UC San Diego
Independent Study Projects

Title

ISP final project: adolescent medicine educational module

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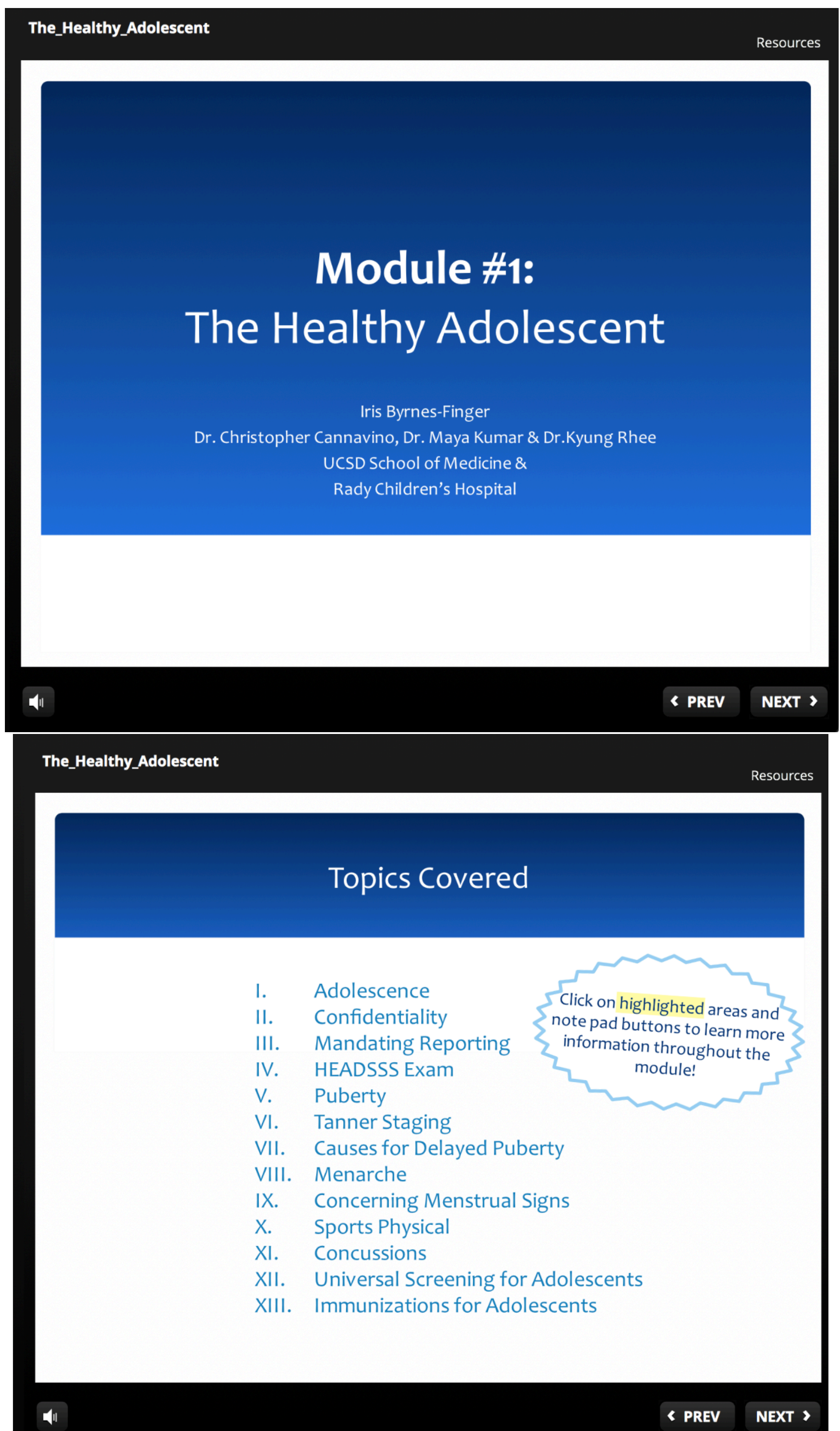
ISP Final Project:
Adolescent Medicine Educational Module
By: Iris Byrnes-Finger, MS4

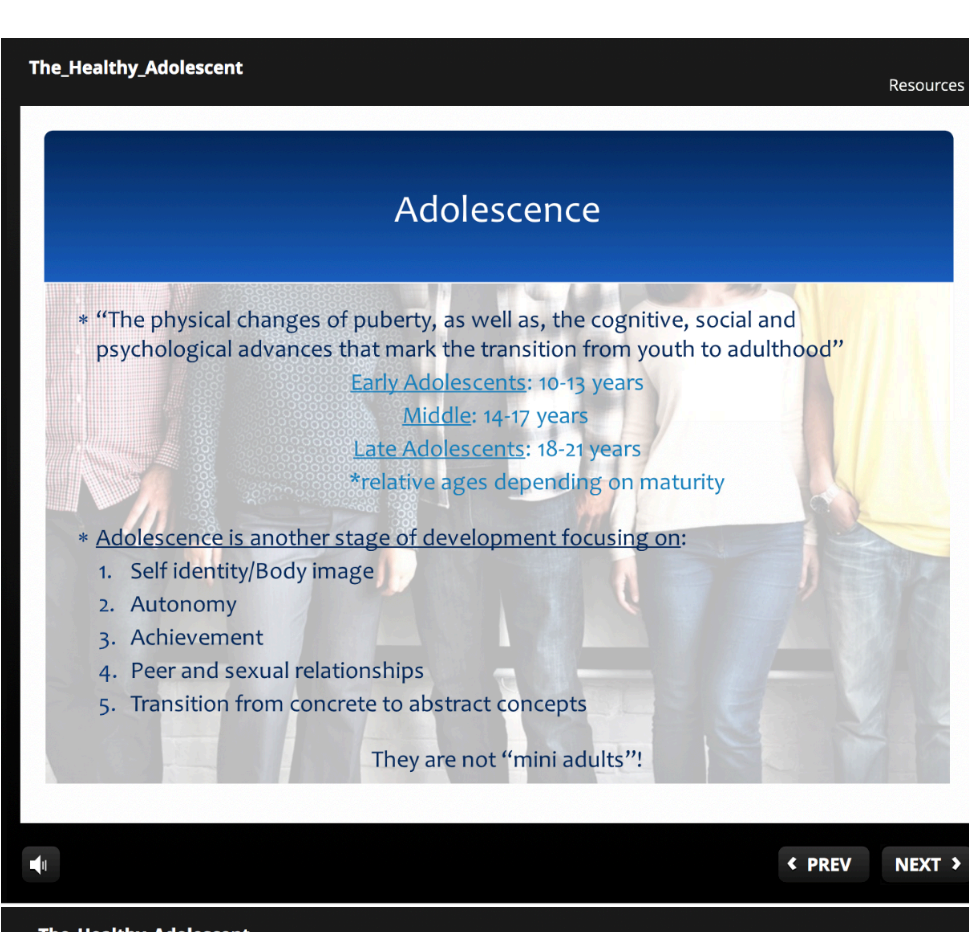
Rational:
Medical school training at UCSD provides a thorough foundation in the care of pediatric patients, however, there is not a strong emphasize on adolescent care. Having a well-trained physician in adolescent medicine, capable of handling issues prominent in this age group, can potentially have a strong impact on future health outcomes. Although more research is needed to determine the exact impact pediatricians have on teenagers, a physician should be confident in counseling and educating teens so they may at least provide their patient's with the tools to succeed. Therefore this project was created in order to further educate and provide a device for our future UCSD physicians in caring for the adolescent population in a compassionate and successful manner.

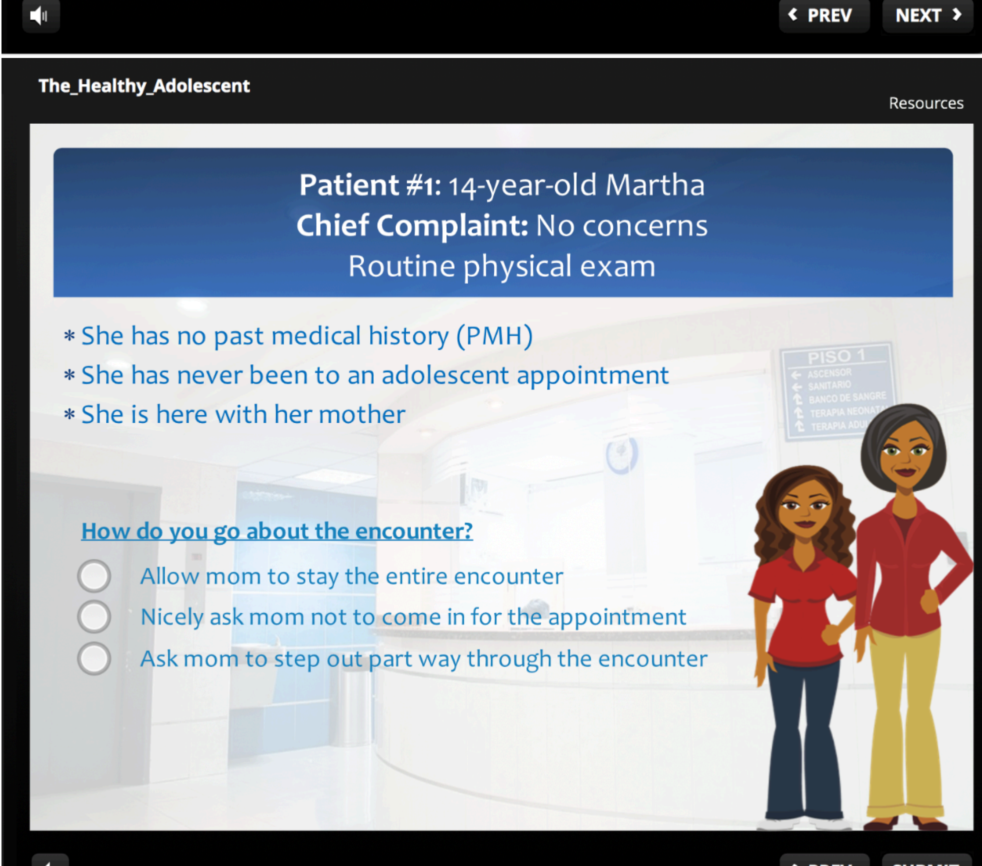
Project Objectives:
The module serves to educate medical students and interns in completing an appropriate adolescent history and physical, and addresses many common topics practitioners will face with adolescent patients. It allows the students to work through case specific scenarios, as well as, review a typical adolescent visit filled with day-to-day clinical pearls and general practice guidelines. One module covers general health maintenance, differentiating normal vs. abnormal growth and development with emphasis on menstruation, as well as, routine screening to utilize and apply during an adolescent visit. The other module focuses on clinical descriptions and discussion of management for common adolescent issues including STIs, contraception, substance use, eating disorders, acne and obesity. The modules were created to give UCSD medical students and interns a platform of knowledge and an abundance of resources to efficiently and effectively provide care for their adolescent patients.

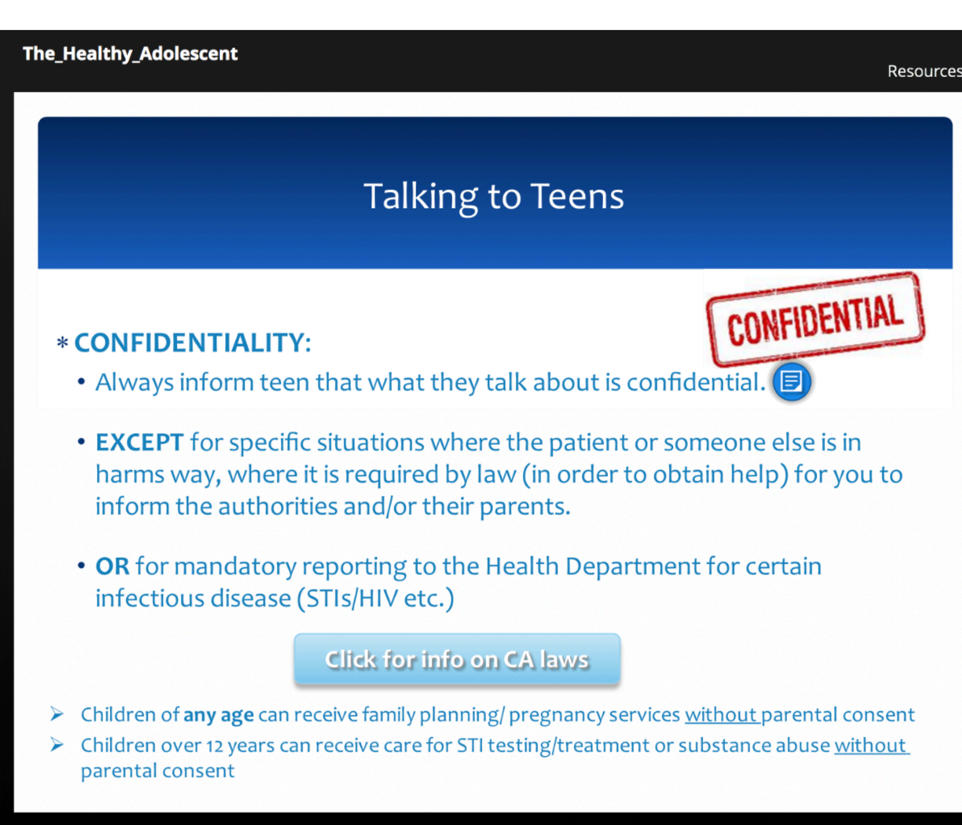
Methods:
I have constructed two interactive online web modules that allow UCSD medical students and Rady Children's Hospital interns to learn about a sector of their patient population in an engaging manner. A list of common, clinically relevant adolescent medicine topics based on highly utilized medical student review books and discussions with adolescent care experts was initially created. To make the information most relevant and coherent with current practice, I completed a month long adolescent medicine rotation in July, to get hands-on experience and additional input to contribute before creating the modules. After reviewing corresponding information in the medical literature, the existing pediatric curriculum and the most up-to-date recommended practice guidelines on these topics, I organized the information into PowerPoint lessons. I then went on to construct fun, practical modules in the Articulate Software from the PowerPoint lessons that included case scenarios, diagrams and drawings, and questions covering the relevant topics. I have published the modules to be online, and they can now be used as an educational learning tool available to medical students and interns both at UCSD School of Medicine and Rady Children's Hospital.

Achievements:
These modules can be accessed and used by UCSD medical students and Rady Children's Hospital interns, in order to work toward an environment concentrated on excellent care for the adolescent population in the San Diego community and beyond. These modules will be available for future generations to learn from and to edit as needed, in keeping up with current practices and guidelines for adolescent care. I hope that the educational experience after completing these modules will improve and enhance the adolescent care provided by Rady Children's Hospital and other associated institutions.

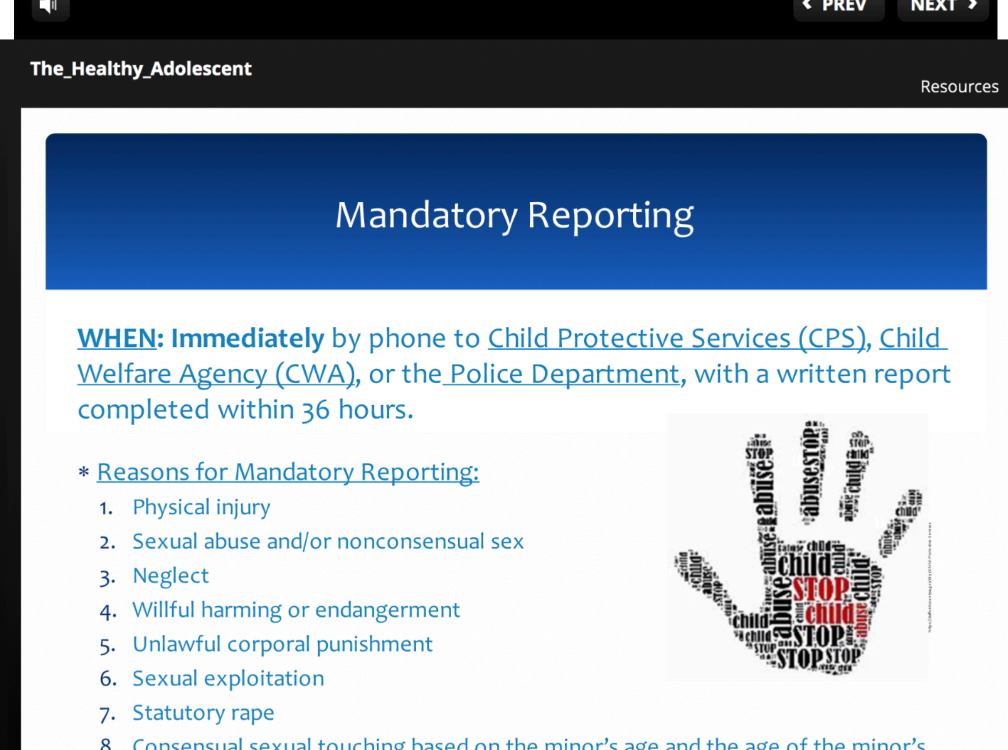

The_Healthy_Adolescent
Resources
Module #1:
The Healthy Adolescent
Iris Byrnes-Finger
Dr. Christopher Cannavino, Dr. Maya Kumar & Dr.Kyung Rhee
UCSD School of Medicine &
Rady Children's Hospital
PREV
NEXT
The_Healthy_Adolescent
Resources
Topics Covered
I. Adolescence
II. Confidentiality
III. Mandating Reporting
IV. HEADSSS Exam
V. Puberty
VI. Tanner Staging
VII. Causes for Delayed Puberty
VIII. Menarche
IX. Concerning Menstrual Signs
X. Sports Physical
XI. Concussions
XII. Universal Screening for Adolescents
XIII. Immunizations for Adolescents
Click on highlighted areas and note pad buttons to learn more information throughout the module!
PREV
NEXT


