Author: Nova Zhao (PGY2 Family Medicine, Dalhousie)
Expert Editor: Dr. Tania Wong (Pediatrician, Assistant Professor in the Department of Community Pediatrics at Dalhousie)

Objective 1:
When evaluating children, generate a differential diagnosis that accounts for common medical problems, which may present differently in children (e.g., urinary tract infections, pneumonia, appendicitis, depression).

As the objective suggests, children often present differently than adults when it comes to medical issues, so it is important to keep a broad differential if their symptoms are non-specific. Specifically…

Depression:

- Depression can look different in kids than adults. While they can present with the typical "MSIGECAPS" symptoms (such as low mood, difficulty concentrating, etc), they can also have some unique symptoms including:
    - A change in their school attendance or performance
    - A change in their extra-curricular activities, such as missing sport practices
    - A change in friend groups
    - And somatic complaints like belly aches and headaches, since children often have a harder time expressing their emotions verbally
- Many of these symptoms should reveal themselves if you regularly do your HEADSS interview (which we will come to in the next objective) with the kids/teens in your practice,
  but you can also use the PHQ-A, which is a version of the PHQ-9 depression screening tool that has been modified specifically for children btwn 11 and 17yrs old.

Infections in younger children and infants may present with non-specific symptoms such as fever, irritability, lethargy, and poor feeding.
UTI:

- Urinary tract infections are relatively common in children.
- The symptoms here vary with age.
- Newborns with UTI may present with jaundice, sepsis, failure to thrive, vomiting, or fever.
- Infants and young children may present with fever, strong-smelling urine, hematuria, abdominal or flank pain, and new-onset urinary incontinence.

- School-aged children will present with more adult-like symptoms (i.e. dysuria, frequency and urgency)
- Studies have shown that infants with a fever >39 for >48hrs without another source of infection on exam are highly likely to have a UTI. https://uticalc.pitt.edu/

PNA:

- The symptoms of pneumonia may be nonspecific, especially in infants and younger children.
- Common symptoms to watch out for include acute onset of fever, cough, difficulty breathing, poor feeding or vomiting, and lack of interest in normal activities. Chest or abdominal pain may also be indicative of pneumonia.
- The most important feature on physical exam is tachypnea, and is helpful for ruling out pneumonia. Studies have shown that, in febrile children, the absence of tachypnea has a high negative predictive value (97.4%) for pneumonia.
- Since symptoms often overlap with viral infections, ideally, the diagnosis of pneumonia should be supported by a CXR.

Appendicitis:

- In a child presenting with acute abdominal pain, always include appendicitis in your differential.
- Appendicitis peaks in adolescence, but can occur in all ages so don't discount it in younger kids.
- You can use a clinical prediction rule like the Pediatric Appendicitis Score (PAS), which has a positive LR of 2.4 and negative LR of 0.27. The PAS takes into account fever, mid-abdominal pain migrating to the right lower quadrant, nausea, anorexia, elevated and left shift in white blood cell count, and cough/percussion/hopping causing pain in the right lower quadrant. There are other clinical scoring tools out there, but for the purpose of this podcast and our exam, the PAS is the one to know.

Objectives 2 and 3:
As children, especially adolescents, generally present infrequently for medical care, take advantage of visits to ask about:

a. ***unverbalized problems (e.g., school performance)***
b. ***social well-being (e.g., relationships, home, friends)***
c. ***modifiable risk factors (e.g., exercise, diet)***
d. ***risk behaviours (e.g., use of bike helmets and seatbelts).***

At every opportunity, directly ask questions about risk behaviours (e.g., drug use, sex, smoking, driving) to promote harm reduction.

The best tool here is going to be your HEADS (or rather HEEADSSS) interview.

