ISSUES UNIQUE TO ADOLESCENCE

Issues Unique to Adolescence, Case #5

Written by Len Levine, M.D.

The mother of a thirteen-year-old female expresses concern that her daughter has not yet had the onset of menses. How would you counsel her?

Definitions for Specific Terms:

Menarche- Initial onset of menses in a pubertal female. This most commonly occurs when pubertal development is at Tanner Stage 4. The average age in all U.S. females is 12.7 years

Primary amenorrhea- Has never had a menstrual period. Defined as:

a. the lack of menses by age 13 in the absence of pubertal (breast) development.
b. the lack of menses by age 15 regardless of pubertal development
c. the lack of menses by two years after sexual maturation

Secondary amenorrhea- Has experienced menarche but is no longer having periods
Defined as the absence of menses for 6 months in a patient who is post-menarchal.

Review of Important Concepts:

One of the most important concepts to take away from this case is that assessment of pubertal development will greatly help determine whether the absence of menses is likely normal or abnormal in an adolescent female. If this patient has not had any breast development yet (the first sign of puberty in a female) or over the next year, then there may be an underlying abnormality and she would require further workup and evaluation. The same would be true if she reached sexual maturation (Tanner Stage 5) two years ago or more. However, a 13-year-old otherwise healthy female with some pubertal development who has not yet experienced menarche can be watched expectantly without significant workup at this time. This is because her hypothalamic-pituitary-ovarian axis is still maturing and she has not yet begun to ovulate (which is necessary for onset of menses).

Historical Points

- Ensure that no episodes of vaginal bleeding have actually occurred yet.
  The first period may be very light and short, and therefore may not be perceived as a "real" period.
- At what age did breast development begin? Has the patient had her "growth spurt" yet?
  - Menarche is a late event in puberty. On average, it occurs approximately 2 years after breast buds appear.
  - It also occurs after an adolescent experiences peak height velocity (time of most rapid linear growth), so usually girls are noted to have had a noticeable "growth spurt" by the time periods begin.
- When did other female family members experience menarche?
  A history of "late bloomers" in the family may be reassuring to a patient like this. However, a girl can certainly experience menarche at a later or earlier age than her mother, sisters, etc.

- Does she have cyclic abdominal pain?
  Genital outlet obstruction such as imperforate hymen may cause this problem as the patient is menstruating but the uterine lining that is shed is unable to get out of the vagina. The back up of menses can lead to pain.
- A careful review of systems may point to some of the more underlying hormonal problems that may contribute to abnormal onset of menses.
- A history of significant acne or hirsutism may suggest high androgen levels (e.g., PCOS, adrenal problem).
- Has the patient experienced any weight loss? Is she an athlete?
- Malnutrition, low body fat percentage, and excessive exercise can lead to hypothalamic dysregulation, affecting the release of gonadotropins from the pituitary.
- A history of weight loss, palpitations, tremors, may suggest hyperthyroidsim, which can lead to absence of menses. (Hypothyroidism can also lead to abnormal periods, so history should explore those symptoms as well).
- A history of nipple discharge suggests hyperprolactinemia, possibly from a tumor or medication side effects (drugs that decrease dopamine release).
- A history of abdominal pain and diarrhea may suggest inflammatory bowel disease (IBD) or celiac disease, which can affect nutritional status and therefore affect regulation of hormones.
- Has the patient ever had sex or been forced to have sex?
  The possibility of pregnancy should never be overlooked, even in a very young adolescent. Questions regarding sexual activity are best asked of the patient with the parent/guardian out of the room after a discussion about confidentiality and its limits when caring for adolescent patients.

Physical Exam Findings

1. Assess the patient's Tanner Stage (Sexual Maturity Rating).
   a. Most girls experience menarche in Tanner Stage 4, while some begin periods at Tanner Stage 3 or 5. At 13 years old, the patient can be reassured if she has not yet completed sexual maturation.
   b. If breast development has not yet begun, consider non-functioning ovaries since estrogen is necessary for breast development.
   c. Most common etiology is Turner syndrome ("streak gonads"), so look for characteristic stigmata: short stature, webbed neck, broad chest with wide-spaced nipples, etc.