The_Healthy_Adolescent
Resources
Adolescence
* "The physical changes of puberty, as well as, the cognitive, social and psychological advances that mark the transition from youth to adulthood"
Early Adolescents: 10-13 years
Middle: 14-17 years
Late Adolescents: 18-21 years
*relative ages depending on maturity
* Adolescence is another stage of development focusing on:
1. Self identity/Body image
2. Autonomy
3. Achievement
4. Peer and sexual relationships
5. Transition from concrete to abstract concepts
They are not "mini adults"!
PREV
NEXT


The_Healthy_Adolescent
Resources
Patient #1: 14-year-old Martha
Chief Complaint: No concerns
Routine physical exam
* She has no past medical history (PMH)
* She has never been to an adolescent appointment
* She is here with her mother
How do you go about the encounter?
Allow mom to stay the entire encounter
Nicely ask mom not to come in for the appointment
Ask mom to step out part way through the encounter
PREV
SUBMIT



The_Healthy_Adolescent
Resources
Talking to Teens
CONFIDENTIAL
* CONFIDENTIALITY:
• Always inform teen that what they talk about is confidential.
• EXCEPT for specific situations where the patient or someone else is in harms way, where it is required by law (in order to obtain help) for you to inform the authorities and/or their parents.
• OR for mandatory reporting to the Health Department for certain infectious disease (STIs/HIV etc.)
Click for info on CA laws
Children of any age can receive family planning/ pregnancy services without parental consent
Children over 12 years can receive care for STI testing/treatment or substance abuse without parental consent
PREV
NEXT



The_Healthy_Adolescent
Resources
Mandatory Reporting
WHEN: Immediately by phone to Child Protective Services (CPS), Child Welfare Agency (CWA), or the Police Department, with a written report completed within 36 hours.
* Reasons for Mandatory Reporting:
1. Physical injury
2. Sexual abuse and/or nonconsensual sex
3. Neglect
4. Willful harming or endangerment
5. Unlawful corporal punishment
6. Sexual exploitation
7. Statutory rape
8. Consensual sexual touching based on the minor's age and the age of the minor's partner
PREV
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CALIFORNIA MINOR CONSENT AND CONFIDENTIALITY LAWS*

MINORS OF ANY AGE MAY CONSENT	LAW/DETAILS	MAY/MUST THE HEALTH CARE PROVIDER INFORM A PARENT ABOUT THIS CARE OR DISCLOSE RELATED MEDICAL INFORMATION TO THEM?
PREGNANCY	"A minor may consent to medical care related to the prevention or treatment of pregnancy," except sterilization. (Cal. Family Code § 6925).	The health care provider is not permitted to inform a parent or legal guardian without the minor's consent. The provider can only share the minor's medical information with them with a signed authorization from the minor. (Cal. Health & Safety Code §§ 123110(a), 123115(a)(1); Cal. Civ. Code §§ 56.10, 56.11).
CONTRACEPTION	A minor may receive birth control without parental consent. (Cal. Family Code § 6925).	
ABORTION	A minor may consent to an abortion without parental consent. (Cal. Family Code § 6925; *American Academy of Pediatrics v. Lungren*, 16 Cal.4th 307 (1997)).	The health care provider is not permitted to inform a parent or legal guardian without the minor's consent. The provider can only share the minor's medical information with them with a signed authorization from the minor. (*American Academy of Pediatrics v. Lungren*, 16 Cal.4th 307 (1997); Cal. Health & Safety Code §§ 123110(a), 123115(a)(1); Cal. Civ. Code §§ 56.10, 56.11).
SEXUAL ASSAULT[1] SERVICES [1]For the purposes of minor consent alone, sexual assault includes acts of oral copulation, sodomy, and other crimes of a sexual nature.	"A minor who [may] have been sexually assaulted may consent to medical care related to the diagnosis,…treatment and the collection of medical evidence with regard to the …assault." (Cal. Family Code § 6928).	The health care provider must attempt to contact the minor's parent/guardian and note in the minor's record the day and time of the attempted contact and whether it was successful. This provision does not apply if the treating professional reasonably believes that the parent/guardian committed the assault. (Cal. Family Code § 6928). Both rape and sexual assault of a minor are considered child abuse under California law and must be reported as such to the appropriate authorities by mandated reporters. The child abuse authorities investigating a child abuse report legally may disclose to parents that a report was made. (See Cal. Penal § 11167 and 11167.5.)
RAPE[2] SERVICES FOR MINORS UNDER 12 YRS[3] [2]Rape is defined in Cal. Penal Code § 261. [3]See also "Rape Services for Minors 12 and Over" on page 3 of this chart	A minor under 12 years of age who may have been raped "may consent to medical care related to the diagnosis,…treatment and the collection of medical evidence with regard" to the rape. (Cal. Family Code § 6928).	

Resource: http://www.chhs.ca.gov/Child%20Welfare/CA%20Moinior%20Consent%20and%20Confidentiality%20Laws.pdf

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Mandated Reporting of Sexual Intercourse Based on Age

3. BASED ON AGE DIFFERENCE BETWEEN PARTNER AND MINOR IN A FEW SITUATIONS

Mandated reporters also must report intercourse with a minor in a few situations based solely on the age difference between the minor and their partner, according to the following chart:

KEY: **M** = *Mandated. A report is mandated based solely on age difference between partner and minor.*

J = *Use judgment. A report is not mandated based solely on age difference; however, a reporter must report if he or she has a reasonable suspicion that the intercourse* ***was coerced, involved trafficking or exploitation, or was in any other way not voluntary, as described above, irrespective of age.***.

Age of Partner ⇒ Age of Youth ⇓	12	13	14	15	16	17	18	19	20	21	22 & older
11	J	J	M	M	M	M	M	M	M	M	M ⇒
12	J	J	M	M	M	M	M	M	M	M	M ⇒
13	J	J	M	M	M	M	M	M	M	M	M ⇒
14	M	M	J	J	J	J	J	J	J	M	M ⇒
15	M	M	J	J	J	J	J	J	J	M	M ⇒
16	M	M	J	J	J	J	J	J	J	J	J ⇒
17	M	M	J	J	J	J	J	J	J	J	J ⇒
18	M	M	J	J	J	J					
19	M	M	J	J	J	J					
20	M	M	J	J	J	J					
21 & older	M	M	M	M	J	J					

Chart design by David Knopf, LCSW, UCSF.
(*The legal sources for this chart are*: Penal Code §§ 261.5, 261, 11165.1, 11165.6, 11166; 249 Cal. Rptr. 762, 769 (3rd Dist. Ct. App. 1989); 226 Cal. Rptr. 361, 381 (1st Dist. Ct. App. 1986).

http://teenhealthlaw.org/wp-content/uploads/2017/07/CAsexual-abuse-reporting-allrptrs-6-17.pdf

PREV NEXT

The_Healthy_Adolescent

Resources

1. Would you need to report a 13-year-old patient having intercourse with a partner 14 years or older?

- Use Judgement
- Yes - Mandated
- No

3. BASED ON AGE DIFFERENCE BETWEEN PARTNER AND MINOR IN A FEW SITUATIONS

Mandated reporters also must report intercourse with a minor in a few situations based solely on the age difference between the minor and their partner, according to the following chart:

KEY: **M** = *Mandated. A report is mandated based solely on age difference between partner and minor.*

J = *Use judgment. A report is not mandated based solely on age difference; however, a reporter must report if he or she has a reasonable suspicion that the intercourse* **was coerced, involved trafficking or exploitation, or was in any other way not voluntary, as described above, irrespective of age..**

Age of Partner ⇒ / Age of Youth ⇓	12	13	14	15	16	17	18	19	20	21	22 & older
11	J	J	M	M	M	M	M	M	M	M	M ⇒
12	J	J	M	M	M	M	M	M	M	M	M ⇒
13	J	J	M	M	M	M	M	M	M	M	M ⇒
14	M	M	J	J	J	J	J	J	J	M	M ⇒
15	M	M	J	J	J	J	J	J	J	M	M ⇒
16	M	M	J	J	J	J	J	J	J	J	J ⇒
17	M	M	J	J	J	J	J	J	J	J	J ⇒
18	M	M	J	J	J	J					
19	M	M	J	J	J	J					
20	M	M	J	J	J	J					
21 & older	M	M	M	M	J	J					

Chart design by David Knopf, LCSW, UCSF.
(*The legal sources for this chart are:* Penal Code §§ 261.5, 261, 11165.1, 11165.6, 11166; 249 Cal. Rptr. 762, 769 (3rd Dist. Ct. App. 1989); 226 Cal. Rptr. 361, 381 (1st Dist. Ct. App. 1986).

SUBMIT

The_Healthy_Adolescent

Resources

2. Would you need to report a 17-year-old patient having intercourse with a partner 14 years or older?

- Use Judgement
- Yes - Mandated
- No

3. BASED ON AGE DIFFERENCE BETWEEN PARTNER AND MINOR IN A FEW SITUATIONS

Mandated reporters also must report intercourse with a minor in a few situations based solely on the age difference between the minor and their partner, according to the following chart:

KEY: **M** = *Mandated. A report is mandated based solely on age difference between partner and minor.*

J = *Use judgment. A report is not mandated based solely on age difference; however, a reporter must report if he or she has a reasonable suspicion that the intercourse* **was coerced, involved trafficking or exploitation, or was in any other way not voluntary, as described above, irrespective of age..**

Age of Partner ⇒ / Age of Youth ⇓	12	13	14	15	16	17	18	19	20	21	22 & older
11	J	J	M	M	M	M	M	M	M	M	M ⇒
12	J	J	M	M	M	M	M	M	M	M	M ⇒
13	J	J	M	M	M	M	M	M	M	M	M ⇒
14	M	M	J	J	J	J	J	J	J	M	M ⇒
15	M	M	J	J	J	J	J	J	J	M	M ⇒
16	M	M	J	J	J	J	J	J	J	J	J ⇒
17	M	M	J	J	J	J	J	J	J	J	J ⇒
18	M	M	J	J	J	J					
19	M	M	J	J	J	J					
20	M	M	J	J	J	J					
21 & older	M	M	M	M	J	J					

Chart design by David Knopf, LCSW, UCSF.
(*The legal sources for this chart are:* Penal Code §§ 261.5, 261, 11165.1, 11165.6, 11166; 249 Cal. Rptr. 762, 769 (3rd Dist. Ct. App. 1989); 226 Cal. Rptr. 361, 381 (1st Dist. Ct. App. 1986).

