

Paediatrics

Week 7: October 14th, 2016

REMINDERS FOR THIS SESSION

- Students to view videos prior to coming to the session.
- Case report #1 due today at 8:00 a.m.

LEARNING OUTCOMES

- Describe the components of the medical history and particularly those relevant to paediatrics, including birth and developmental history, diet, immunizations, family and social history.
- Identify key developmental milestones for children up to age 5.
- Take a detailed adolescent history (HEADSS history).
- Outline an approach to physical examination of children of different ages, including newborn infants and peripubertal children.

AGENDA

8:00 – 8:45	Introduction to Paediatric clinical skills - history
8:45 – 9:25	Activity – Guess the developmental stage
9:25 – 9:40	Break
9:40 – 10:15	Paediatrics clinical skills – physical exam
10:15 – 11:00	Adolescence – HEADSS history
11:00 – 11:15	Break
11:15 – 12:00	Wrap up

Introduction to Paediatrics history

Welcome to the first paediatric session in the Foundations Curriculum!! This session serves as an introduction to the paediatric population. You will have 4 more paediatric sessions in Clinical Skills 2 and you will be interviewing and examining real paediatric patients. Today's session will be an introduction to the paediatric clinical skills – history and physical exam. The first part of the session will be devoted to history taking. The session will begin with a lecture on the paediatric history and developmental milestones. Students should review the slide deck and view the following video and be prepared to discuss the paediatric history.

Interview with a child: <http://youtu.be/MBKNp0WfNoQ>

Guess the Developmental Stage

Students should review the following video prior to coming to this session:

thehub.utoronto.ca/pediatrics/developmental-concerns/

then click on the “Infant Developmental Milestones Video”.

Students will watch videos on ICE Clinical Skills Portal during the session and will guess the developmental stage of the child. You can use the “cheat sheet” below for developmental milestones for this activity.

****bolded = need to know**

AGE	GROSS MOTOR	FINE MOTOR	LANGUAGE (RECEPTIVE AND EXPRESSIVE)	SOCIAL/BEHAVIOURAL
1 mth	- Turns head side to side when supine	- Hands closed, thumb in fist	- Cries - Startles to loud or sudden noises	- Calms down when comforted
2 mths	- Briefly raises chin and chest when prone - Briefly holds head erect when held upright		- Has a variety of sounds (coos)	- Smiles - Recognize and calm down to familiar gentle voice - Follows movement with eyes
4 mths	- Head control (3 mths) - Holds head steady when supported in sitting position - Rolls prone to supine	- Hand regard (3 mths) - Holds an object briefly when placed in hand - Reach for objects if midline	- Turns head toward sound	- Laughs responsively - Responds to people with excitement (leg movement /vocalizing)
6 mths	- Sits momentarily, tripod sitting	- Foot regard (5 mths) - Transfers objects hand to hand - Raking grasp	- Babbles	- Stranger anxiety begins