2. Check growth parameters and plot on growth curves
   a. Body mass index (BMI): As mentioned above, low body weight can disrupt normal menstrual cycles or delay onset.
   b. Height: Short stature may suggest endocrinopathy or chronic disease (e.g., IBD)

3. External genital exam
   This is crucial, since an examination of the introitus can identify an imperforate hymen. A speculum exam is not necessary.

4. Look for clinical signs of hormonal abnormalities that commonly affect menses (see historical points above).

5. Check for acne, hirsutism, clitoromegaly, enlarged thyroid, and galactorrhea.

Clinical Reasoning

1. What is the difference between primary and secondary amenorrhea?
   (See definitions listed above) Some variation may be seen in the age used to define primary amenorrhea (e.g., 13 vs. 14 years old in the absence of pubertal/breast development; 15 vs. 16 years when there is pubertal/breast development). Newer recommendations favor using the younger age for each of these situations.

2. Generate a differential diagnosis for this patient's absence of menses.
   a. Unless there has been no breast development at all, the most likely diagnosis in this patient is normal puberty, as her hypothalamic-pituitary-ovarian axis is still undergoing maturation.
   b. As discussed above, other diagnoses to consider include pregnancy, hyperandrogenism, thyroid disease, hyperprolactinemia, imperforate hymen, malnutrition, and excessive exercise. Unless history or physical exam suggests any of these, they are less likely in this patient.

3. What further workup is needed for this patient?
   a. In the absence of pubertal delay or any significant history or physical exam findings suggestive of the diagnoses listed above, no further workup is needed for this patient as this is most likely normal puberty. Reassurance to the patient and her mother is all that is needed at this time.
   b. A pregnancy test should be obtained, even if the patient denies sexual activity.
   c. LH and FSH levels can be helpful if pubertal development has not begun by age 14. Very high levels point to a problem with ovarian production of estrogen (lack of feedback inhibition) and very low levels point to a problem with the pituitary or hypothalamus ability to send a signal to the ovary.
   d. If any of the other diagnoses mentioned in the differential were suspected, relevant labs should be obtained (e.g., TSH, prolactin, testosterone)

4. Would a pelvic ultrasound be helpful?
   a. An ultrasound will often ensure normal uterine and ovarian anatomy. Absence of the uterus can be seen with mullerian agenesis (2nd most common cause of primary amenorrhea, after Turner syndrome) or androgen insensitivity syndrome (chromosomes XY but insensitive to effects of androgens so female phenotype).
   b. Again, in this patient, it would not be necessary until she fits the definition of primary amenorrhea.

Diagnosis:

The differential diagnosis is listed in the "Clinical Reasoning" section above. If this 13 year old is otherwise healthy and has breast development, the diagnosis in this case is normal pubertal development.

Suggestions for Learning Activities:

- Consider running through this case with one of four different scenarios
  - 13-year-old female with unremarkable history and physical exam, Tanner stage 3, never had a period
  - 14 year old female with no breast development, never had a period
  - 15-year-old competitive gymnast and cheerleader , Tanner Stage 3, never had a period

  - 17 year old female, Tanner Stage 5, never had a period, abdominal pain
- Review the normal menstrual cycle and the hormones involved
- Have students review Tanner staging in adolescents

Other Resources:

- Bordini B, Rosenfeld RL. Normal Pubertal Development: Part II: Clinical Aspects of Pubety. Pediatr Rev. 2011;32(7):281-92.
- Carswell JM, Stafford DE. Normal physical growth and development. In Neinstein LS (ed.) Adolescent Health Care: A Practical Guide. Philadelphia: Lippincott Williams & Wilkins, 2008:3-26.
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- Fleischman A, Gordon CM, Neinstein LS. Menstrual disorders: Amenorrhea and the Polycystic Ovary Syndrome. In: Neinstein LS (ed.) Adolescent Health Care: A Practical Guide. Philadelphia: Lippincott Williams & Wilkins, 2008: 691-705.
- Master-Hunter T, Heiman DL. Amenorrhea: evaluation and treatment. Am Fam Physician 2006;73(8):1374-82.