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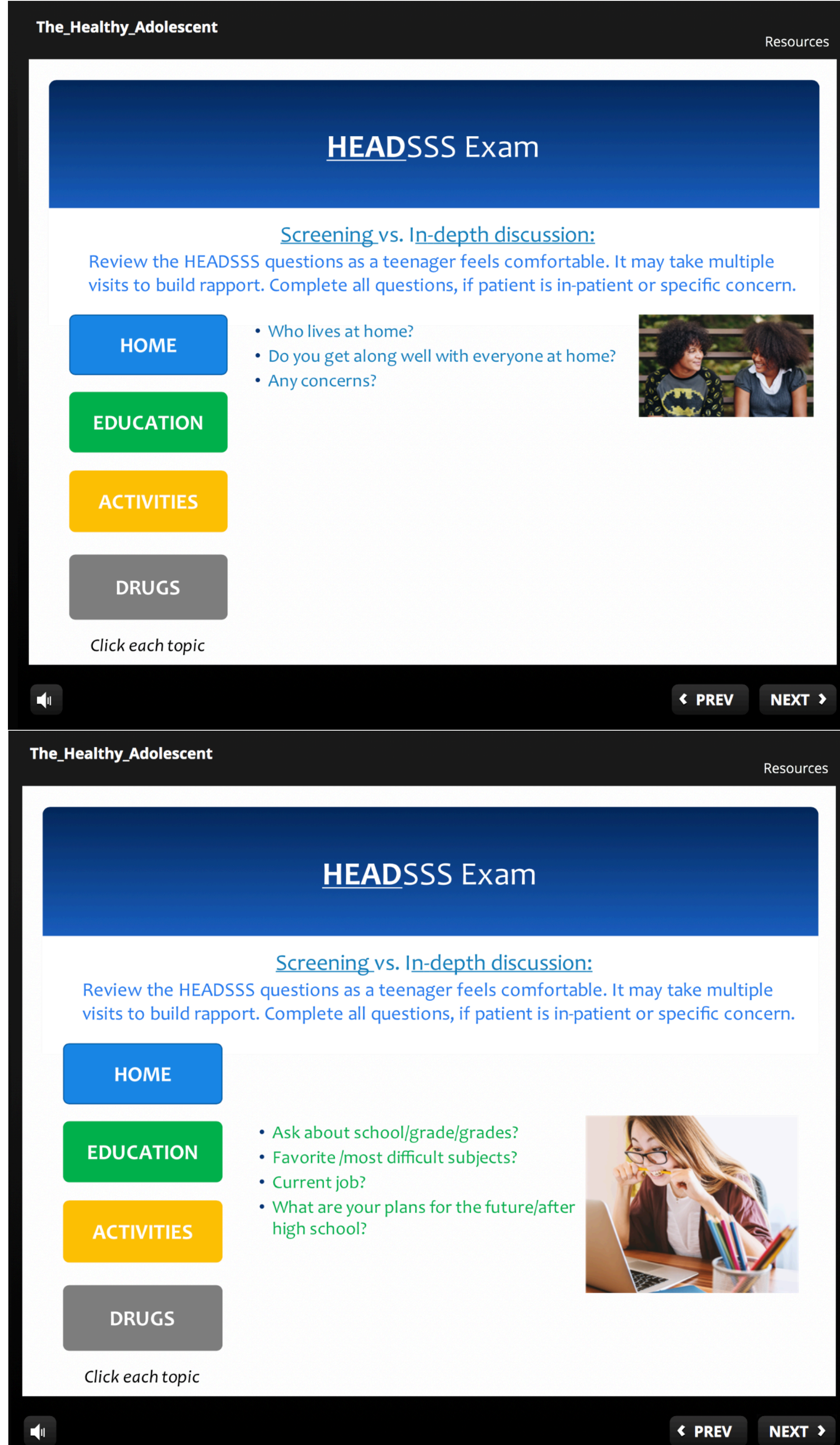
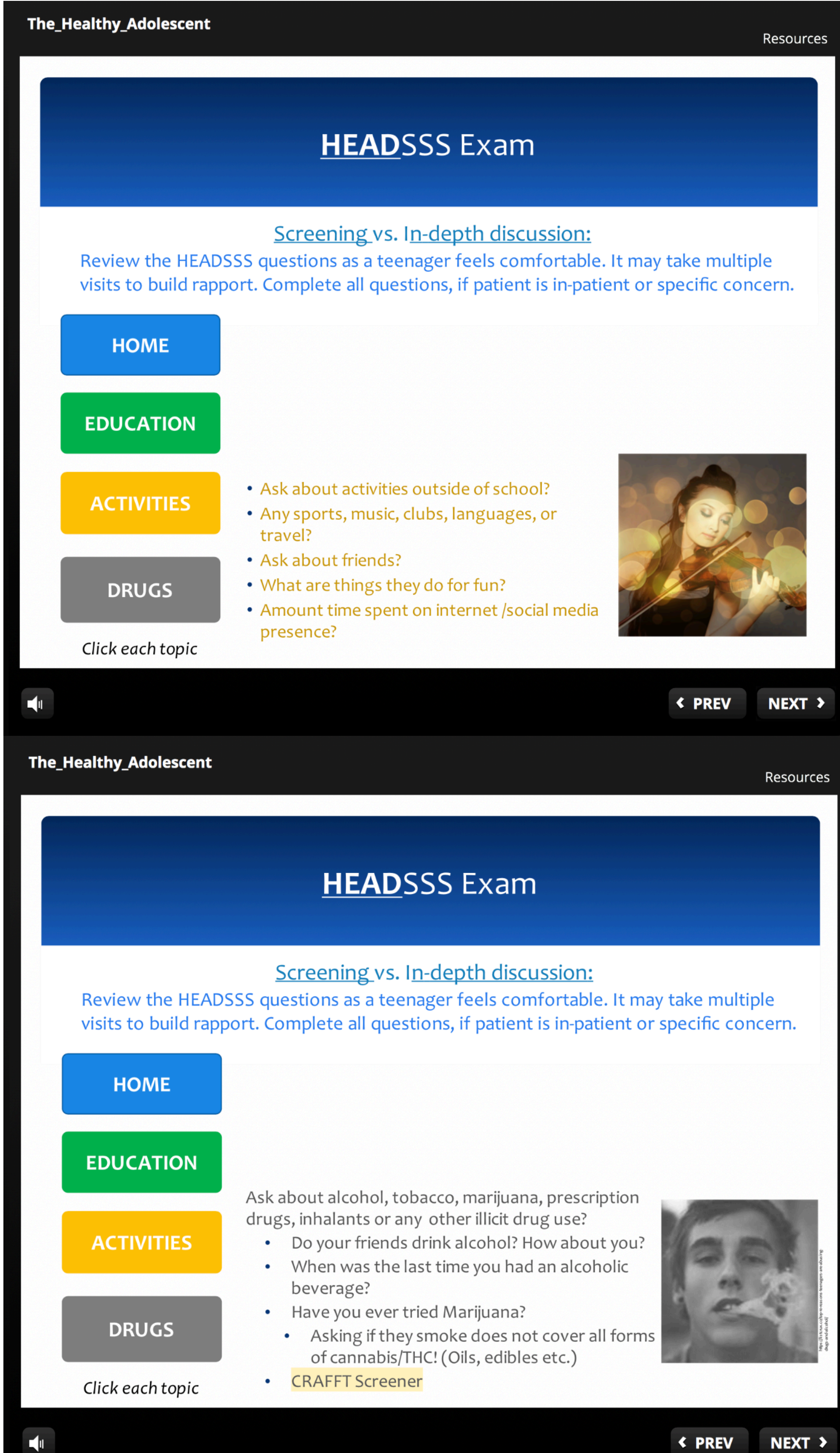
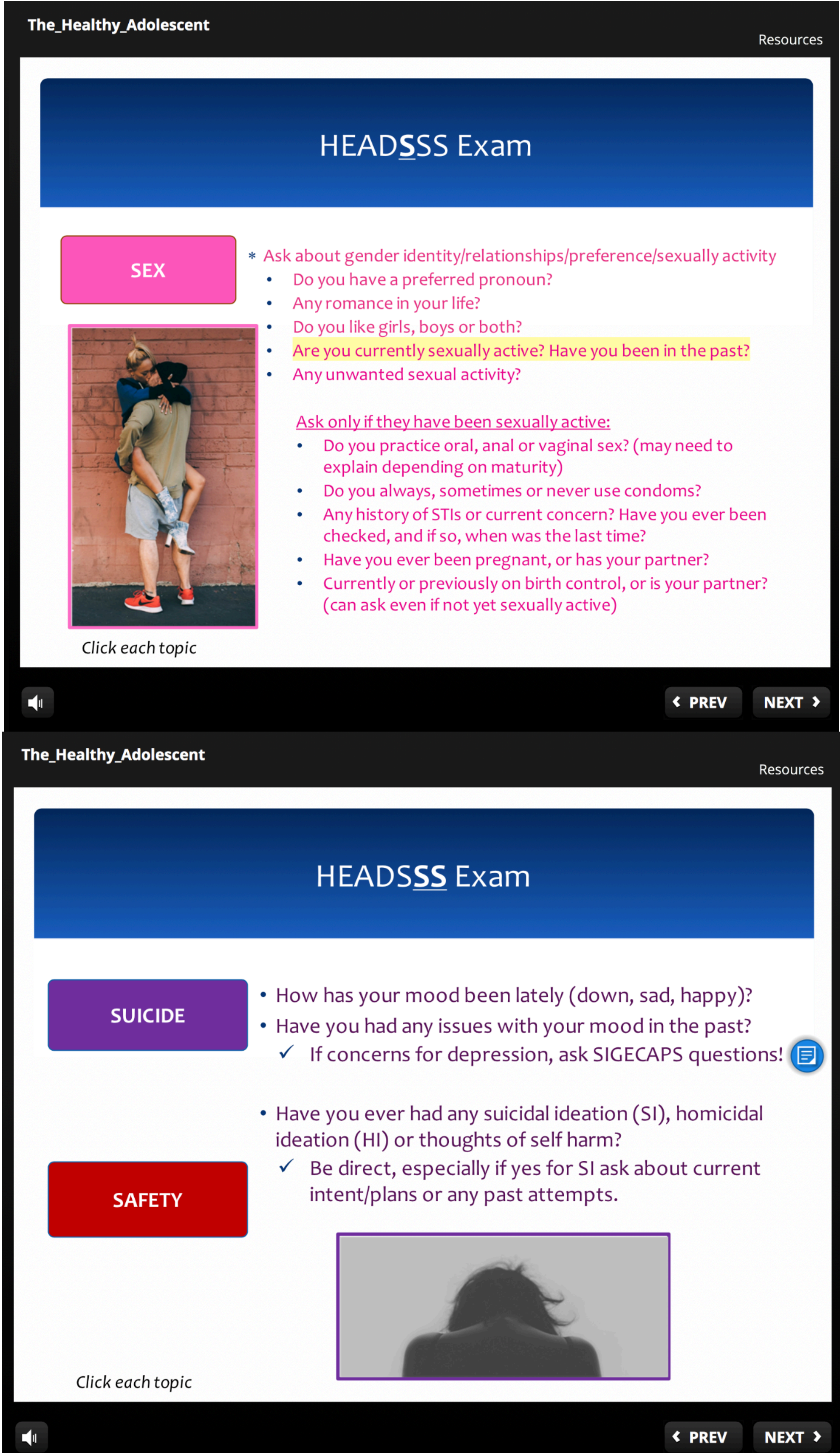
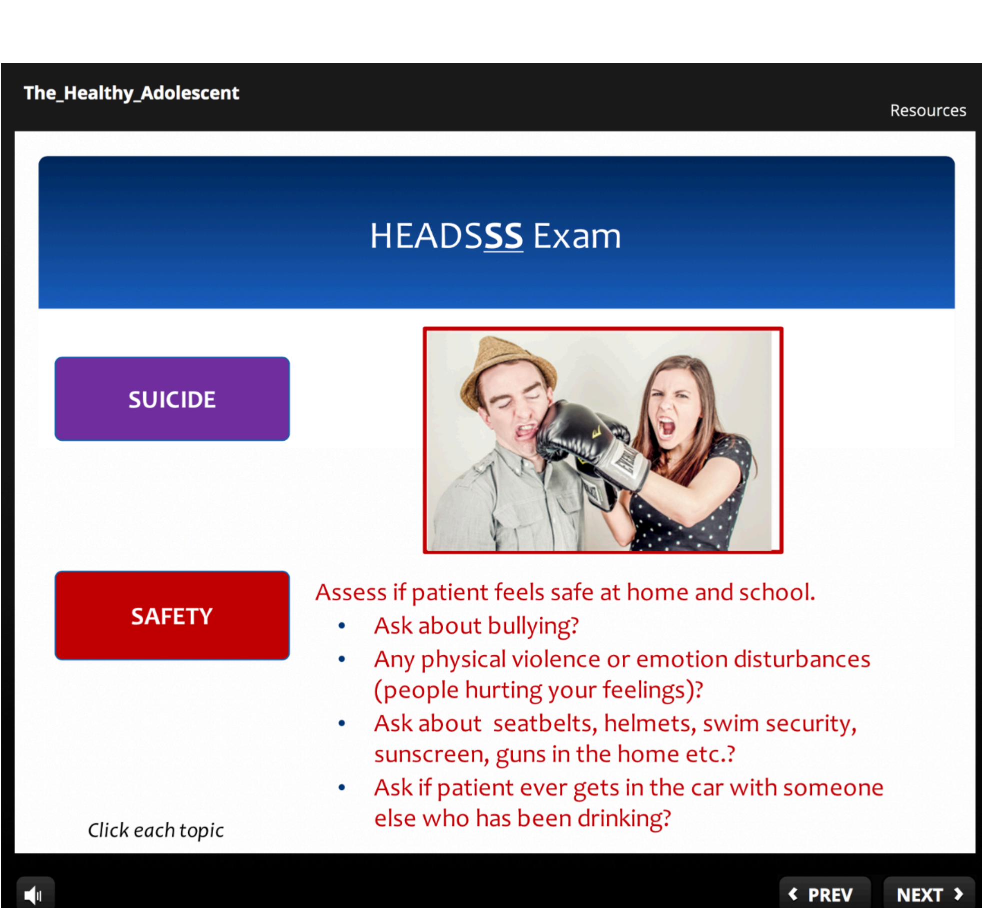
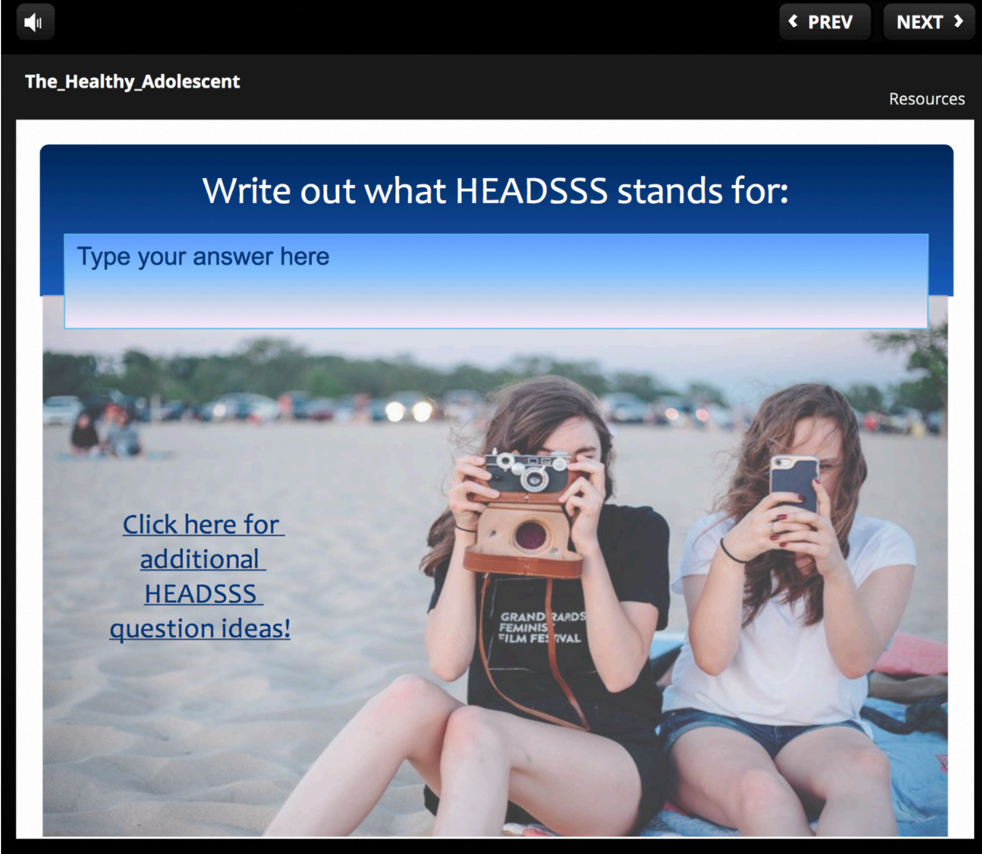

The_Healthy_Adolescent
Resources
HEADSSS Exam
Screening vs. In-depth discussion:
Review the HEADSSS questions as a teenager feels comfortable. It may take multiple visits to build rapport. Complete all questions, if patient is in-patient or specific concern.
HOME
EDUCATION
ACTIVITIES
DRUGS
• Who lives at home?
• Do you get along well with everyone at home?
• Any concerns?
Click each topic
PREV
NEXT
The_Healthy_Adolescent
Resources
HEADSSS Exam
Screening vs. In-depth discussion:
Review the HEADSSS questions as a teenager feels comfortable. It may take multiple visits to build rapport. Complete all questions, if patient is in-patient or specific concern.
HOME
EDUCATION
ACTIVITIES
DRUGS
• Ask about school/grade/grades?
• Favorite /most difficult subjects?
• Current job?
• What are your plans for the future/after high school?
Click each topic
PREV
NEXT



The_Healthy_Adolescent
Resources
HEADSSS Exam
Screening vs. In-depth discussion:
Review the HEADSSS questions as a teenager feels comfortable. It may take multiple visits to build rapport. Complete all questions, if patient is in-patient or specific concern.
HOME
EDUCATION
ACTIVITIES
DRUGS
Click each topic
• Ask about activities outside of school?
• Any sports, music, clubs, languages, or travel?
• Ask about friends?
• What are things they do for fun?
• Amount time spent on internet /social media presence?
PREV
NEXT
The_Healthy_Adolescent
Resources
HEADSSS Exam
Screening vs. In-depth discussion:
Review the HEADSSS questions as a teenager feels comfortable. It may take multiple visits to build rapport. Complete all questions, if patient is in-patient or specific concern.
HOME
EDUCATION
ACTIVITIES
DRUGS
Click each topic
Ask about alcohol, tobacco, marijuana, prescription drugs, inhalants or any other illicit drug use?
• Do your friends drink alcohol? How about you?
• When was the last time you had an alcoholic beverage?
• Have you ever tried Marijuana?
• Asking if they smoke does not cover all forms of cannabis/THC! (Oils, edibles etc.)
• CRAFFT Screener
PREV
NEXT


The_Healthy_Adolescent
Resources
HEADSSS Exam
SEX
* Ask about gender identity/relationships/preference/sexually activity
• Do you have a preferred pronoun?
• Any romance in your life?
• Do you like girls, boys or both?
• Are you currently sexually active? Have you been in the past?
• Any unwanted sexual activity?
Ask only if they have been sexually active:
• Do you practice oral, anal or vaginal sex? (may need to explain depending on maturity)
• Do you always, sometimes or never use condoms?
• Any history of STIs or current concern? Have you ever been checked, and if so, when was the last time?
• Have you ever been pregnant, or has your partner?
• Currently or previously on birth control, or is your partner? (can ask even if not yet sexually active)
Click each topic
PREV
NEXT
The_Healthy_Adolescent
Resources
HEADSSS Exam
SUICIDE
SAFETY
• How has your mood been lately (down, sad, happy)?
• Have you had any issues with your mood in the past?
✓ If concerns for depression, ask SIGECAPS questions!
• Have you ever had any suicidal ideation (SI), homicidal ideation (HI) or thoughts of self harm?
✓ Be direct, especially if yes for SI ask about current intent/plans or any past attempts.
Click each topic
PREV
NEXT


The_Healthy_Adolescent
Resources
HEADSSS Exam
SUICIDE
SAFETY
Assess if patient feels safe at home and school.
• Ask about bullying?
• Any physical violence or emotion disturbances (people hurting your feelings)?
• Ask about seatbelts, helmets, swim security, sunscreen, guns in the home etc.?
• Ask if patient ever gets in the car with someone else who has been drinking?
Click each topic
PREV
NEXT


The_Healthy_Adolescent
Resources
Write out what HEADSSS stands for:
Type your answer here
Click here for additional HEADSSS question ideas!
NEXT
SUBMIT