- Home and environment. For this you can ask “Where do you live?” “Who lives there with you?” “How is life at ____?”.
- Education and employment. You can ask “Are you in school?” “What are you good at in school?” “How are your grades in school?”
    - After asking about home and school, you can add “Are home and school safe places for you?” and/or “Do you ever feel threatened or bullied?”
- Eating. Ask them “What do you like to eat?” “Have you ever dieted?” “Does your weight or body shape cause you stress?”
    - Our expert editor, Dr Wong, suggests wording it more like “Do you eat all food groups or do you restrict or omit certain foods?” - this way may be less threatening, and they may be more likely to reveal their eating patterns to you.
- Activities. “What do you do for fun?” “What do you do with your friends?”
- Drugs. “Many young people experiment with drugs, cigarettes and alcohol. Have you or your friends ever tried them?
- Sexuality. “Have you ever been in a romantic/sexual relationship?” “Are you interested in boys, girls, both or neither?” “Are you sexually active?”“Do you use any form of protection?”
    - Dr. Wong suggests that we also ask about gender, as it can be a cause of distress for kids, especially those going through puberty. “What is your preferred pronoun - he/him, she/her, or something else?”
- Suicide/depression. “How has your mood been lately (e.g. sad/happy/stressed)?” Have you ever had thoughts of harming/killing yourself or others?”
- Safety. “Have you ever been seriously injured?” “Do you wear a seatbelt in the car? What about a helmet while biking?” “Have you experienced any violence at home/school/neighbourhood?”
- Social media. “Do you have social media?” “Have you ever been bullied online”?”

While you might not have time to discuss all of these topics during a single visit, it’s possible to spread them out a bit. Or just book them for a bit of a longer visit.

You can consider using a tool like the Greig Health Record, which is like the Rourke except for older kids/teens.

Objective 4:
In adolescents, ensure the confidentiality of the visit, and, when appropriate, encourage open discussion with their caregivers about specific problems (e.g., pregnancy, depression and suicide, bullying, drug abuse).

We all know that teenagers like to keep to themselves (we’ve all been there). So it can help if they know that anything they tell you will be kept confidential, except when required by law.

You can say something like “During this visit, I’ll ask you some very personal questions to best help you - I promise that whatever you say will be kept in private between us. The only exception would be if disclosure to someone is required by law (e.g. someone's life is in danger)

- if this were the case, then I would tell you first before I notify someone."
It may be helpful to start off the visit with this statement, particularly if you plan to discuss the sensitive stuff later.

If they are hesitant to speak with their parents present, you can encourage them to open up to their parents. However, tread lightly here, and let your patient decide when is the best time to share with their caregiver.

Objective 5:
In assessing and treating children, use age-appropriate language.
This one is pretty self-explanatory. Don’t use advanced language or medical jargon. Get down to their level if you want to have the most effective patient-doctor relationship with the kiddos.

Objective 6:
In assessing and treating children, obtain and share information with them directly (i.e., don’t just talk to the parents).
If your patient’s parents are present, you want to focus your attention on the child/adolescent.

Parents and family members should not be present for the HEEADSSS interview, because it can limit how much sensitive information they will share, and it can put the child at risk.

It is important, however, to ask if the parents have any concerns before they leave the room.

Objective 7:
When investigation is appropriate, do not limit it because it may be unpleasant for those involved (the child, parents, or health care providers).

Again, quite self-explanatory. Sometimes you need to do exam maneuvers or investigations that may be unpleasant for the child, parent, or even yourself.

I, for one, dread looking into toddler’s ears and the whole debacle that usually ensues. However, if you’re suspecting otitis media or externa, you have to look inside their ears!

Similarly, if you suspect diabetes, you have to check their blood glucose.

Limiting your investigations due to discomfort on anyone's part can lead to misdiagnosis, and potential harm to the patient.

References

Depression: https://www.aafp.org/afp/2019/1115/p609.html
Appendicitis/acute abdo pain: https://www.aafp.org/afp/2016/0515/p830.html
UTI: https://cps.ca/documents/position/urinary-tract-infections-in-children
https://www.aafp.org/afp/2011/0215/p409.html#sec-1
PNA: https://cps.ca/documents/position/pneumonia-management-children-youth
https://www.aafp.org/afp/2012/1001/p661.html
Greig Health Record: https://cps.ca/en/tools-outils/greig-health-record
HEEADSSS and confidentiality: https://www.contemporarypediatrics.com/view/heeadsss-30-psychosocial-interview-adolescents-updated-new-century-fueled-media
HEADSS: http://www.bcchildrens.ca/Youth -Health-Clinic-site/Documents/headss20assessment20guide1.pdf