Issues Unique to Adolescence, Case #7

Written by Len Levine, M.D.

A fourteen-year-old female well known to your practice makes an appointment to see you alone regarding a desire for contraception. What advice would you give her? What are her rights to confidentiality? What are your responsibilities to inform her parents?

Definitions for Specific Terms:

Consent- Consent relates to a person's ability to make informed decisions about his or her own health care, with the ability to give permission for care to be delivered.

Confidentiality- Confidentiality refers to keeping private information that arises within the health care visit, and only disclosing information with the patient's permission.

Review of Important Concepts:

Clinical Reasoning

1. What advice would you give her?
   a. Encourage parental involvement, if possible.
      While many states provide minors with the ability to obtain contraception without the involvement of parents, it is important to encourage the patient to discuss sexuality and sexual decision-making with her parents. Trying to keep contraception hidden makes compliance more challenging and may put an adolescent at higher risk for pregnancy. In addition, adolescents often lack a clear understanding of consequences and may not view sexual activity as a risk behavior (e.g., sexually transmitted infections, pregnancy, etc.). Involving adults can help provide perspective regarding health outcomes resulting from sexual activity.
   b. Discuss available contraception options.
      Discussions about contraception with this adolescent should include a conversation about alternative ways to express intimacy and affection besides sexual intercourse. If she still plans to have sex or wants to be prepared in case the opportunity arises, a discussion regarding the advantages and disadvantages of various methods should be pursued.
   c. Condoms, combined estrogen/progesterone methods (oral contraceptive pills, the transdermal patch, the intravaginal ring), and progesterone-only methods (intramuscular injections of depot medroxyprogesterone acetate, or Depo-Provera) are commonly used forms of birth control in the younger adolescent population. She should consider ease of use, ability to adhere to the contraceptive regimen, privacy of method, and side effects when choosing a form of birth control.
   d. Provide education regarding risks of sexually transmitted infections (STIs).
      The patient should be counseled on the risks of STIs, even if using contraception. While barrier methods such as condoms provide protection against the spread of infections such as gonorrhea or Chlamydia, they do not necessarily protect against other infections such as HSV/herpes or HPV/genital warts. It should also be reinforced that hormonal contraception provides good protection against pregnancy, but does not provide protection against STIs. Dual protection with condoms and hormonal methods should therefore be encouraged.

2. What are her rights to confidentiality? What are your responsibilities to inform her parents?
   a. It is important to clarify the difference between consent and confidentiality.
      The definitions of these two terms are listed above in the "Definitions" section. Although children generally cannot receive medical care without the consent of their parents, adolescents under the age of 18 years are given the ability consent to their own health care in certain situations. While it is preferred to have a parent involved, it has been shown that some adolescents may not seek care for certain problems, such as sexual health, if a parent must be involved, thereby placing them at risk for negative health outcomes.
   b. While states vary in the extent to which adolescents may consent to care, generally speaking adolescents may consent to care involving reproductive health (birth control, STI testing and treatment, pregnancy testing, and prenatal care), mental health (outpatient therapy), and treatment for substance abuse. Often they are able to consent to any health care if they are pregnant, are a parent, are married, or are fully and legally emancipated from their parents. In this case, the patient (in most states) would be able to seek contraception from her physician without her parents being involved. The ability to consent to one's own care implies confidentiality, which is discussed below.
   c. Confidentiality is a core concept when caring for adolescent patients.
      As they transition from childhood to adulthood, adolescents need to develop a sense of independence and autonomy from their parents. The ability to talk with a physician alone and in confidence not only reinforces this developmental task, but it also helps the physician build rapport with the adolescent, while also providing an opportunity for teens to talk about or seek care for issues they feel uncomfortable addressing with parents. Stressing the concept of privacy rather than secrecy, the concept of confidentiality should be discussed openly with adolescents and their parents from the initial visit. Everyone should be aware from the outset that when a parent is asked to leave the room during a visit, the content of the discussion will remain confidential between adolescent and heath care team, with a few exceptions such as concerns for self-harm (e.g., suicidality), harm to others (e.g., homicidality), or disclosure of physical or sexual abuse.