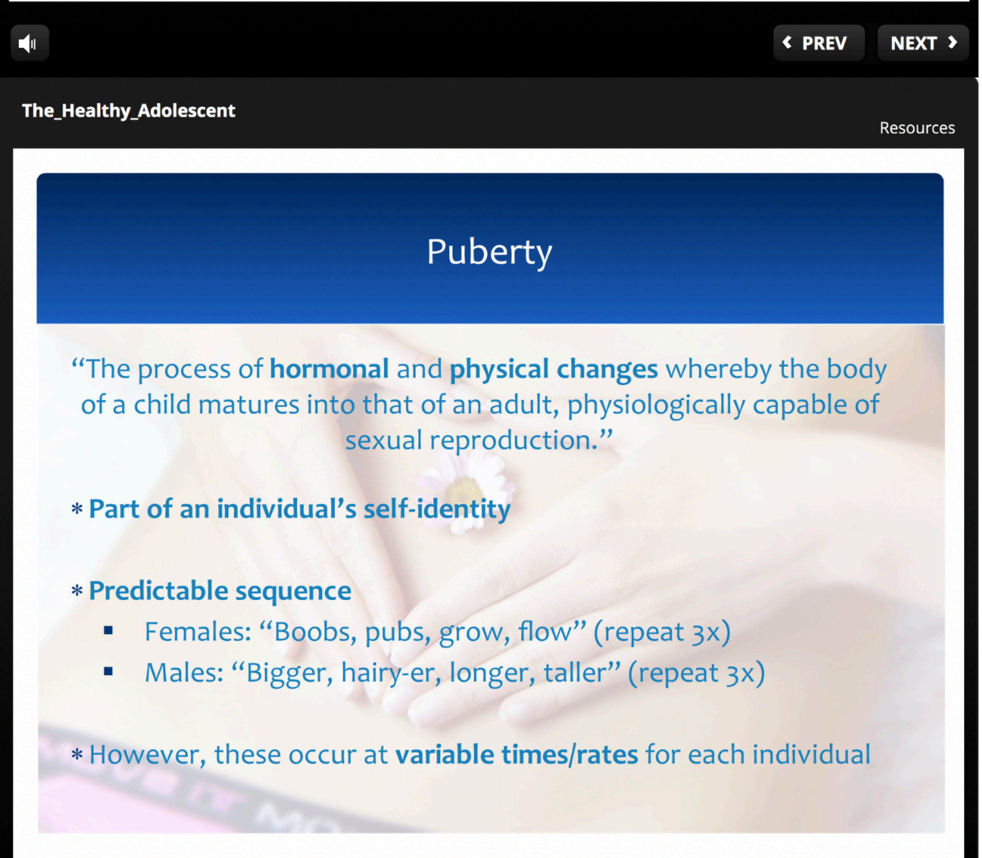
The_Healthy_Adolescent

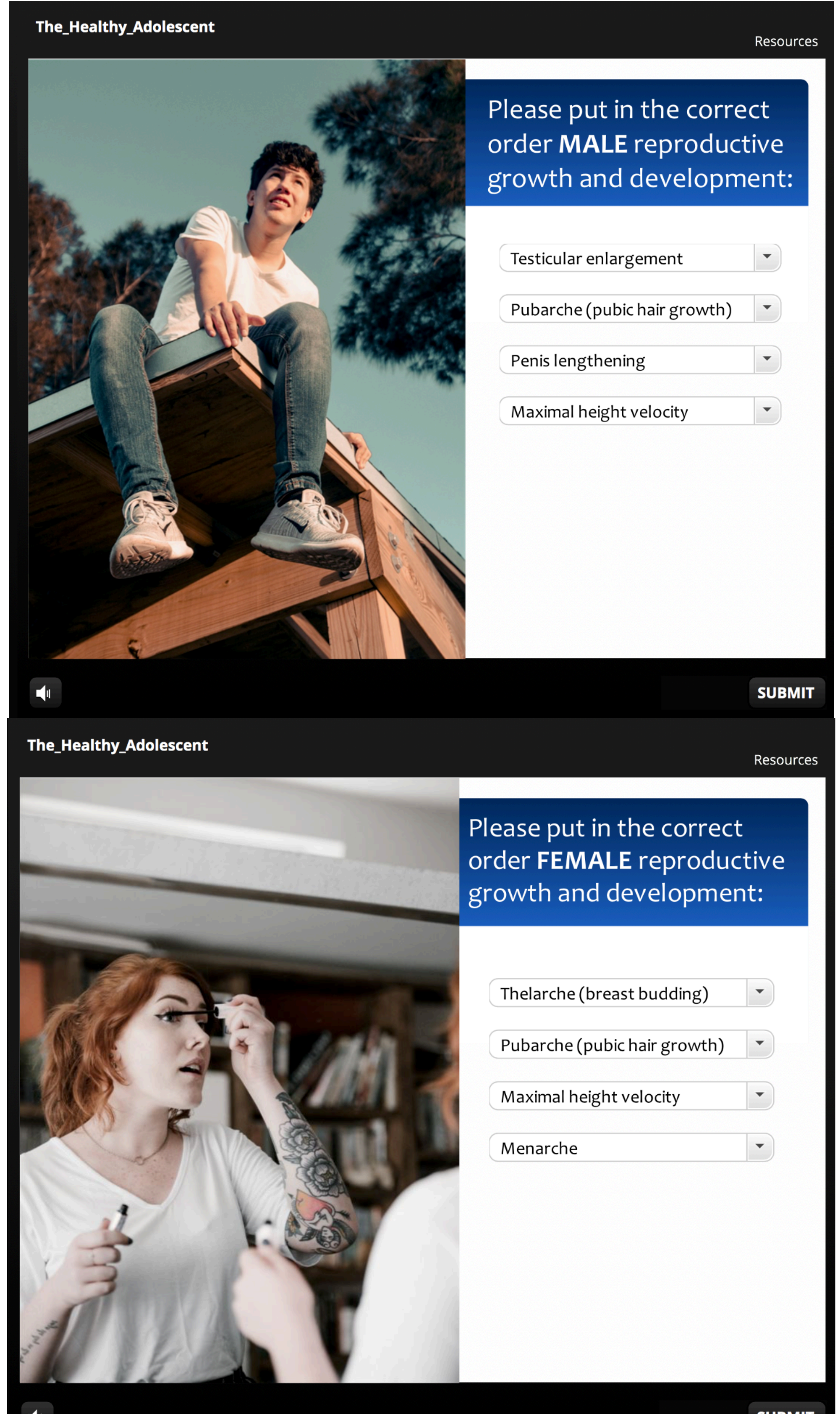
Resources

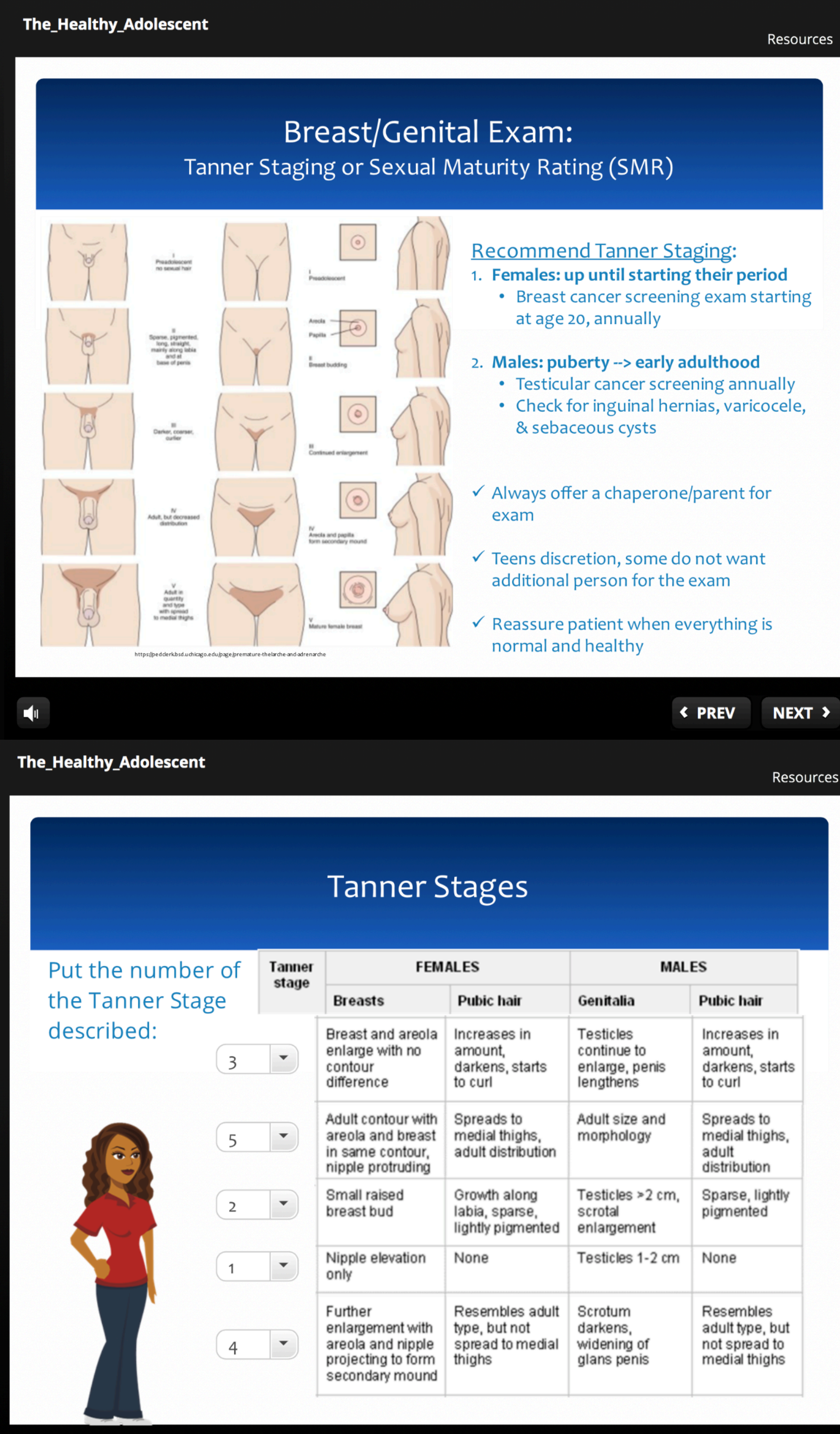
Supportive Framework in HEADSSS History Taking

1. **Be nonjudgmental!**
2. **These are not easy questions for teenagers**
   - They may feel comfortable after a few visits, so continue to ask
   - Respect nonverbal cues
   - Don't push for answers → Be mindful to use a trauma-informed care approach
3. **Support good decisions and provide positive reinforcement!**
   - "I am really happy to hear you are making such healthy decisions"
4. **Normative correction statements for younger adolescents:**
   - "I am glad to hear that you, just like most others your age, have never tried alcohol"

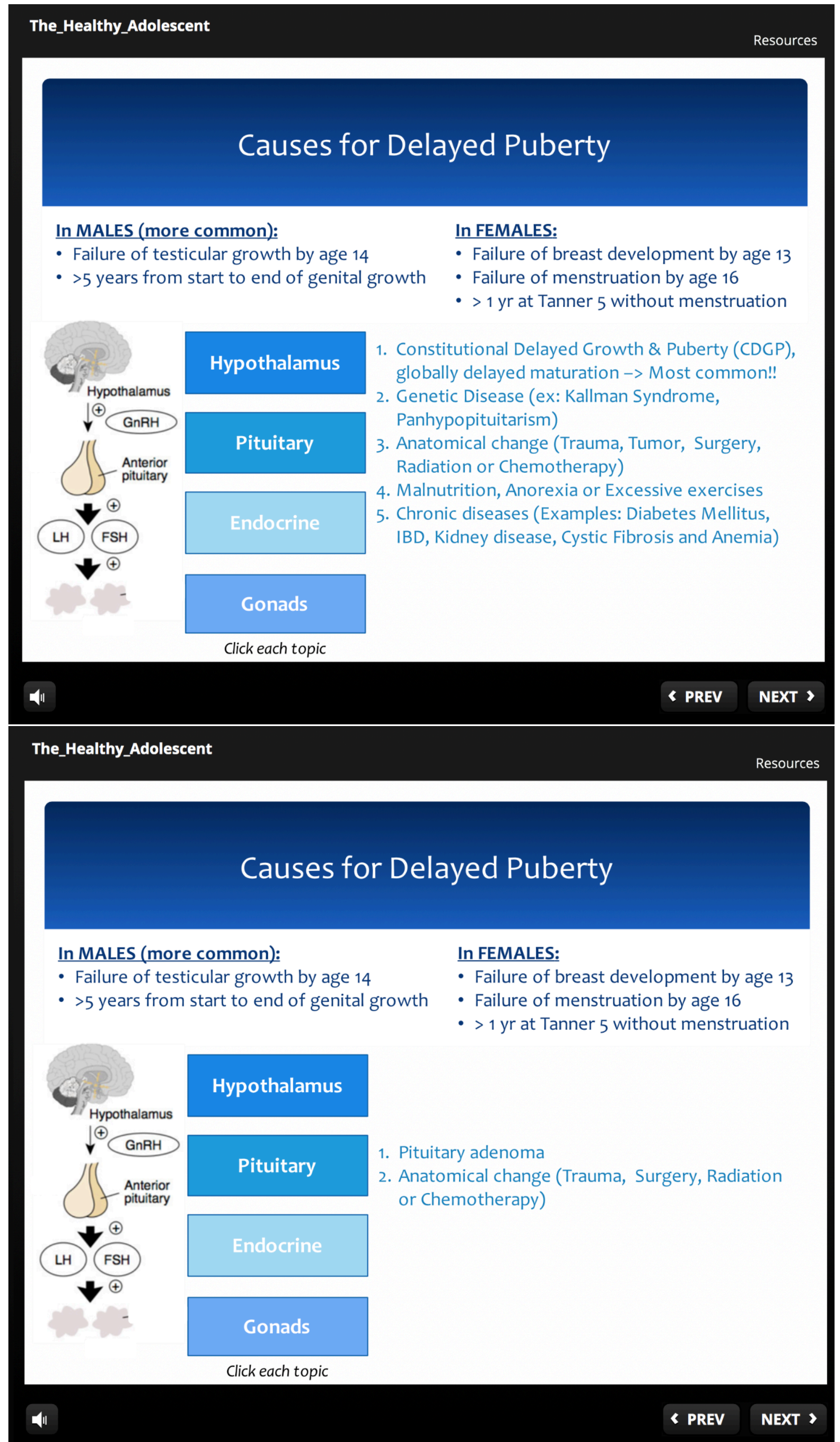
PREV NEXT




The_Healthy_Adolescent
Resources
Please put in the correct order MALE reproductive growth and development:
Testicular enlargement
Pubarche (pubic hair growth)
Penis lengthening
Maximal height velocity
SUBMIT
The_Healthy_Adolescent
Resources
Please put in the correct order FEMALE reproductive growth and development:
Thelarche (breast budding)
Pubarche (pubic hair growth)
Maximal height velocity
Menarche
SUBMIT



Tanner stage	FEMALES Breasts	FEMALES Pubic hair	MALES Genitalia	MALES Pubic hair
3	Breast and areola enlarge with no contour difference	Increases in amount, darkens, starts to curl	Testicles continue to enlarge, penis lengthens	Increases in amount, darkens, starts to curl
5	Adult contour with areola and breast in same contour, nipple protruding	Spreads to medial thighs, adult distribution	Adult size and morphology	Spreads to medial thighs, adult distribution
2	Small raised breast bud	Growth along labia, sparse, lightly pigmented	Testicles >2 cm, scrotal enlargement	Sparse, lightly pigmented
1	Nipple elevation only	None	Testicles 1-2 cm	None
4	Further enlargement with areola and nipple projecting to form secondary mound	Resembles adult type, but not spread to medial thighs	Scrotum darkens, widening of glans penis	Resembles adult type, but not spread to medial thighs