9 mths	<ul style="list-style-type: none"> - Sits well, no support - Crawls or bum shuffles - Pulls to stand - Stands with support - Starts cruising 	<ul style="list-style-type: none"> - Pincer grasp 	<ul style="list-style-type: none"> - Responds to 'NO' regardless of tone - 'Mama' or 'Dada' nonspecific - Non verbal communication-starts pointing 	<ul style="list-style-type: none"> - Makes sounds/gestures to get attention or help - Raises arms to be picked up/ held - Develops object permanence - Plays social games (peek-a-boo) - Separation anxiety begins - Seeks joint attention
12 mths	<ul style="list-style-type: none"> - Gets into sitting position without help - Stands without support - Walks while holding on 	<ul style="list-style-type: none"> - Places cubes in cup with release - Releases ball with throw - Holds a cup to drink 	<ul style="list-style-type: none"> - First word, up to 3 words (may not be clear) - Follows simple commands (Don't touch, where's your toy?) - Uses facial expressions, actions, and sounds to make needs known or to protest 	<ul style="list-style-type: none"> - Responds to own name
15 mths	<ul style="list-style-type: none"> - Walks without support - Crawls up stairs/steps - Attempts to squat to pick up toys 	<ul style="list-style-type: none"> - Picks up and eats finger foods - Imitates or scribbles - Stacks 2 blocks 	<ul style="list-style-type: none"> - Says 4-5 words (may not be clear) - Looks at named object - Imitates a few animal sounds - Consistently points to needs/wants 	<ul style="list-style-type: none"> - Looks at you to see how to react (e.g., after falling, when stranger enters room)
18 mths	<ul style="list-style-type: none"> - Walks forward pulling toys or carrying object - Squats to pick up toy without falling - Runs stiffly 	<ul style="list-style-type: none"> - Stacks 3 blocks - Eats with spoon 	<ul style="list-style-type: none"> - Says >10 words (may not be clear) - Points to a few body parts - Uses familiar gestures and common expressions (i.e. waving, 'oh-oh') - Follows directions when given without gestures, understands - Identifies three body parts 	<ul style="list-style-type: none"> - Shows affection towards people, pets or toys - Points to show interest in something - Makes eye contact when spoken to or playing together
2 yrs	<ul style="list-style-type: none"> - Kicks a ball - Plays in a squat position - Runs well - Jumps - Upstairs one at a time 	<ul style="list-style-type: none"> - Puts objects into small container - Turns pages one at a time - Draws vertical or horizontal or circular strokes 	<ul style="list-style-type: none"> - Combines 2 or more words - 50% intelligible - Understands 1 and 2 step directions - Says >50 words 	<ul style="list-style-type: none"> - Uses toys for pretend play (e.g., gives doll a drink) - Copies actions (i.e., clapping hands) - Parallel play - Temper tantrums
3 yrs	<ul style="list-style-type: none"> - Walks up stairs using handrail - Stands on one foot briefly - Rides tricycle 	<ul style="list-style-type: none"> - Stacks 10 blocks - Twists lids off jars or turns knobs - Copies a circle 	<ul style="list-style-type: none"> - Combines 3 or 4 words in sentence - 75% intelligible - Recognizes colors - Understands 2 and 3 step directions 	<ul style="list-style-type: none"> - Shares some of the time - Plays make-believe games with actions and words, role-playing - Plays alongside others comfortably, cooperative play - Listens to music or stories for 5-10 minutes - Toilet training
4 yrs	<ul style="list-style-type: none"> - Walks up stairs alternating feet - Hops on one foot 	<ul style="list-style-type: none"> - Undoes buttons and zippers - Dresses self with help - Copies a cross 	<ul style="list-style-type: none"> - Sings nursery rhymes - 100% intelligible - Understands 3-part directions 	<ul style="list-style-type: none"> - Tries to comfort someone who is upset - Fully toilet-trained by day
5 yrs	<ul style="list-style-type: none"> - Stop, start and change direction when running - Climb playground equipment easily - Rides a bike 	<ul style="list-style-type: none"> - Throws/catches a ball - Dresses and undresses with little help - Copies a square and triangle 	<ul style="list-style-type: none"> - Speaks clearly in adult-like sentences most of the time - Counts to 10 and knows common colours/shapes - Retells the sequence of a story 	<ul style="list-style-type: none"> - Cooperates with adult requests most of the time - Separates easily from parent/caregiver - Group play

Paediatric Physical Examination

Students should watch the videos of newborn and child exams, including Tanner staging and be ready for discussion during the clinical skills session. The links to these videos are as follows:

The Newborn Examination: <https://youtu.be/rFWQGC7HlpQ>

The Well Child Examination: <https://youtu.be/NZyyZhZrBWY>

Adolescence HEADSS history

For this part of the session, students will practice taking an adolescent history with an SP or role play with each other depending on the sites. Scripts for role plays will be provided. Students should view the HEADSS video prior to the session. The link to the video is as follow:

HEADSS video: <https://vimeo.com/61895394>

For the adolescent history interview, students can use the following “cheat sheet” for the HEADSS questions:

TABLE 1 The HEADSSS psychosocial interview for adolescents

	Potential first-line questions	Questions if time permits or if situation warrants exploration
Home	<p>Who lives with you? Where do you live?</p> <p>What are relationships like at home?</p> <p>Can you talk to anyone at home about stress? (Who?)</p> <p>Is there anyone new at home? Has someone left recently?</p> <p>Do you have a smart phone or computer at home? In your room? What do you use it for? (May ask this in the activities section.)</p>	<p>Have you moved recently?</p> <p>Have you ever had to live away from home? (Why?)</p> <p>Have you ever run away? (Why?)</p> <p>Is there any physical violence at home?</p>
Education and employment	<p>Tell me about school.</p> <p>Is your school a safe place? (Why?) Have you been bullied at school?</p> <p>Do you feel connected to your school? Do you feel as if you belong?</p> <p>Are there adults at school you feel you could talk to about something important? (Who?)</p> <p>Do you have any failing grades? Any recent changes?</p> <p>What are your future education/employment plans/goals?</p> <p>Are you working? Where? How much?</p>	<p>How many days have you missed from school this month/quarter/semester?</p> <p>Have you changed schools in the past few years?</p> <p>Tell me about your friends at school.</p> <p>Have you ever had to repeat a class/grade?</p> <p>Have you ever been suspended? Expelled? Have you ever considered dropping out?</p> <p>How well do you get along with the people at school? Work?</p> <p>Have your responsibilities at work increased?</p> <p>What are your favorite subjects at school? Your least favorite subjects?</p>
Eating	<p>Does your weight or body shape cause you any stress? If so, tell me about it.</p> <p>Have there been any recent changes in your weight?</p> <p>Have you dieted in the last year? How? How often?</p>	<p>What do you like and not like about your body?</p> <p>Have you done anything else to try to manage your weight?</p> <p>Tell me about your exercise routine.</p> <p>What do you think would be a healthy diet? How does that compare to your current eating patterns?</p> <p>What would it be like if you gained (lost) 10 lb?</p> <p>Does it ever seem as though your eating is out of control?</p> <p>Have you ever taken diet pills?</p>
Activities	<p>What do you do for fun? How do you spend time with friends? Family? (With whom, where, when?)</p> <p>Some teenagers tell me that they spend much of their free time online. What types of things do you use the Internet for?</p> <p>How many hours do you spend on any given day in front of a screen, such as a computer, TV, or phone? Do you wish you spent less time on these things?</p>	<p>Do you participate in any sports?</p> <p>Do you regularly attend religious or spiritual activities?</p> <p>Have you messaged photos or texts that you have later regretted?</p> <p>Can you think of a friend who was harmed by spending time online?</p> <p>How often do you view pornography (or nude images or videos) online?</p> <p>What types of books do you read for fun?</p> <p>How do you feel after playing video games?</p> <p>What music do you like to listen to?</p>
Drugs	<p>Do any of your friends or family members use tobacco? Alcohol? Other drugs?</p> <p>Do you use tobacco or electronic cigarettes? Alcohol? Other drugs, energy drinks, steroids, or medications not prescribed to you?</p>	<p>Is there any history of alcohol or drug problems in your family?</p> <p>Does anyone at home use tobacco?</p> <p>Do you ever drink or use drugs when you're alone? (Assess frequency, intensity, patterns of use or abuse, and how patient obtains or pays for drugs, alcohol, or tobacco.)</p> <p>(Ask the CRAFFT questions in Table 5, page 25.)</p>

Potential first-line questions

Questions if time permits or if situation warrants exploration

Sexuality

Have you ever been in a romantic relationship? Tell me about the people that you've dated.
Have any of your relationships ever been sexual relationships (such as involving kissing or touching)?
Are you attracted to anyone now? OR: Tell me about your sexual life.
Are you interested in boys? Girls? Both? Not yet sure?

Are your sexual activities enjoyable?
Have any of your relationships been violent?
What does the term "safer sex" mean to you?
Have you ever sent unclothed pictures of yourself on e-mail or the Internet?
Have you ever been forced or pressured into doing something sexual that you didn't want to do?
Have you ever been touched sexually in a way that you didn't want?
Have you ever been raped, on a date or any other time?
How many sexual partners have you had altogether?
(Girls) Have you ever been pregnant or worried that you may be pregnant?
(Boys) Have you ever gotten someone pregnant or worried that might have happened?
What are you using for birth control? Are you satisfied with your method?
Do you use condoms every time you have intercourse? What gets in the way?
Have you ever had a sexually transmitted infection or worried that you had an infection?

Suicide/ depression

Do you feel "stressed" or anxious more than usual (or more than you prefer to feel)?
Do you feel sad or down more than usual?
Are you "bored" much of the time?
Are you having trouble getting to sleep?
Have you thought a lot about hurting yourself or someone else?
Tell me about a time when someone picked on you or made you feel uncomfortable online.
(Consider the PHQ-2 screening tool [Table 6, page 26] to supplement.)

Tell me about a time when you felt sad while using social media sites like Facebook.
Does it seem that you've lost interest in things that you used to really enjoy?
Do you find yourself spending less time with friends?
Would you rather just be by yourself most of the time?
Have you ever tried to kill yourself?
Have you ever had to hurt yourself (by cutting yourself, for example) to calm down or feel better?
Have you started using alcohol or drugs to help you relax, calm down, or feel better?