   While it would be ideal for this adolescent to discuss contraception and sexual decision-making with a parent, she can opt to keep the discussion confidential. Your responsibility to the parent is to protect the welfare of the adolescent and act in her best interest. If you have concerns that she may be in an unsafe relationship, you may need to violate the confidentiality for the ultimate benefit and protection of the patient. But discussions about contraception, and even the decision to initiate contraception, can remain confidential (although you should make sure you know the specific confidentiality and consent provisions in your own state, as the specifics vary from state to state).

   It is important, however, to recognize that there are challenges to confidentiality when it comes to accessing services such as contraception or testing for sexually transmitted infections, especially with respect to payment. Health care providers should be aware of how the patient's insurance plan handles issues such as office visits, lab tests, or prescriptions, since some insurance providers send the details of an office visit to the parent. If the health care provider cannot guarantee confidentiality when providing contraception or sexual health services, he or she should be aware of other places in the community (e.g., confidential family planning clinics) where adolescents can be referred for care.

Suggestions for Learning Activities

- Do a role-play scenario with the adolescent, in which confidentiality is discussed, including the limits to confidentiality. Repeat the scenario with a "parent" in the room.
- Discuss birth control options available to adolescents, and the relative advantages and disadvantages of each method in the adolescent population.
- Have the students investigate the laws in their own state regarding circumstances in which adolescents may consent to their own health care.

Other Resources

- Blythe MJ., Diaz A., American Academy of Pediatrics Committee on Adolescence. Contraception and adolescents. Pediatrics. 2007;120(5):1135-1148.
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- Ford C, English A, Sigman G. Confidential health care for adolescents: Position paper of the Society for Adolescent Medicine. J Adolesc Health. 2004;35:160-167.
- Guttmacher Institute. An overview of minors' consent law. State Policies in Brief. July 2011. Accessed at http://www.guttmacher.org/statecenter/spibs/spib_OMCL.pdf.
- Guttmacher Institute. Minors' access to contraceptive services. State Policies in Brief. July 2011. Accessed at http://www.guttmacher.org/statecenter/spibs/spib_MACS.pdf.

Issues Unique to Adolescence, Case #11

Written by Christy Peterson, M.D.

A sixteen year old girl presents with fever and acute lower abdominal pain but denies urinary urgency or frequency. She is sexually active and uses condoms infrequently. How would you evaluate this patient?

Definition for Specific Terms:

Urinary urgency- A sudden compelling need to urinate.

Urinary frequency- The need to urinate an increased number of times during the day or at night, in normal or decreased volumes.

PID- An ascending polymicrobial infection of the upper genital track in women, acute, chronic or asymptomatic.

Review of Important Concepts:

One of the most important concepts to take away from this case is that a pelvic exam is required when a sexually active female presents with abdominal pain regardless of the presence of fever.

Historical Points

- Fully describe the pain: where, when, constant vs intermittent, severity, nature, onset, what are you doing when it comes, association with eating, associated symptoms, radiation of the pain, what makes it better, what makes it worse.
- Associated symptoms: vaginal bleeding, vomiting, diarrhea, vaginal discharge, and back pain are important associated symptoms to discuss.
- Past Medical History/Previous episodes: Ask specifically about previous dx of STI's, UTI's as well as menstrual history, and tampon use.
- Patient Confidentiality: The question already discusses the most important question that you need to answer for this situation, "is she sexually active." This would be a different case if the patient was not sexually active. However, how you get this information is critical. Consider that many adolescents withhold information from their parents especially in the area of sexuality. Thus a private conversation (chaperone as needed) will increase your ability to get accurate information in the history.
- Other social history: This patient is involved in one high risk activity and this fact increases the likelihood that she would also engage in other risky behaviors.
- Also consider asking if she has been sexually or physically abused. She is 16 and in most states a 16 year old has reached the age at which the courts consider her to be able to consent to sexual relations. However, it is still ok to ask her how old her partner is and whether or not she was forced to have sex with him.