The_Healthy_Adolescent
Resources
Causes for Delayed Puberty
In MALES (more common):
• Failure of testicular growth by age 14
• >5 years from start to end of genital growth
In FEMALES:
• Failure of breast development by age 13
• Failure of menstruation by age 16
• > 1 yr at Tanner 5 without menstruation
Hypothalamus
GnRH
Anterior pituitary
LH
FSH
Hypothalamus
Pituitary
Endocrine
Gonads
1. Constitutional Delayed Growth & Puberty (CDGP), globally delayed maturation –> Most common!!
2. Genetic Disease (ex: Kallman Syndrome, Panhypopituitarism)
3. Anatomical change (Trauma, Tumor, Surgery, Radiation or Chemotherapy)
4. Malnutrition, Anorexia or Excessive exercises
5. Chronic diseases (Examples: Diabetes Mellitus, IBD, Kidney disease, Cystic Fibrosis and Anemia)
Click each topic
PREV
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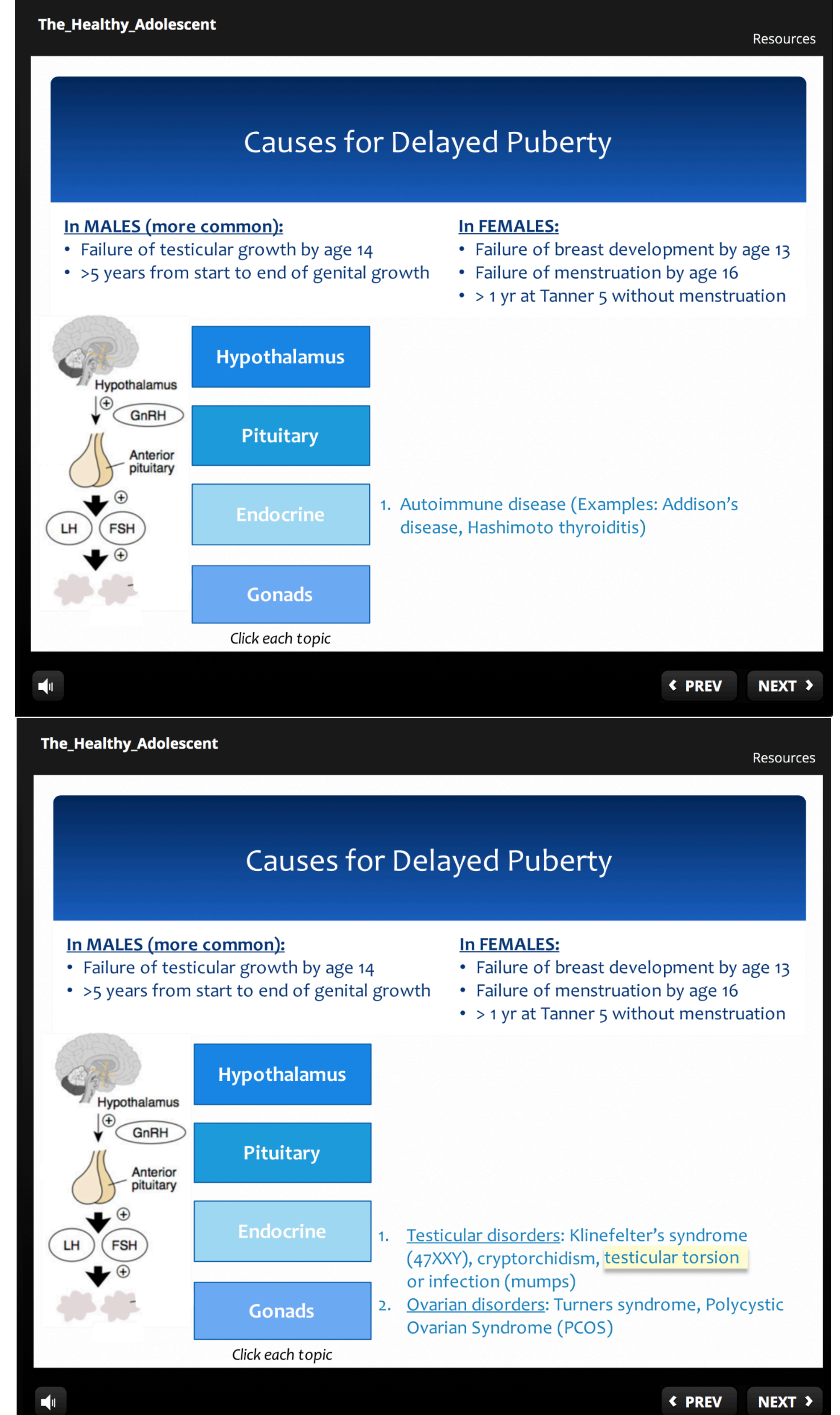
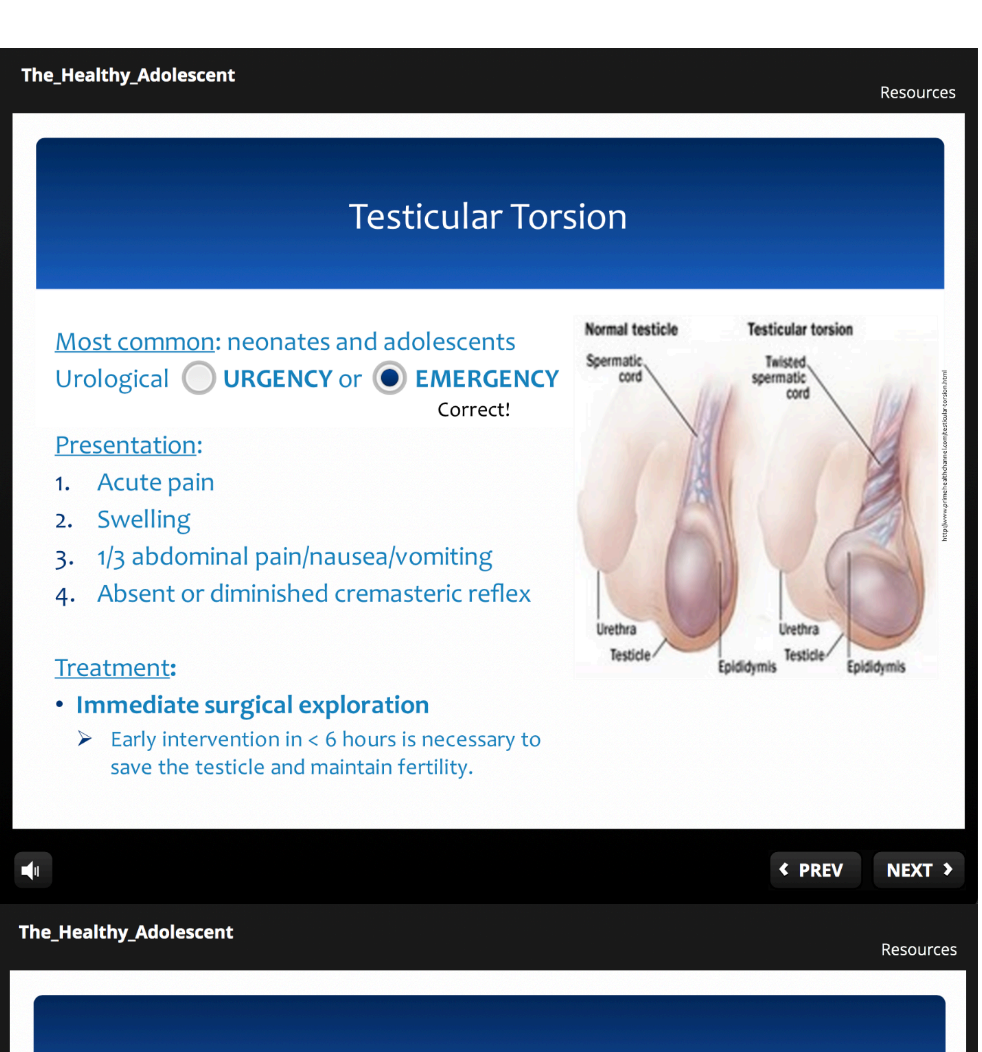
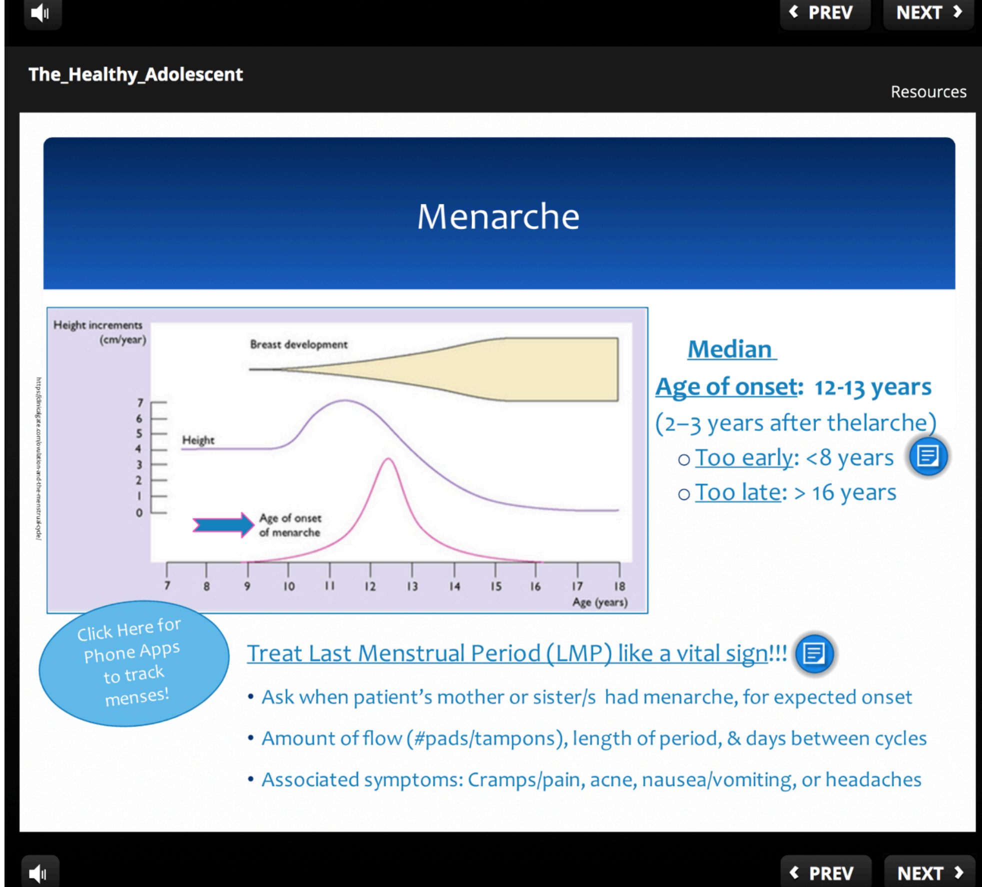
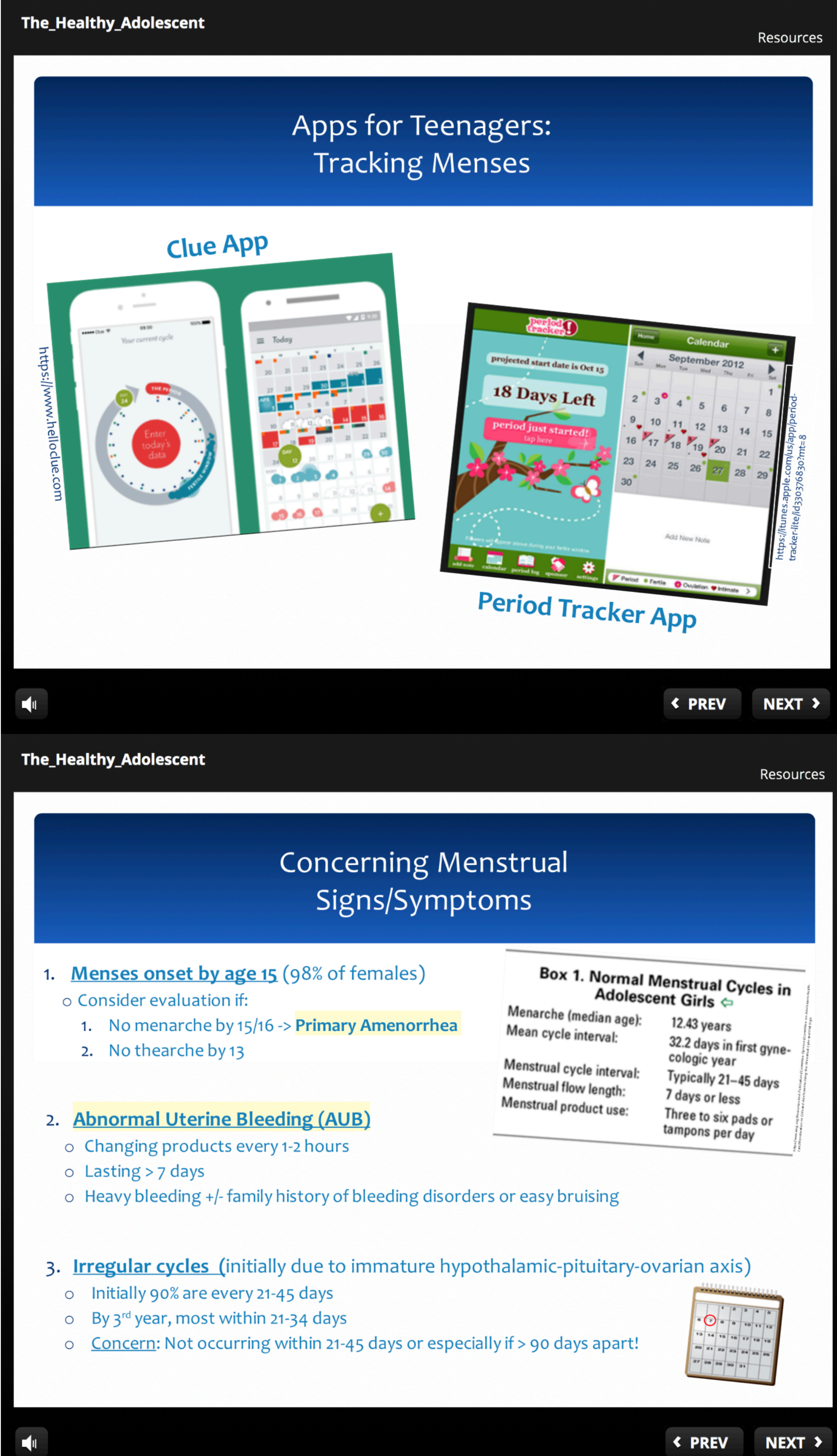
The_Healthy_Adolescent
Resources
Causes for Delayed Puberty
In MALES (more common):
• Failure of testicular growth by age 14
• >5 years from start to end of genital growth
In FEMALES:
• Failure of breast development by age 13
• Failure of menstruation by age 16
• > 1 yr at Tanner 5 without menstruation
Hypothalamus
GnRH
Anterior pituitary
LH
FSH
Hypothalamus
Pituitary
Endocrine
Gonads
1. Pituitary adenoma
2. Anatomical change (Trauma, Surgery, Radiation or Chemotherapy)
Click each topic
PREV
NEXT



The_Healthy_Adolescent
Resources
Causes for Delayed Puberty
In MALES (more common):
• Failure of testicular growth by age 14
• >5 years from start to end of genital growth
In FEMALES:
• Failure of breast development by age 13
• Failure of menstruation by age 16
• > 1 yr at Tanner 5 without menstruation
Hypothalamus
GnRH
Anterior pituitary
LH
FSH
Hypothalamus
Pituitary
Endocrine
Gonads
1. Autoimmune disease (Examples: Addison's disease, Hashimoto thyroiditis)
Click each topic
PREV
NEXT
The_Healthy_Adolescent
Resources
Causes for Delayed Puberty
In MALES (more common):
• Failure of testicular growth by age 14
• >5 years from start to end of genital growth
In FEMALES:
• Failure of breast development by age 13
• Failure of menstruation by age 16
• > 1 yr at Tanner 5 without menstruation
Hypothalamus
GnRH
Anterior pituitary
LH
FSH
Hypothalamus
Pituitary
Endocrine
Gonads
1. Testicular disorders: Klinefelter's syndrome (47XXY), cryptorchidism, testicular torsion or infection (mumps)
2. Ovarian disorders: Turners syndrome, Polycystic Ovarian Syndrome (PCOS)
Click each topic
PREV
NEXT


The_Healthy_Adolescent
Resources
Testicular Torsion
Most common: neonates and adolescents
Urological URGENCY or EMERGENCY
Correct!
Presentation:
1. Acute pain
2. Swelling
3. 1/3 abdominal pain/nausea/vomiting
4. Absent or diminished cremasteric reflex
Treatment:
• Immediate surgical exploration
Early intervention in < 6 hours is necessary to save the testicle and maintain fertility.
Normal testicle
Testicular torsion
Spermatic cord
Twisted spermatic cord
Urethra
Testicle
Epididymis
PREV
NEXT


The_Healthy_Adolescent
Resources
Menarche
Height increments (cm/year)
Breast development
Height
Age of onset of menarche
Age (years)
Median
Age of onset: 12-13 years
(2–3 years after thelarche)
Too early: <8 years
Too late: > 16 years
Click Here for Phone Apps to track menses!
Treat Last Menstrual Period (LMP) like a vital sign!!!
• Ask when patient's mother or sister/s had menarche, for expected onset
• Amount of flow (#pads/tampons), length of period, & days between cycles
• Associated symptoms: Cramps/pain, acne, nausea/vomiting, or headaches
PREV
NEXT


The_Healthy_Adolescent
Resources
Apps for Teenagers:
Tracking Menses
Clue App
https://www.helloclue.com
Period Tracker App
18 Days Left
period just started!
Calendar
September 2012
PREV
NEXT
The_Healthy_Adolescent
Resources
Concerning Menstrual
Signs/Symptoms
1. Menses onset by age 15 (98% of females)
Consider evaluation if:
1. No menarche by 15/16 -> Primary Amenorrhea
2. No thearche by 13
2. Abnormal Uterine Bleeding (AUB)
Changing products every 1-2 hours
Lasting > 7 days
Heavy bleeding +/- family history of bleeding disorders or easy bruising
3. Irregular cycles (initially due to immature hypothalamic-pituitary-ovarian axis)
Initially 90% are every 21-45 days
By 3rd year, most within 21-34 days
Concern: Not occurring within 21-45 days or especially if > 90 days apart!
Box 1. Normal Menstrual Cycles in Adolescent Girls
Menarche (median age): 12.43 years
Mean cycle interval: 32.2 days in first gynecologic year
Menstrual cycle interval: Typically 21–45 days
Menstrual flow length: 7 days or less
Menstrual product use: Three to six pads or tampons per day
PREV
NEXT

Primary Amenorrhea

1. History and Physical Exam
   a. Assess stress, physical activity and diet
   b. Tanner staging with external genital exam

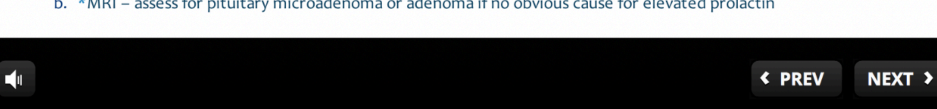
2. Laboratory Tests
   a. Pregnancy Test (Beta-hcg)

   b. FSH, LH, Estradiol, TSH and prolactin levels
      - Low LH/FSH -> Hypothalamic and stress/exercise vs. head imaging*
      - Elevated LH/FSH -> Karyotyping (Turner's vs. Swyer syndromes)
      - Low/Elevated TSH → Hyper or hypothyroidism
      - Elevated Prolactin (assess for fasting, nipple stimulation, or psychotropic medications)*

   c. Testosterone, DHEA-S, 17-OHP and Insulin Levels (esp. if hyperandrogenism signs/symptoms)
      - Free Testosterone & DHEA-S -> Adrenal or Ovarian Tumor
      - 17-OHP -> Nonclassical Congenital adrenal hyperplasia (CAH)
      - Insulin level/Pelvic Ultrasound -> Polycystic Ovary Syndrome (PCOS)

3. Imaging (if abnormal external genital exam or Tanner Stage 5)
   a. Pelvic Ultrasound – assess for blind-ending vaginal pouch
      - Diff Diagnosis: Müllerian Agenesis (46X,X) vs. Androgen Insensitivity Syndrome (46XY)

   b. *MRI – assess for pituitary microadenoma or adenoma if no obvious cause for elevated prolactin



The_Healthy_Adolescent

Resources

Abnormal Uterine Bleeding (AUB)

Work-up for AUB

1. Pregnancy TEST!!!
2. CBC (important to know Hgb/Hct)
3. TSH

Concern for:

1. Bleeding disorders
   - Platelets, coags, von Willebrand-ristocetin cofactor activity, von Willebrand factor antigen, factor VIII level.
2. Sexual Transmitted Infection
   - Chlamydia and Gonorrhea Urine Test (NAAT)
   - High Risk: HIV, Syphilis, Hep B/C
3. Irregular timing
   - Estradiol, FSH, LH, prolactin
4. Insulin resistance vs. metabolic
   - 2-hour glucose tolerance test
   - Fasting lipids
5. Androgen excess
   - Total testosterone, DHEA-S and 17-OHP

Box 2. Causes of Abnormal Uterine Bleeding in Adolescent Girls

- Pregnancy
- Immaturity of the hypothalamic–pituitary–ovarian axis
- Hyperandrogenic anovulation (eg, polycystic ovary syndrome, congenital adrenal hyperplasia, or androgen-producing tumors)*
- Coagulopathy (eg, von Willebrand disease, platelet function disorders, other bleeding disorders, or hepatic failure)†
- Hypothalamic dysfunction (eg, eating disorders [obesity, underweight, or significant fast weight loss] or stress-related hypothalamic dysfunction)
- Hyperprolactinemia
- Thyroid disease
- Primary pituitary disease
- Primary ovarian insufficiency‡
- Iatrogenic (eg, secondary to radiation or chemotherapy)
- Medications (eg, hormonal contraception or anticoagulation therapy)
- Sexually transmitted infections (eg, cervicitis)
- Malignancy (eg, estrogen-producing ovarian tumors, androgen-producing tumors, or rhabdomyosarcoma)
- Uterine lesions

PREV NEXT

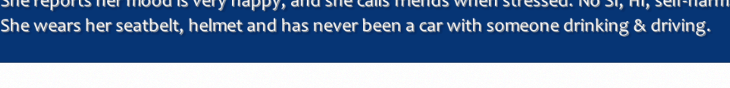
Martha's Appointment:

* Martha has been healthy, doing well in school. She has not had her period, but her moms started at age 15.

"Mom, at this time we ask all of our adolescent patient's parents to step out into the waiting area, and I will be sure to grab you afterwards"

HEADSSS Exam:

H: Martha lives at home with her parents & older brother, all of whom she gets along with.
E: She is in her Sophomore year, gets all A's/B's and loves her Chemistry class.
A: She plays soccer, and has a close group of friends at school.
D: She has 1 friend who has tried alcohol , but she reports never trying anything.
S: She is not yet sexually active, but is dating a boy at school who she really likes.
S: She reports her mood is very happy, and she calls friends when stressed. No SI, HI, self-harm.
S: She wears her seatbelt, helmet and has never been a car with someone drinking & driving.



Physical Exam: Normal exam, and she is tanner stage 3 for breast and 3 for pubic area.

→ Reassure Martha she is very healthy and she should expect to get her period in the next year or so.
→ Her next appointment will be next year, unless anything comes up before then, you are happy to see her!