Safety

Have you ever been seriously injured? (How?) How about anyone else you know?
Do you always wear a seatbelt in the car?
Have you ever met in person (or plan to meet) with anyone whom you first encountered online?
When was the last time you sent a text message while driving?
Tell me about a time when you have ridden with a driver who was drunk or high. When? How often?
Is there a lot of violence at your home or school? In your neighborhood? Among your friends?

Do you use safety equipment for sports and/or other physical activities (for example, helmets for biking or skateboarding)?
Have you ever been in a car or motorcycle accident? (What happened?)
Have you ever been picked on or bullied? Is that still a problem?
Have you gotten into physical fights in school or your neighborhood? Are you still getting into fights?
Have you ever felt that you had to carry a knife, gun, or other weapon to protect yourself? Do you still feel that way?
Have you ever been incarcerated?

Abbreviations: CRAFFT, Car, Relax, Alone, Forget, Friends, Trouble; HEEADSSS, Home, Education and employment, Eating, Activities, Drugs, Sexuality, Suicide/depression, Safety; PHQ-2, Patient Health Questionnaire 2.
Adapted from Goldenring JM, et al¹; Goldenring JM, et al.²

Wrap Up

For the last part of this session, students will either observe an encounter with a paediatric patient or do role plays of providing anticipatory counseling to parents of children at 6, 12 and 24 months, depending on the hospital sites. Scripts will be provided for role plays as well as ROURKE cheat sheets.

Students should leave the session with a basic knowledge of the paediatric history, physical exam and adolescent history. They will have 4 sessions to practice their skills in 2nd year.

REMINDERS FOR NEXT SESSION:

- Review the Nutrition and Exercise material before attending the session

APPENDIX 1:

SUMMARY of PAEDIATRICS CLINICAL SKILLS EXPECTATIONS in FOUNDATIONS CURRICULUM

Skills

- Basic knowledge of the general history and physical examination, including an understanding of different styles of questions used in the medical interview, such as open-ended, directed, follow-up, and summary questions.
- Elementary knowledge of growth and development, organizational and problem solving skills.

Interviewing

1. Patient interviews occur in a variety of clinical settings, including: initial history for a hospital admission or first ambulatory visit, health maintenance visit, acute care visit, interim visit for a child with an acute or chronic health condition. The student should develop awareness that in conducting a medical interview in a variety of settings, it is sometimes appropriate to obtain a complete medical history, while at other times a more limited, focused or interval history is appropriate. At the beginning of the clerkship the emphasis should be on obtaining complete medical histories. Opportunities to do more focused work-ups should be available as the student builds competence.
2. Obtain a medical history from a second party (usually the parent), as well as from the patient as the patient matures. The student must be aware of issues of appropriate privacy at all ages and confidentiality in older children and adolescents.
3. Obtain the historical information that is unique to paediatrics in addition to the standard medical history.

Past History

Neonatal history, including birth weight; approximate gestational age; maternal complications, such as extent of prenatal care, infections, exposure to drugs, alcohol or medications; and problems in the newborn period, such as prematurely, respiratory distress, jaundice and infections

Immunizations

Development, noting the importance of assessing developmental milestones in evaluating the health of the child

Diet, noting the importance of assessing the amount, type, and method of infant feeding

Family History

Number and ages of siblings; consanguinity, known genetic disorders, early childhood deaths, cardiovascular disease, depression and alcohol abuse

Social History

Assessment of the home environment, school and peer relationships

Review of Systems

The relevant items are limited, but expand as the patient's age increases

4. Modify the medical history depending on the age of the child, with particular attention given to the following age groups: neonate, infant, toddler / preschool aged child, school aged child, adolescence.

The Physical Examination

1. Establish rapport with children of various ages in order to perform the physical examination.
2. Recognize that the age of the child influences the areas included in the exam, as well as the order of the examination, and the approach to the patient.
3. Recognize the important role of observation as a method of obtaining data in the assessment of the child.
4. Perform a complete physical examination on an infant, child and adolescent, including the observation and documentation of normal physical findings.
5. Demonstrate the appropriate use of the limited or focused examination, particularly in the ambulatory setting.
6. Include developmental assessment as part of the physical examination for all ages.
 - Observe how normal behaviours, such as stranger anxiety, affect the ability of the examiner to perform the examination, and develop strategies for improving rapport.
7. Observe and demonstrate physical exam findings unique to the Paediatric age group, and understand how findings have different clinical significance depending on the age of the child. Some examples are:

- **Appearance: 1)** recognize signs of acute illness in an infant, toddler and child by evaluating skin color, respiration, hydration, mental status, cry and social interaction; and 2) recognize the importance of observing the psychosocial condition of the child, as well as behavior, development, body habitus (height, weight, body fat), relationship to parent and examiner, and general condition, including cleanliness.
- **Vital Signs: 1)** measure heart rate, respiratory rate, blood pressure and temperature in an infant and child, demonstrating knowledge of the appropriate sized blood pressure cuff, interval to count respirations, and normal variation in temperature depending on the route of measurement (oral, rectal, axillary or tympanic); 2) understand that normal values of heart rate, respiratory rate and blood pressure change with age; and 3) recognize the importance of assessing vital signs in the evaluation of acute illness.
- **Measurements: 1)** accurately measure height, weight and head circumference, calculate body mass index (BMI) 2) plot the data on an appropriate growth chart, 3) understand the normal relationships between height, weight and head circumference and 4) recognize the usefulness of longitudinal data.
- **HEENT:** identify the anterior and posterior fontanelles and assess them for fullness or turgor; recognize the need for careful observation of the head size and shape, symmetry, facial features, ear size and hair whorls as part of the examination for dysmorphic features; recognize the red reflex and strabismus; assess hydration of the mucous membranes; examine the tympanic membranes including pneumatic otoscopy, and throat examination.
- **Neck:** palpate lymph nodes, know what anatomic areas they drain; know that lymph nodes are more prominent during childhood; recognize and demonstrate manoeuvres that test for nuchal rigidity.
- **Chest:** recognize how the rate and pattern of respirations change with age, and that abdominal respirations are normal in infants; observe the rate and effort of breathing as a measure of respiratory distress; recognize stridor, wheezing and crackles and be able to distinguish between inspiratory and expiratory obstruction; interpret less serious respiratory sounds such as transmitted upper airway sounds.

- **Cardiovascular:** palpate pulses in the upper and lower extremities and auscultate the heart for rhythm, rate, quality of the heart sounds and murmurs.
- **Abdomen:** know that the liver edge, spleen tip and kidneys may be palpable in the normal newborn; examine the umbilical cord for signs of infection; examine the abdomen for distension, tenderness, rebound and mass lesions in an infant or young child with lethargy, irritability or signs of acute illness, noting the inability of the patient to communicate symptoms of abdominal complaints.
- **Genitalia:** recognize the appearance of normal male and female genitalia in the newborn; recognize abnormalities, including cryptorchidism, hypospadias, testicular mass and testicular pain in the male; be able to examine the external genitalia of a female patient, recognize the need for privacy at all ages.
- **Extremities:** examine the hips of a newborn for dysplasia; recognize arthritis; evaluate gait and limp.
- **Back:** know how to test for scoliosis.
- **Neurologic Examination:** elicit primitive reflexes; assess tone, gait, strength and reflexes, recognizing the importance of symmetry; assess developmental milestones; recognize that much of the neurologic examination of infants and children is accomplished through observation alone.
- **Skin:** recognize jaundice, petechiae, purpura, common birth marks, (such as nevus flammeus and Mongolian spots), vesicles, urticaria and common rashes, such as erythema toxicum, impetigo, eczema, diaper dermatitis and viral exanthems; recognize common skin findings associated with child abuse; assess skin turgor.

Communication Skills

1. Communication with the patient and / or family.

- Establish rapport with the patient and family.
- Identify the primary concerns of the patient and / or family.
- Recognize the triangular relationship between physician, patient and parent and be able to communicate information to both the patient and parent, making sure both understand the diagnosis and treatment plan

and have the opportunity to ask questions; be aware that the relationship changes with increasing age of the child.

- Provide anticipatory guidance during health maintenance visits, including the newborn nursery visit.
- Recognize the important role of patient education in management of acute and chronic illnesses.

2. Oral Communication Skills

- Present a complete, well organized summary of the findings of the patient's history and physical examination, modifying the presentation to fit the situation.
- Explain the thought process that led to the diagnostic and therapeutic plan.
- Use precise descriptions of physical findings and avoid vague terms and jargon, such as "clear" and "WNL"

3. Clinical Problem Solving Skills

- Identify patient problems, combine when appropriate and develop a differential diagnosis.

4. Competencies

- Evaluate patients from infancy through adolescence in a variety of clinical settings, establishing rapport with the patient and family in order to obtain a complete history and physical examination.
- Prepare a complete written summary of the history and physical and orally present the case in a focused and chronological manner.
- Identify clinical problems and outline and initial diagnostic plan.