Physical Exam Findings

1st question: Is the patient stable or unstable?

1. Assess vital signs and the general appearance of the patient. Low blood pressure, lethargy would be reasons to admit the patient. Also consider admission for dehydration or vomiting to the point of not being able to keep oral medications down.

2. Abdominal exam:
   a. Look, listen, palpate light, then palpate deep.
   b. Assess for signs of acute abdomen which include extreme tenderness to even light palpation or movement, rebound tenderness, high pitched bowel sounds, and absence of bowel sounds after three minutes of auscultation.
   c. Assess for Fitz-Hugh-Curtis syndrome by palpating over the liver.

3. You must do a pelvic exam with bimanual exam:
   a. Look for cervical motion tenderness (CMT), also known as the chandelier sign, uterine tenderness or adnexal tenderness. One of the 3 is required for diagnosis of PID.
   b. Also look for foreign body in the vagina.

Clinical Reasoning

1. Generate a differential diagnosis for this patient.
   a. threatened abortion
   b. tubal pregnancy
   c. PID
   d. tubo-ovarian abscess
   e. UTI
   f. obstruction
   g. constipation
   h. gastroenteritis
   i. ovarian torsion
   j. abdominal tumor causing ovarian torsion
   k. toxic shock syndrome

2. What further work up is necessary for this patient?
   a. Collect a dirty urine (a dirty urine is one that is simply collected without any cleaning of the vaginal area) initially and use this for GC/Chlamydia DNA probe and a pregnancy test.
   b. If there is a history of dysuria or you are concerned about a UTI collect a clean catch (collected after cleaning of the vaginal area) urine at the end of the visit to run urinalysis and culture.
   c. The pelvic bimanual exam is critical. Whether or not there is cervical motion tenderness is an important decisive point. If there is cervical motion tenderness you have diagnosed PID and need to confirm with laboratory evaluation. (GC/Chlamydia probe, CBC, CRP) and rule out other possible pathology with stool for fecal occult blood, and vaginal swab for microscopic analysis. However if she does not have cervical motion tenderness your labs may help support the diagnosis of PID despite the absence of cervical motion tenderness.
   d. If allergic to penicillin, then other antibiotics can be used but you will need to do a vaginal culture for GC to make sure you choose an antibiotic that the particular species is susceptible to.

e. A swab of the lining of the vaginal wall can also provide material for a wet prep. Using a wet prep, you can look for clue cells and if higher than 50 % may indicate bacterial vaginosis (BV). However, the diagnosis of BV does not rule out PID and requires three of the following; fishy odor, vaginal discharge, pH higher than 5 and > 50 % of the vaginal wall cells described as "clue cells."

Diagnosis:

PID

Suggestions for Learning Activities:

- Is this case reportable to the state? It depends on the age of the sexual partner. If he is over the age of 18 and she is more than 2 years younger than him this is statutory rape in most states. Also, if you diagnose GC or Chlamydia, those are required to be reported for epidemiology purposes in an area.
- What diagnosis would require that her partner be treated? GC/Chlamydia
- Consider exploring treatment decisions for this case with the following scenarios.
    - A lethargic teenager whose blood pressure is low
    - Cervical motion tenderness (CMT) and a positive Chlamydia DNA probe, but stable and dependable
    - Vomiting and dehydration and CMT
    - Positive UPT
    - Associated diarrhea, no CMT and all labs normal
- Review indications for a pelvic exam in a teenager
    - Primary amenorrhea in an adolescent that started breast bud development 4 years ago
    - Abdominal pain in a sexually active female
    - Excessive bleeding
    - Pregnancy related complaints
    - Severe menstrual cramps
    - Suspected abuse
- Discuss possible antibiotic choices for inpatient and outpatient.
    - Inpatient antibiotics: clindamycin and gentamicin or cefoxitin and doxycycline convert to PO when 24 hours afebrile
    - Outpatient: ceftriaxone x1 and then doxycycline or azithromycin +/- metronidazole