Patient #2: 16-year-old Andy
Chief Complaint: No concerns
Sports physical

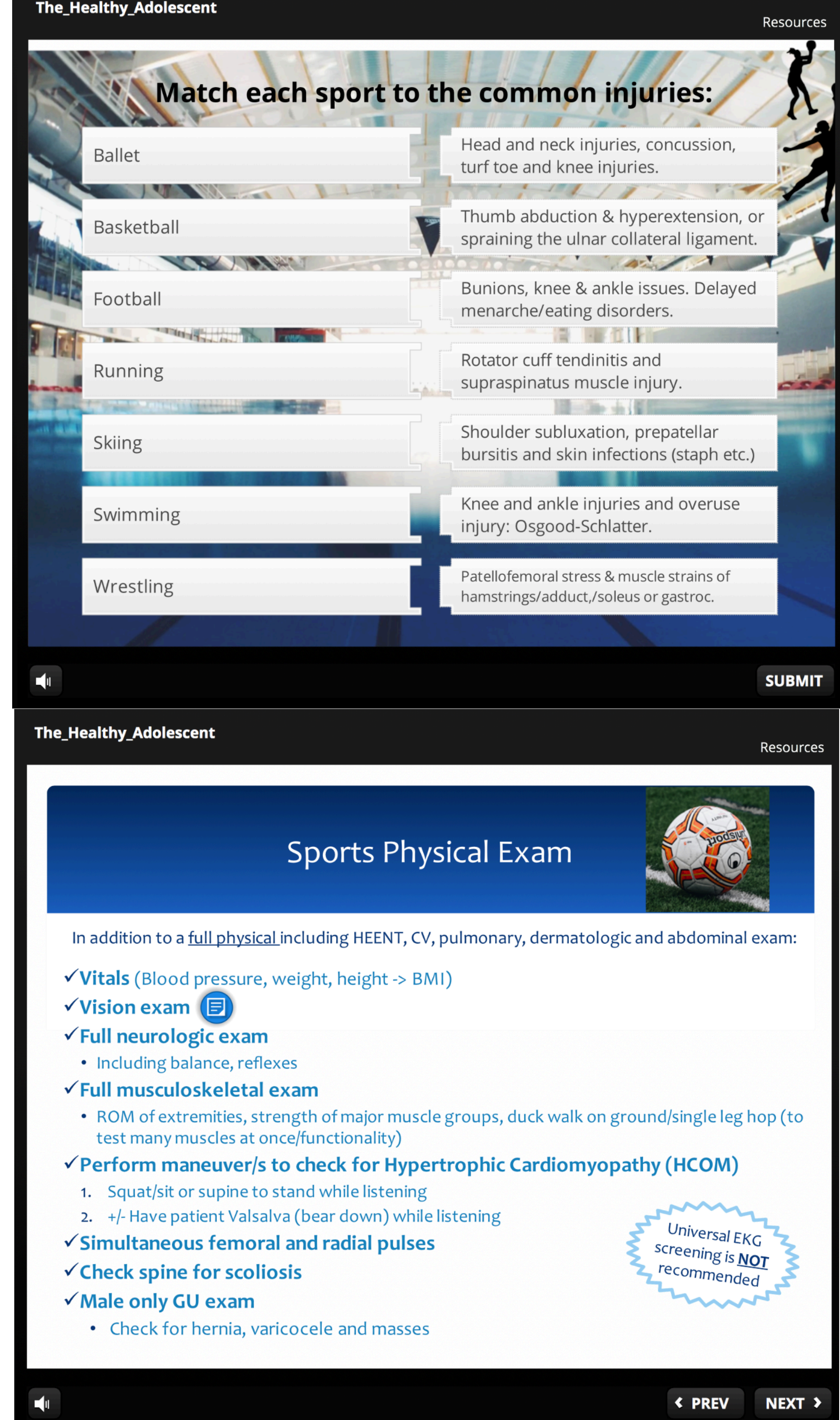
* Andy is Martha's older brother
* A healthy, 16-year-old male, starting Water Polo this Fall
* He's been to adolescent appointments with you before

Sports Physical History:

1. What sport and position?
2. Past head/neck injuries?
3. Any seizures?
4. Any muscle/bone/joint injuries in the past that did not heal?
5. Tell me about your diet?
6. Cardiovascular screening questions →

TABLE 1

Cardiovascular Screening History for Preparticipation Examinations: Critical Questions
Exertional chest pain or discomfort, or shortness of breath?
Exertional syncope or near-syncope, or unexpected fatigue?
Past detection of cardiac murmur or systemic hypertension?
Known family history of hypertrophic cardiomyopathy, other cardiomyopathies, long QT syndrome, Marfan syndrome, significant dysrhythmias?
Family history of premature death or known disabling cardiovascular disease in a first- or second-order relative younger than 50 years? (More concern if younger than 40 years.)


The_Healthy_Adolescent
Resources
Match each sport to the common injuries:
Ballet
Basketball
Football
Running
Skiing
Swimming
Wrestling
Head and neck injuries, concussion, turf toe and knee injuries.
Thumb abduction & hyperextension, or spraining the ulnar collateral ligament.
Bunions, knee & ankle issues. Delayed menarche/eating disorders.
Rotator cuff tendinitis and supraspinatus muscle injury.
Shoulder subluxation, prepatellar bursitis and skin infections (staph etc.)
Knee and ankle injuries and overuse injury: Osgood-Schlatter.
Patellofemoral stress & muscle strains of hamstrings/adduct,/soleus or gastroc.
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The_Healthy_Adolescent
Resources
Sports Physical Exam
In addition to a full physical including HEENT, CV, pulmonary, dermatologic and abdominal exam:
✓Vitals (Blood pressure, weight, height -> BMI)
✓Vision exam
✓Full neurologic exam
• Including balance, reflexes
✓Full musculoskeletal exam
• ROM of extremities, strength of major muscle groups, duck walk on ground/single leg hop (to test many muscles at once/functionality)
✓Perform maneuver/s to check for Hypertrophic Cardiomyopathy (HCOM)
1. Squat/sit or supine to stand while listening
2. +/- Have patient Valsalva (bear down) while listening
✓Simultaneous femoral and radial pulses
✓Check spine for scoliosis
✓Male only GU exam
• Check for hernia, varicocele and masses
Universal EKG screening is NOT recommended
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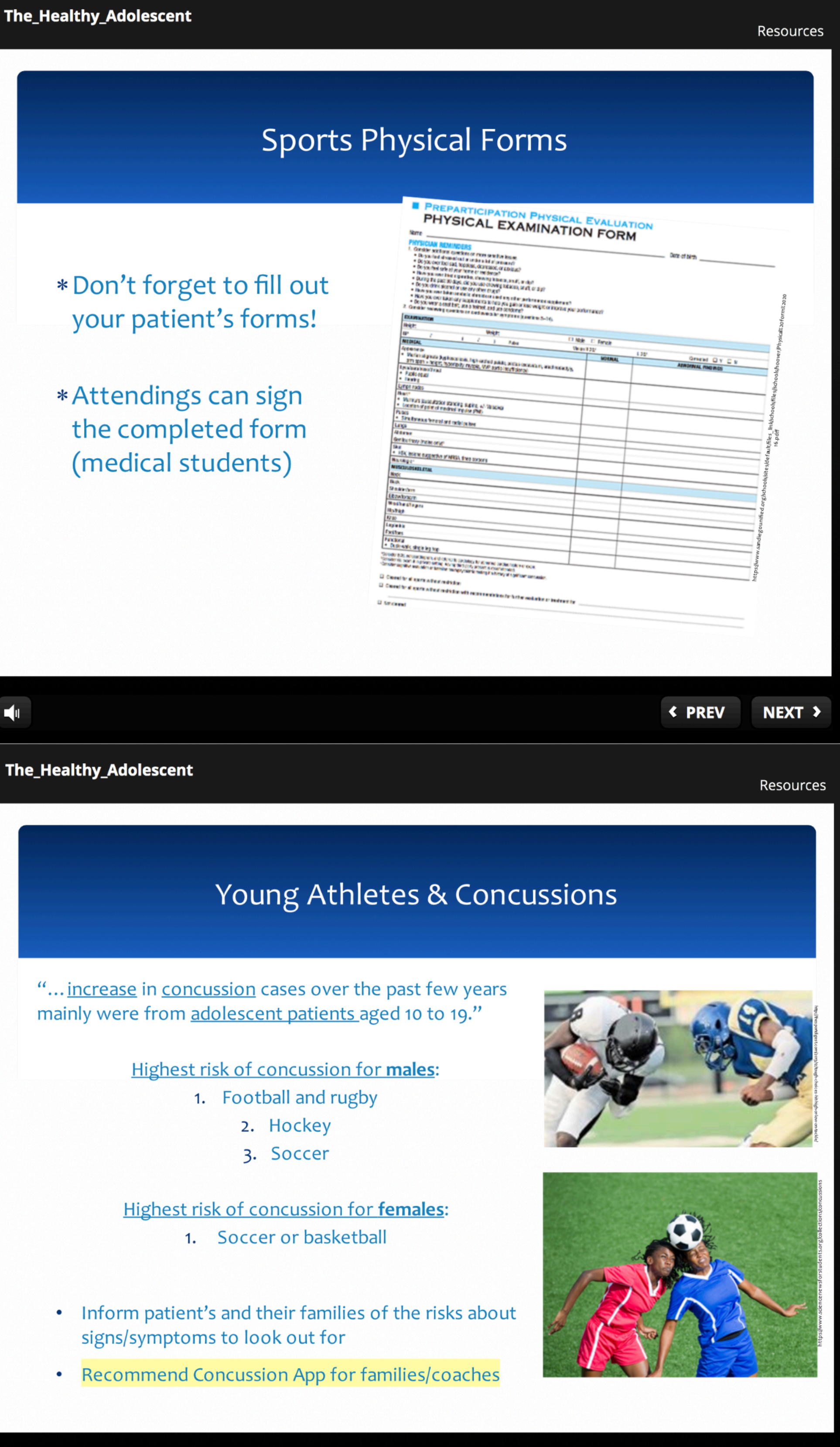
NEXT


