal? S2 split?)
Murmur (quality, intensity, duration, relation to cardiac cycle, radiation, location of maximum intensity)
Peripheral pulses - femoral, brachial, radial (amplitude, equality, simultaneous)
Peripheral perfusion (capillary filling time)

**Abdomen:**
Shape, muscle tone, number of umbilical vessels, hernia/diastasis. If palpable, note size and consistency of liver, spleen, kidney, or other masses. Inguinal adenopathy?
Genitourinary:
Female - size of clitoris and labia, masses in labia, hymenal tags, discharges, abnormalities in voiding.
Male - urethral meatus patency and position, chordee, testicular descent and scrotal development (i.e., rugae only on inferior aspect, or surface completely covered with rugae and pendulous in appearance). Hernia or hydrocele, abnormalities in voiding.

Anus:
Patency, anal wink, abnormal stooling.

Extremities:
Symmetry, ROM, abduction of hips, position of hands and feet.
Number, shape, length of digits, length of nails, Palmar creases normal? Subcutaneous tissue normal?

Spine:
Sinus tracts, sacral dimple, scolioses

Neurologic:
Tone: active
Dubowitz (Ballard form); also ventral supervision
Head lag; leg and trunk straightening passive
Cry: character, intensity, frequency
Behavior: alertness, wakefulness, irritability, consoleability, cuddliness
Reflexes:
Suck  Grasp (palmer/plantar)  Pacing  Cross extension
Root  Tonic neck  Stepping  Glabellar tap
Moro  Galant  Rotation  Palmar-mentum
DTRs (knee, angle, plantar, triceps, biceps) draw figure
Tremor, clonus present?
Paralysis: facial brachial

Estimated Gestational Age: ___ EDC
___ Dubowitz
___ Obstetrical Prenatal Assessment

PROBLEM LIST

1. Health Care Maintenance (HCM)

2. Per history and physical
   (list plan with each problem)