Other Resources:

- Bar, G Ronald. Abdominal Pain in the Female Adolescent Pediatrics in Review 1983; 4:281-289.
- Beng et al. Index of Suspicion Pediatrics in Review 2005; 26: 329-336.
- Fisher et al. Textbook of Adolescent Health Care. American Academy of Pediatrics 2011. 491-493.
- Nneka A. Holder, Gonococcal Infections. Pediatrics in Review July 2008;29:228-234.
- Paradise, Jan E and Linda Grant, Pelvic Inflammatory Disease in Adolescents Pediatrics in Review 1992 13:216-223.

Issues Unique to Adolescence, Case #12

Written by Christy Peterson, M.D.

A fifteen year-old female comes to your clinic with complaints of bilateral leg pain. On physical examination, you notice that she has lost fifteen pounds since her last visit one year ago and she has missed her last six periods. Her BMI is 15. How would you evaluate this patient?

Definition for Specific Terms:

BMI- Body Mass Index. Using the CDC 2000 standards, a teen of the age of 15 should have at least a BMI of 16 to be above the 5th percentile.

Normal BMI- Greater than 5 % for age on published charts.

Anorexia- There are 4 diagnostic criteria found in DSM IV; 1. Refusing to maintain body weight at or above minimum for normal according to age and height. [weight less than 85 % estimated body weight (EBW)] 2. Intense fear of gaining weight even though under weight. 3. Disturbance in the way one's body weight or shape is experienced or an undue influence of body weight or shape on self evaluation or denial of the seriousness of the current low body weight. 4. Amenorrhea for 3 consecutive cycles in postmenarchal girls.

% estimated body weight (EBW) - Patient's BMI divided by the 50% BMI for age. For our patient her BMI is 15. The average 15 year old according to CDC 2000 growth charts would have a BMI of 20, (50^{th} percentile). 15/20 is 75 %. So her EBW is 75 % of normal.

Bulimia- There are 5 criteria according to DSM IV; 1. Binge behavior, 2. Purging behavior, 3. Both occurring on average twice a week for three months, 4. Undue influence of body shape on self evaluation, and 5. Not meeting the criteria for anorexia nervosa.

Female athlete triad

1. Disordered eating/not enough calories
2. Decreased bone mineral density
3. Amenorrhea

Amenorrhea- Cessation of menstruation when otherwise expected to occur. Or menorrhea that only occurs following hormonal administration. (The cause is a depressed hypothalamic state.)

Myopathy- The word means muscle disease. The pain that the child has may be muscle pain which can be caused by electrolyte disorders like hypokalemia, hypocalcemia and hypercalcemia.

Restless leg syndrome- A pain in the legs that is relieved by movement.

Laxative induced myopathies- Caused by hypokalemia.

Review of Important Concepts:

Historical Points

- Fully expand on the pain; (where, when, timing, onset, description, intensity, when in relation to exercise, what makes it worse, what makes it better, related symptoms.)
- Exercise amount: Be careful to pick up on clues that the patient is minimizing the amount. Keep asking, "and what other forms of exercise?" Keep asking, "and what else?" And then ask one more time, "and what other forms of exercise?"
- Diet: Be careful to ask what they actually eat. Don't be fooled by assuming that they eat what they tell you. Ask family members about trips to the bathroom after meals or requests to be excused from family meals and preference to eat alone.
- Body image: "How do you see yourself?"
- Binge/purge habits: Go ahead and ask point blank, "Do you sometimes cause yourself to vomit, or take laxatives for weight loss?"
- Ask about menstruation, last menstrual period, typical flow, number of days, regular or irregular.