The_Healthy_Adolescent
Resources
Sports Physical Forms
PREPARTICIPATION PHYSICAL EVALUATION
PHYSICAL EXAMINATION FORM
*Don't forget to fill out your patient's forms!
*Attendings can sign the completed form (medical students)
PREV
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The_Healthy_Adolescent
Resources
Young Athletes & Concussions
"…increase in concussion cases over the past few years mainly were from adolescent patients aged 10 to 19."
Highest risk of concussion for males:
1. Football and rugby
2. Hockey
3. Soccer
Highest risk of concussion for females:
1. Soccer or basketball
• Inform patient's and their families of the risks about signs/symptoms to look out for
• Recommend Concussion App for families/coaches
PREV
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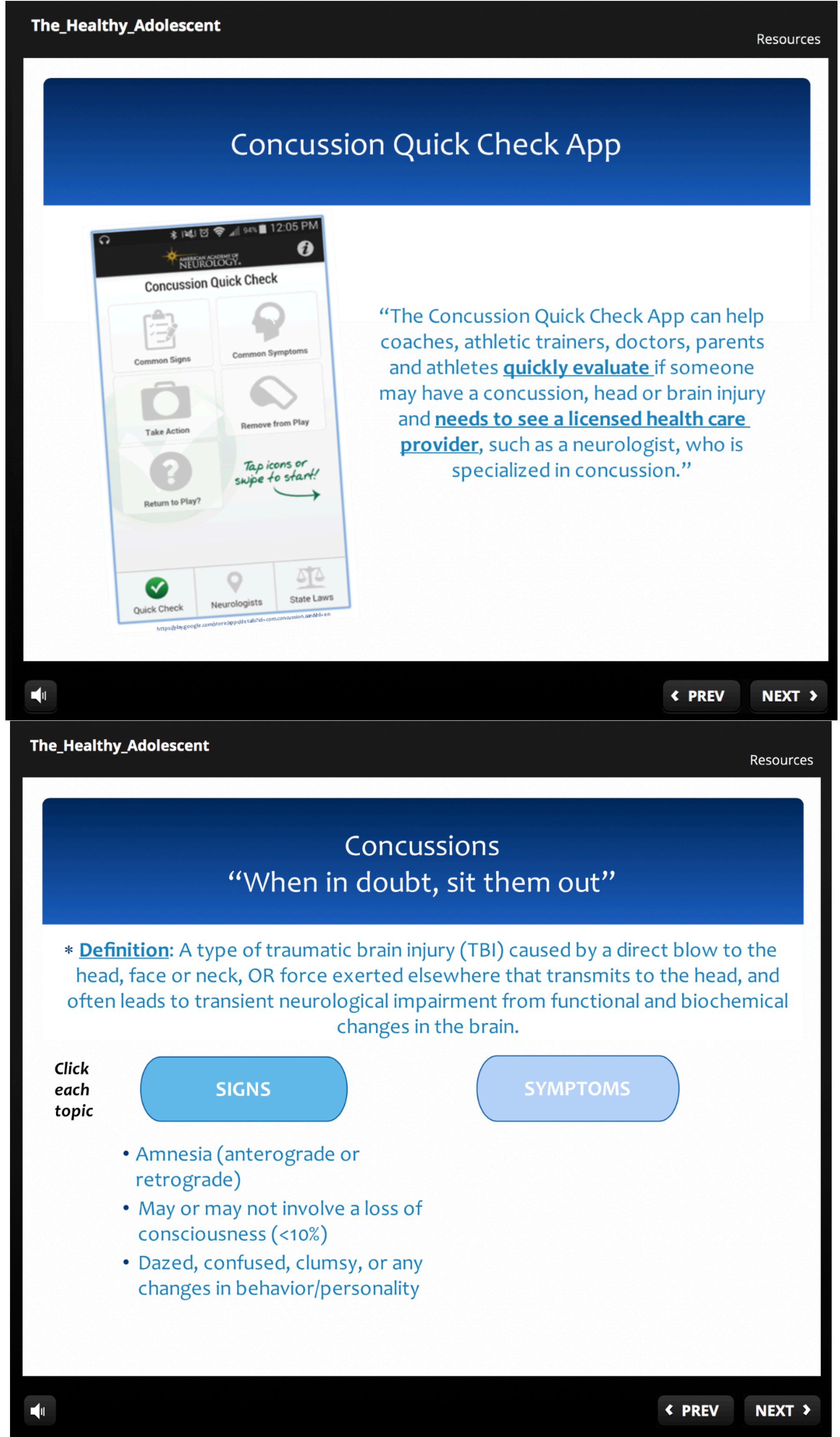
The_Healthy_Adolescent
Resources
Concussion Quick Check App
Concussion Quick Check
Common Signs
Common Symptoms
Take Action
Remove from Play
Return to Play?
Tap icons or swipe to start!
Quick Check
Neurologists
State Laws
"The Concussion Quick Check App can help coaches, athletic trainers, doctors, parents and athletes quickly evaluate if someone may have a concussion, head or brain injury and needs to see a licensed health care provider, such as a neurologist, who is specialized in concussion."
PREV
NEXT
The_Healthy_Adolescent
Resources
Concussions
"When in doubt, sit them out"
* Definition: A type of traumatic brain injury (TBI) caused by a direct blow to the head, face or neck, OR force exerted elsewhere that transmits to the head, and often leads to transient neurological impairment from functional and biochemical changes in the brain.
Click each topic
SIGNS
SYMPTOMS
• Amnesia (anterograde or retrograde)
• May or may not involve a loss of consciousness (<10%)
• Dazed, confused, clumsy, or any changes in behavior/personality
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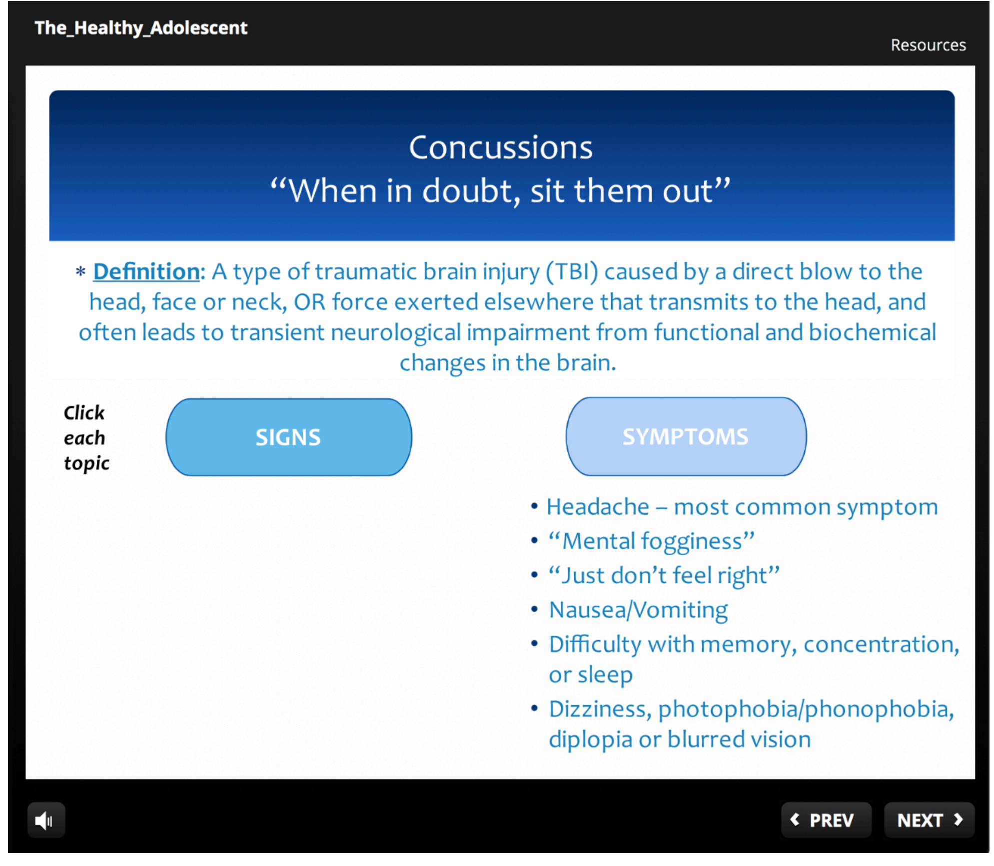
NEXT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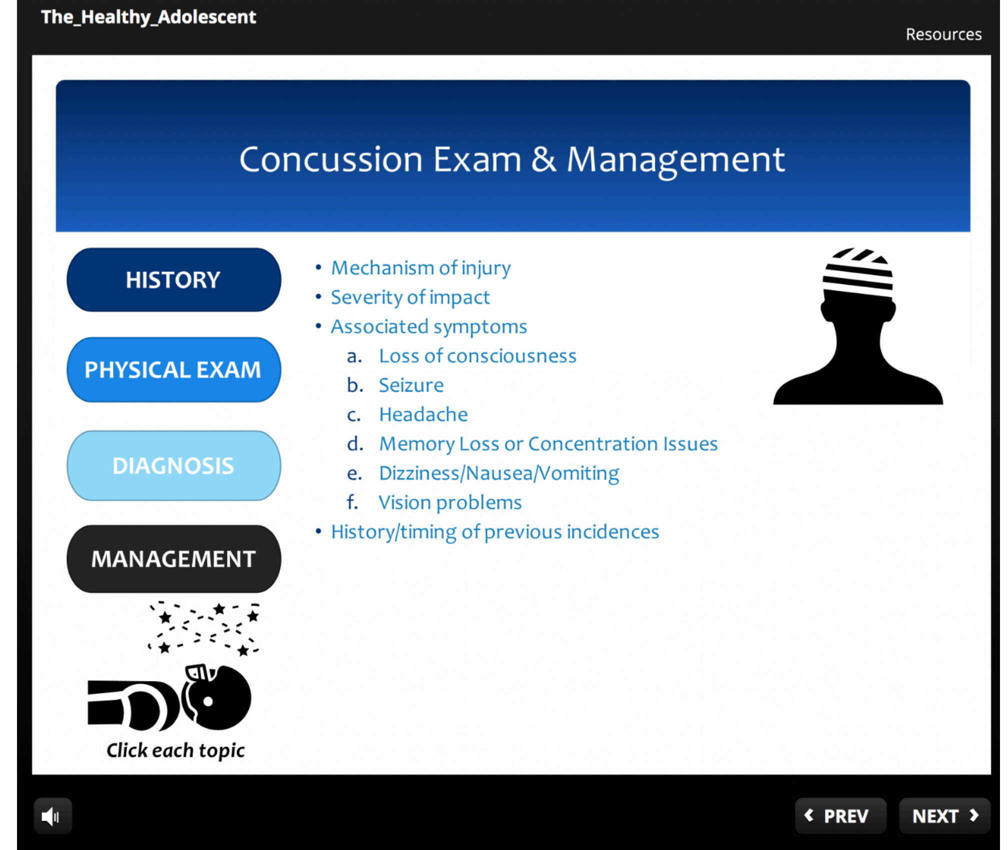
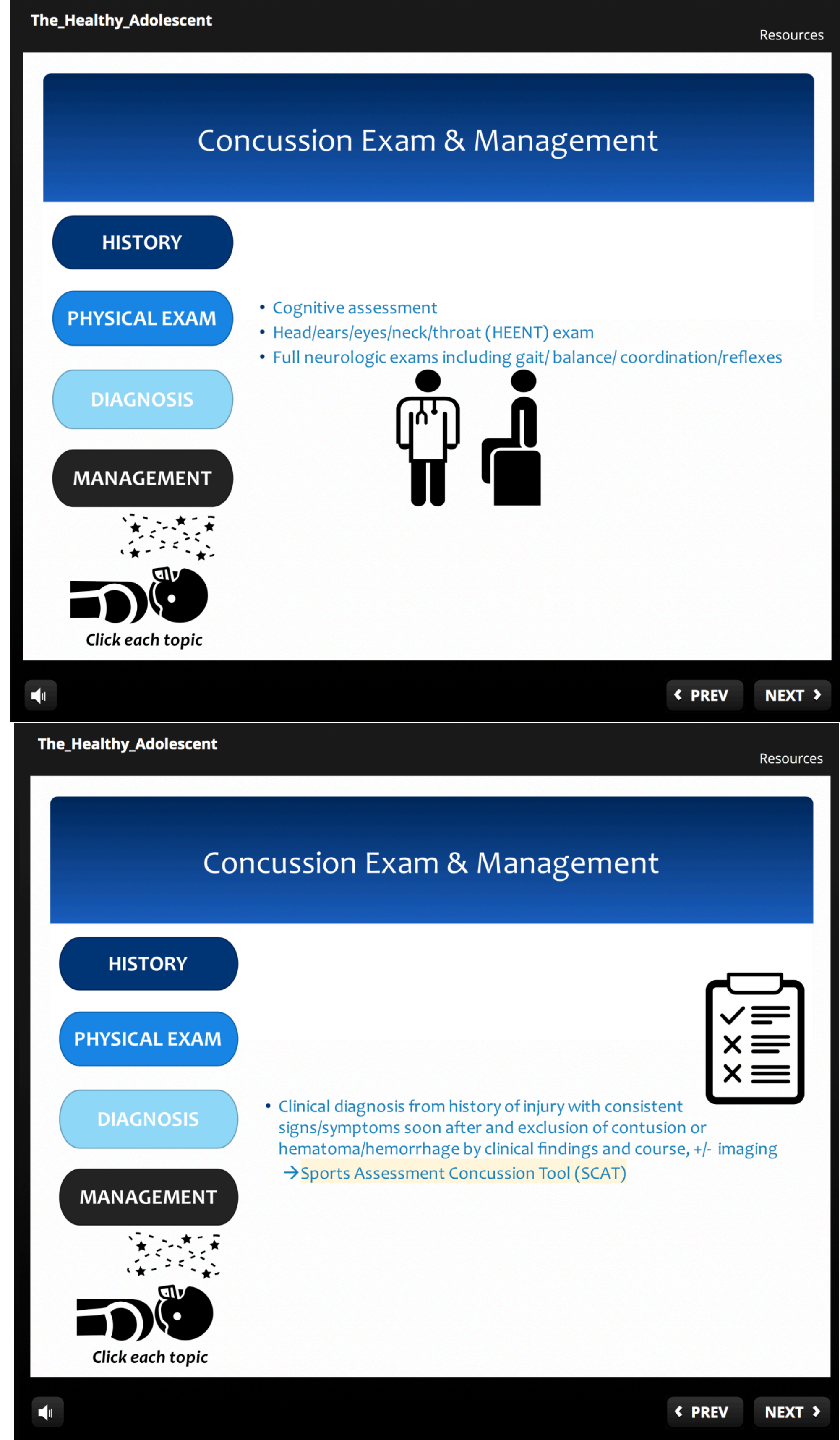
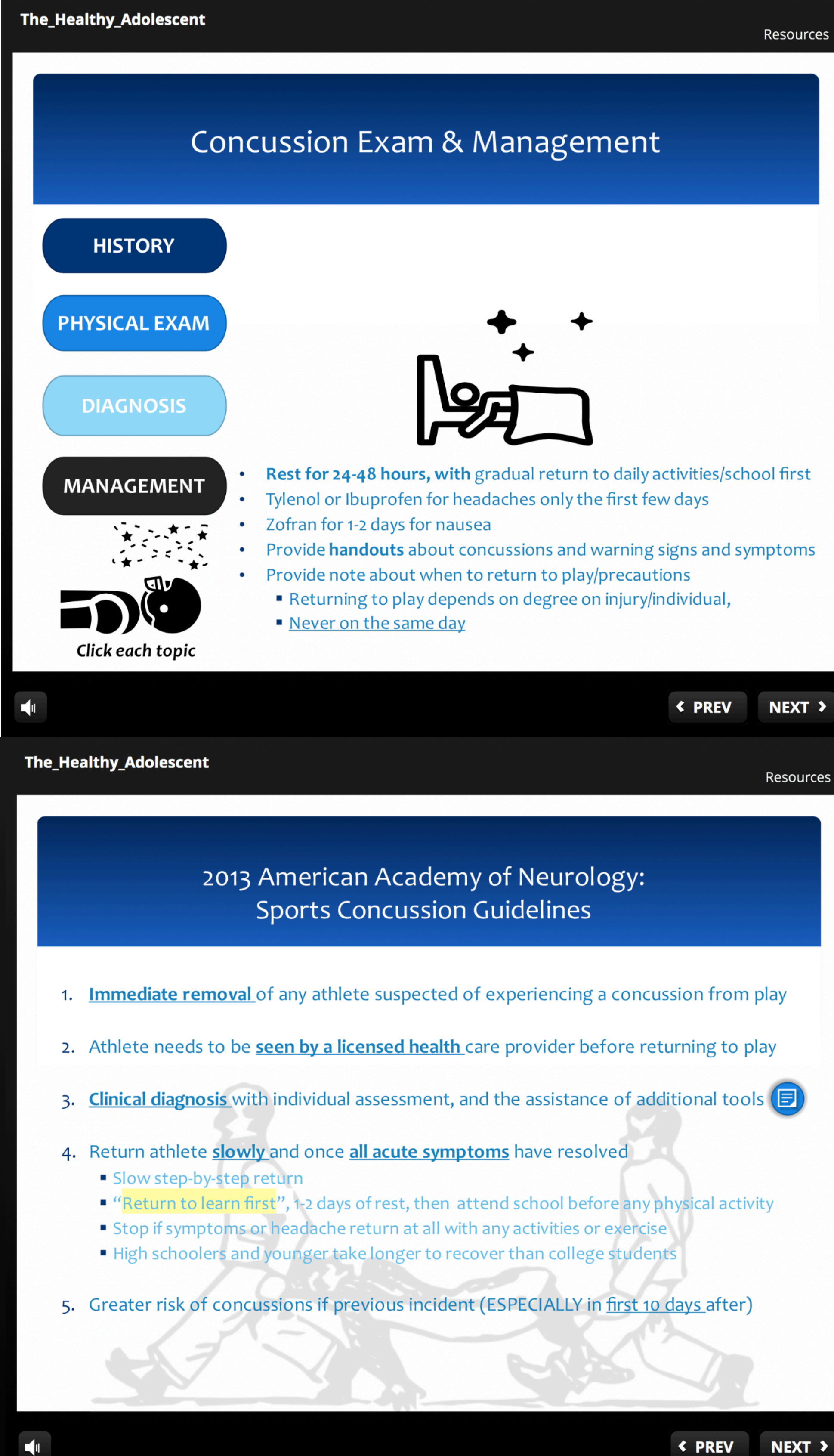
Click each topic
SIGNS
SYMPTOMS
• Headache – most common symptom
• “Mental fogginess”
• “Just don’t feel right”
• Nausea/Vomiting
• Difficulty with memory, concentration, or sleep
• Dizziness, photophobia/phonophobia, diplopia or blurred vision
PREV
NEXT


The_Healthy_Adolescent
Resources
Concussion Exam & Management
HISTORY
PHYSICAL EXAM
DIAGNOSIS
MANAGEMENT
• Mechanism of injury
• Severity of impact
• Associated symptoms
a. Loss of consciousness
b. Seizure
c. Headache
d. Memory Loss or Concentration Issues
e. Dizziness/Nausea/Vomiting
f. Vision problems
• History/timing of previous incidences
Click each topic
PREV
NEXT


The_Healthy_Adolescent
Resources
Concussion Exam & Management
HISTORY
PHYSICAL EXAM
DIAGNOSIS
MANAGEMENT
Cognitive assessment
Head/ears/eyes/neck/throat (HEENT) exam
Full neurologic exams including gait/ balance/ coordination/reflexes
Click each topic
PREV
NEXT
The_Healthy_Adolescent
Resources
Concussion Exam & Management
HISTORY
PHYSICAL EXAM
DIAGNOSIS
MANAGEMENT
Clinical diagnosis from history of injury with consistent signs/symptoms soon after and exclusion of contusion or hematoma/hemorrhage by clinical findings and course, +/- imaging
→Sports Assessment Concussion Tool (SCAT)
Click each topic
PREV
NEXT