Physical Exam Findings and Labs

1. Vitals: Are there any signs of hypovolemia like a drop in blood pressure on standing? Perform orthostatic blood pressure and pulse measurements, lying, sitting and standing.

2. HEENT: Look for evidence of vomiting; enlarged parotids, enamel erosions.

3. Neck: Is there any lymphadenopathy, supraclavicular nodes?

4. Heart: How is the rate? Is there a murmur, a gallop or a rub?

5. Abdomen: Is there any signs of organomegaly?

6. Lymph: Check axillary nodes and inguinal nodes as well as cervical and supraclavicular for any signs of lymphadenopathy or any signs of cancer to explain the weight loss?

7. Must-get labs:
   a. Order chemistries with lipids, CBC with differential, ESR, and TSH.
   b. If there is amenorrhea get B-HCG. (See #1 under Clinical Reasoning.)
   c. Consider EKG if bradycardia or arrhythmia is noted.

Clinical Reasoning

What information in this patient scenario do you find concerning and how would you approach her evaluation?

1. Amenorrhea: First, rule out pregnancy.

2. The fact that the pain is bilateral would lead you to look for a muscular source rather than the bones. This muscular pain could be from overuse or excessive exercise but a systemic cause is more likely. One likely cause of the pain, if you suspect anorexia nervosa, is hypokalemia, however labs may be normal.

3. If the history does not support disordered eating and, in fact, the patient eats more than would be expected, search for other causes of unexplained weight loss; TB, HIV, SLE, cancer, thyroid disorder, Celiac disease, IBD, tapeworm?

4. If you diagnose anorexia ask yourself, "Does the patient need to be admitted to the hospital?" (See criteria for hospital admission under Suggestions for Learning Activities.) If you do not admit to the hospital keep in mind that early intervention is helpful therefore set up interventions now. Have the patient set a weight goal, keep a food diary and return within one month.

5. Normal lab values are expected. Abnormal values require a second thought about the diagnosis or admission to the hospital. (See criteria for hospital admission under Suggestions for Learning Activities.)

Differential Diagnosis:

1. Disordered eating, Anorexia/Bulimia with myopathy from electrolyte disturbances is the number one possibility but the history must support this and even in the face of typical history, a full physical exam and labs are necessary to determine the need or lack thereof for hospital admission and to rule out other causes.

2. Female athletic triad may be present along with the eating disorder and again the muscle pain could be from electrolyte disturbances. Otherwise pain is not typically part of the female athletic triad unless there is a fracture. The fracture could be from decreased bone mineral density and could only be caused by repetitive stress on the weakened bone (stress fracture) but bilateral stress fractures are highly unlikely.

3. Exercise related leg pain (shin splints) is possible but even in the presence of excessive exercise this would be a diagnosis of exclusion.

4. Restless leg syndrome is certainly a possible cause if the history supports it. The history would be of pain more at night and the pain would be at least lessened by movement of the legs.

5. Cancer is a possibility. The possibility increases if you have other signs like lymphadenopathy, hypercalcemia, elevated ESR, ect.

6. Other inflammatory process like SLE, Celiac disease, IBD are less likely but need to be ruled out with labs.

Suggestions for Learning Activities:

- Have students discuss the next step after diagnosis of anorexia. Discuss options for inpatient care, intensive outpatient care or weekly visits.

- List criteria for hospital admission in anorexia: weight <75% EBW (see calculation of EBW above), rapid weight loss despite outpatient management, prior knowledge of poor outcome in this situation for this patient, physical abnormality including failure to maintain normal temperature, hematemesis, orthostatic abnormalities, electrolyte abnormalities, other compounding psychiatric issues like depression.

Other Resources:

- American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, DC: American Psychiatric Association; 1994
- Comerci GD. Eating disorders in adolescents. Pediatr Rev. 1988; 10:1-8
- Goldstein, et al. Eating Disorders. Pediatr Rev 2011; 32508-521
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- Kreipe, R. Eating disorders among children and adolescents. Pediatr Rev. 1995; 16: 370-379.

Issues Unique to Adolescents, Case #13

Written by Rachel S-D Fortune, M.D. and Paritosh Kaul, M.D.

A previously healthy sixteen-year-old girl presents for a routine health care supervision visit with her mother. When you ask the mother to leave the room she refuses. How would you approach this situation?

Definitions for Specific Terms:

Confidentiality- The ethical principle or legal right that a physician or other health professional will hold secret all information relating to a patient, unless the patient gives consent permitting disclosure.

Consent- To give approval, assent, or permission. A person must be of sufficient mental capacity and of the age at which he or she is legally recognized as competent to give consent (age of consent).

Review of Important Concepts:

Clinical Reasoning

1. Legal issues
   Please be familiar with your local laws regarding what treatments a teen can consent to on her-own behalf. All states and Washington DC allow for teens to consent to testing and treatment for sexually transmitted infections, including HIV. Most states, including Washington DC, allow for teens to consent to drug testing and outpatient treatment for addiction. About half of the states plus Washington DC allow for teens to consent for contraceptive services and prenatal care. Although your patient has legal rights to obtain care on her own, some parents are not comfortable with this and will be resistant to you talking to their child alone.

2. Setting the stage
   The medical provider needs to be very clear with the patient as to what the provider can keep confidential in the medical setting. The provider should not give the teen the impression that everything they discuss can be kept confidential. Generally speaking, the provider should use a statement such as this: "Many things that we discuss can be kept between you and me. However, if you tell me that you or someone else is in danger, or doing something very dangerous, I will have to share that information with your parents or guardian. If you disclose to me that you have been abused then I need to report this information too". This confidentiality disclosure should be given while the parent or guardian is still in the room if they are there for the appointment. Medical providers fall into an important group called "mandated reporters". A mandated reporter is someone who is bound by the law to report cases of abuse and neglect. As a medical provider, if your patient tells you about abuse or neglect, you are required to inform your local child protection services. Local laws might also include informing law enforcement officials. This is a very challenging and important part of your role as a physician.

3. Approaches to the challenging parent
   Remember to remain objective and calm, even if the parent is becoming upset. Share with the parent that talking to the patient alone is standard of care for all adolescents and recommended by the American Academy of Pediatrics and the Society for Adolescent Health and Medicine, as well as all

other medical agencies that deal with the medical care of teenagers. This type of communication occurs with all patients and this parent and/or patient is not singled out. Explain that our goal in taking care of adolescents is to assist in their transition to adulthood, and one part of that is encouraging them to take responsibility for their own health. If the parent continues to refuse to leave, you can ask the patient "sensitive questions" in front of her parent, but understand that you are unlikely to get very helpful answers. The provider should also reiterate to the patient, in front of the parent, that she can come in for the legally allowed services without her parent. Remember to do this in a friendly and non-confrontational way. It should be noted that the vast majority of parents and guardians are completely fine with the policy of talking to a teenager alone. In fact, many are relieved that another adult will be discussing important issues with their child.

Suggestions for Learning Activities

- Role-play how to interact with the challenging parent. Pay particular attention to staying calm and not antagonizing the parent.
- Ask students to find resources for legal issues involving confidential adolescent services and to research their local laws by looking at some of the sources below.

Other Resources

- Adolescent Health Care: A Practical Guide, Fifth Edition, Ed. By Neinstein et al. Lippincott Williams & Wilkins.
- Guttmacher Institute, http://www.guttmacher.org/pubs/tgr/03/4/gr030404.html
- State Minor Consent Laws: A Summary, 3rd Edition. Center for Adolescent Health and the Law http://www.cahl.org/web/
- Physicians for Reproductive Choice and Health- Adolescent Reproductive and Sexual Health Education Project, http://www.prch.org/arshepdownloads