The_Healthy_Adolescent
Resources
Concussion Exam & Management
HISTORY
PHYSICAL EXAM
DIAGNOSIS
MANAGEMENT
Click each topic
Rest for 24-48 hours, with gradual return to daily activities/school first
Tylenol or Ibuprofen for headaches only the first few days
Zofran for 1-2 days for nausea
Provide handouts about concussions and warning signs and symptoms
Provide note about when to return to play/precautions
Returning to play depends on degree on injury/individual,
Never on the same day
PREV
NEXT
The_Healthy_Adolescent
Resources
2013 American Academy of Neurology:
Sports Concussion Guidelines
1. Immediate removal of any athlete suspected of experiencing a concussion from play
2. Athlete needs to be seen by a licensed health care provider before returning to play
3. Clinical diagnosis with individual assessment, and the assistance of additional tools
4. Return athlete slowly and once all acute symptoms have resolved
Slow step-by-step return
"Return to learn first", 1-2 days of rest, then attend school before any physical activity
Stop if symptoms or headache return at all with any activities or exercise
High schoolers and younger take longer to recover than college students
5. Greater risk of concussions if previous incident (ESPECIALLY in first 10 days after)
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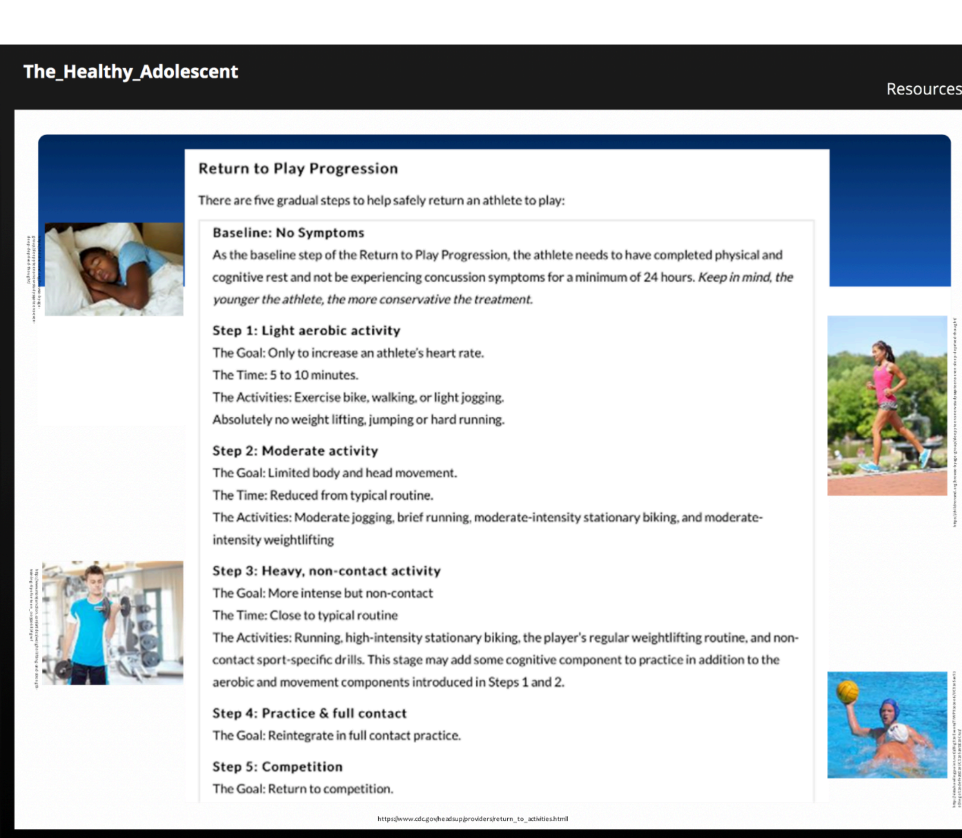
The_Healthy_Adolescent
Resources
Return to Play Progression
There are five gradual steps to help safely return an athlete to play:
Baseline: No Symptoms
As the baseline step of the Return to Play Progression, the athlete needs to have completed physical and cognitive rest and not be experiencing concussion symptoms for a minimum of 24 hours. Keep in mind, the younger the athlete, the more conservative the treatment.
Step 1: Light aerobic activity
The Goal: Only to increase an athlete's heart rate.
The Time: 5 to 10 minutes.
The Activities: Exercise bike, walking, or light jogging.
Absolutely no weight lifting, jumping or hard running.
Step 2: Moderate activity
The Goal: Limited body and head movement.
The Time: Reduced from typical routine.
The Activities: Moderate jogging, brief running, moderate-intensity stationary biking, and moderate-intensity weightlifting
Step 3: Heavy, non-contact activity
The Goal: More intense but non-contact
The Time: Close to typical routine
The Activities: Running, high-intensity stationary biking, the player's regular weightlifting routine, and non-contact sport-specific drills. This stage may add some cognitive component to practice in addition to the aerobic and movement components introduced in Steps 1 and 2.
Step 4: Practice & full contact
The Goal: Reintegrate in full contact practice.
Step 5: Competition
The Goal: Return to competition.
PREV
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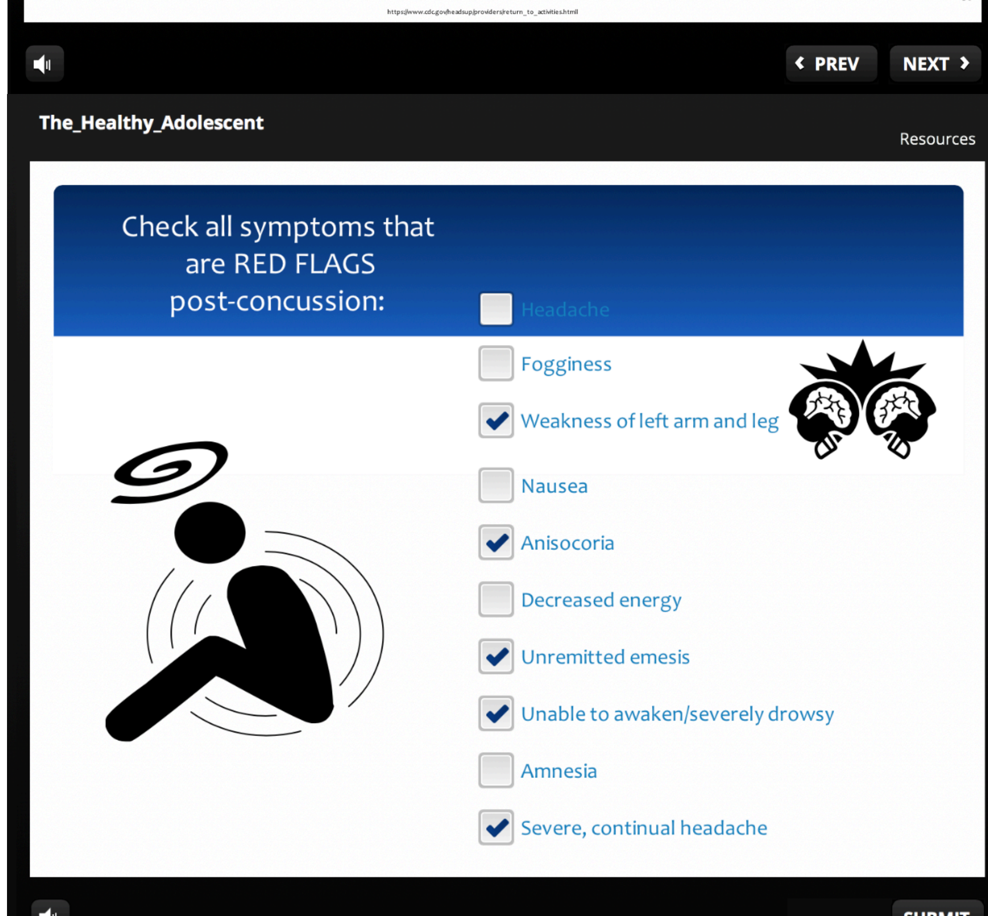
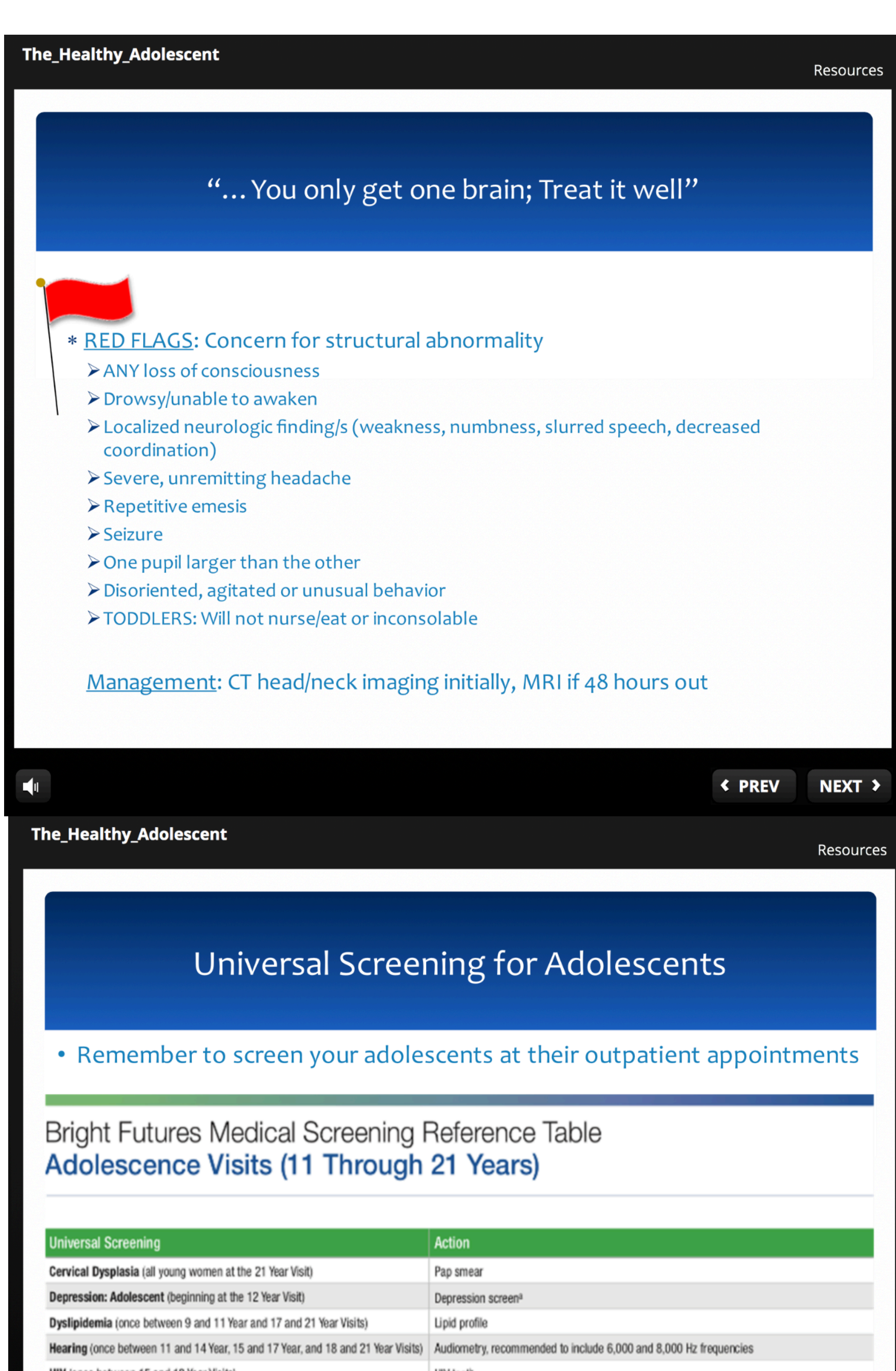

The_Healthy_Adolescent
Resources
Check all symptoms that are RED FLAGS post-concussion:
Headache
Fogginess
Weakness of left arm and leg
Nausea
Anisocoria
Decreased energy
Unremitted emesis
Unable to awaken/severely drowsy
Amnesia
Severe, continual headache
SUBMIT

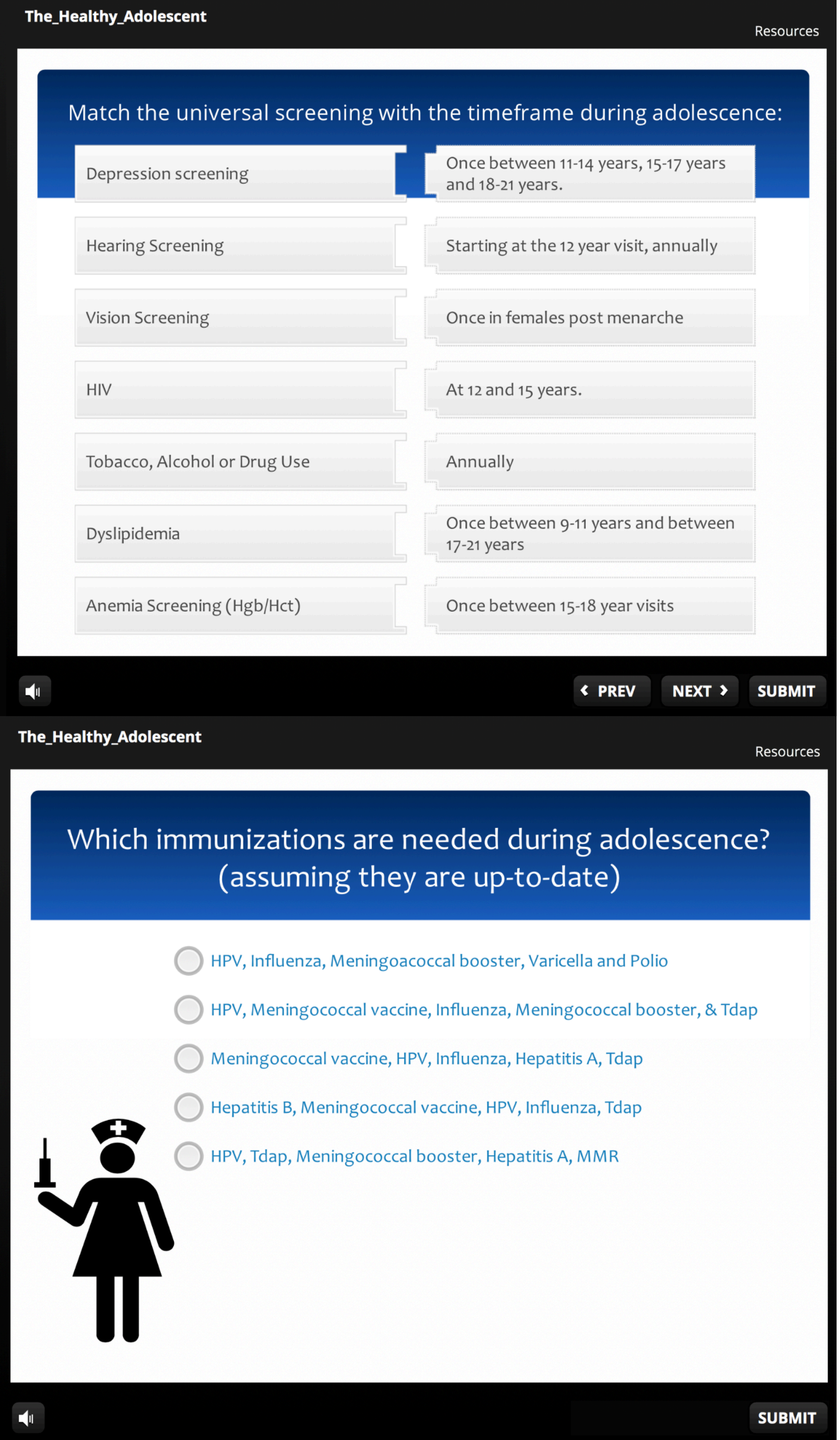


Universal Screening for Adolescents

- Remember to screen your adolescents at their outpatient appointments

Bright Futures Medical Screening Reference Table
Adolescence Visits (11 Through 21 Years)

Universal Screening	Action
Cervical Dysplasia (all young women at the 21 Year Visit)	Pap smear
Depression: Adolescent (beginning at the 12 Year Visit)	Depression screen[a]
Dyslipidemia (once between 9 and 11 Year and 17 and 21 Year Visits)	Lipid profile
Hearing (once between 11 and 14 Year, 15 and 17 Year, and 18 and 21 Year Visits)	Audiometry, recommended to include 6,000 and 8,000 Hz frequencies
HIV (once between 15 and 18 Year Visits)	HIV test[b]
Tobacco, Alcohol, or Drug Use	Tobacco, alcohol, or drug use assessment
Vision (12 and 15 Year Visits)	Objective measure with age-appropriate visual acuity measurement using HOTV or LEA symbols,



The_Healthy_Adolescent
Resources
Match the universal screening with the timeframe during adolescence:
Depression screening
Hearing Screening
Vision Screening
HIV
Tobacco, Alcohol or Drug Use
Dyslipidemia
Anemia Screening (Hgb/Hct)
Once between 11-14 years, 15-17 years and 18-21 years.
Starting at the 12 year visit, annually
Once in females post menarche
At 12 and 15 years.
Annually
Once between 9-11 years and between 17-21 years
Once between 15-18 year visits
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The_Healthy_Adolescent
Resources
Which immunizations are needed during adolescence? (assuming they are up-to-date)
HPV, Influenza, Meningoacoccal booster, Varicella and Polio
HPV, Meningococcal vaccine, Influenza, Meningococcal booster, & Tdap
Meningococcal vaccine, HPV, Influenza, Hepatitis A, Tdap
Hepatitis B, Meningococcal vaccine, HPV, Influenza, Tdap
HPV, Tdap, Meningococcal booster, Hepatitis A, MMR
SUBMIT

Adolescent Immunizations

11-12 years:

- **1 dose Tdap** (Tetanus & diptheria toxoids and acellular pertussis)
  - + Td booster every 10 years
- **2 doses of HPV** (if started at 15 years+ need 3 doses)
- Dose #1 Meningococcal Vaccine (MCV)

16 years:

- Meningococcal booster (ACWY)
- Type B Meningococcal vaccine (up to 23 years)
  - If patient will be in the military or dorms
  - Bexsero: 2 shots, 1 mo apart
  - Trumenba: 2 shots, 6 mo apart or 3 shots at 0, 2 and 6 mo

Yearly:

- Influenza vaccine

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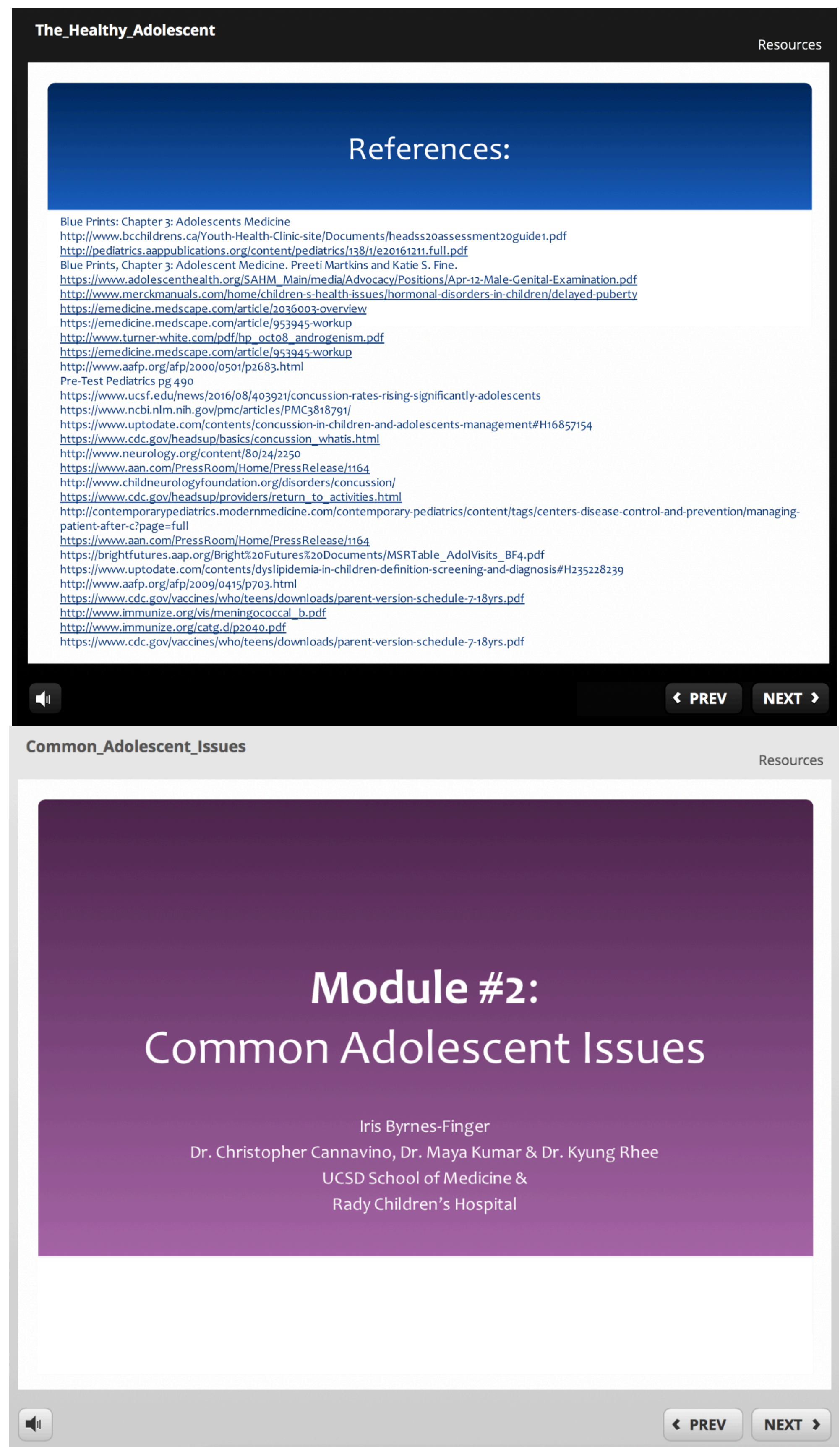
Resources


The_Healthy_Adolescent
Resources
References:
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http://pediatrics.aappublications.org/content/pediatrics/138/1/e20161211.full.pdf
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https://www.adolescenthealth.org/SAHM_Main/media/Advocacy/Positions/Apr-12-Male-Genital-Examination.pdf
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Pre-Test Pediatrics pg 490
https://www.ucsf.edu/news/2016/08/403921/concussion-rates-rising-significantly-adolescents
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https://www.uptodate.com/contents/concussion-in-children-and-adolescents-management#H16857154
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https://www.cdc.gov/headsup/providers/return_to_activities.html
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http://www.aafp.org/afp/2009/0415/p703.html
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http://www.immunize.org/vis/meningococcal_b.pdf
http://www.immunize.org/catg.d/p2040.pdf
https://www.cdc.gov/vaccines/who/teens/downloads/parent-version-schedule-7-18yrs.pdf
PREV
NEXT
Common_Adolescent_Issues
Resources
Module #2:
Common Adolescent Issues
Iris Byrnes-Finger
Dr. Christopher Cannavino, Dr. Maya Kumar & Dr. Kyung Rhee
UCSD School of Medicine &
Rady Children's Hospital
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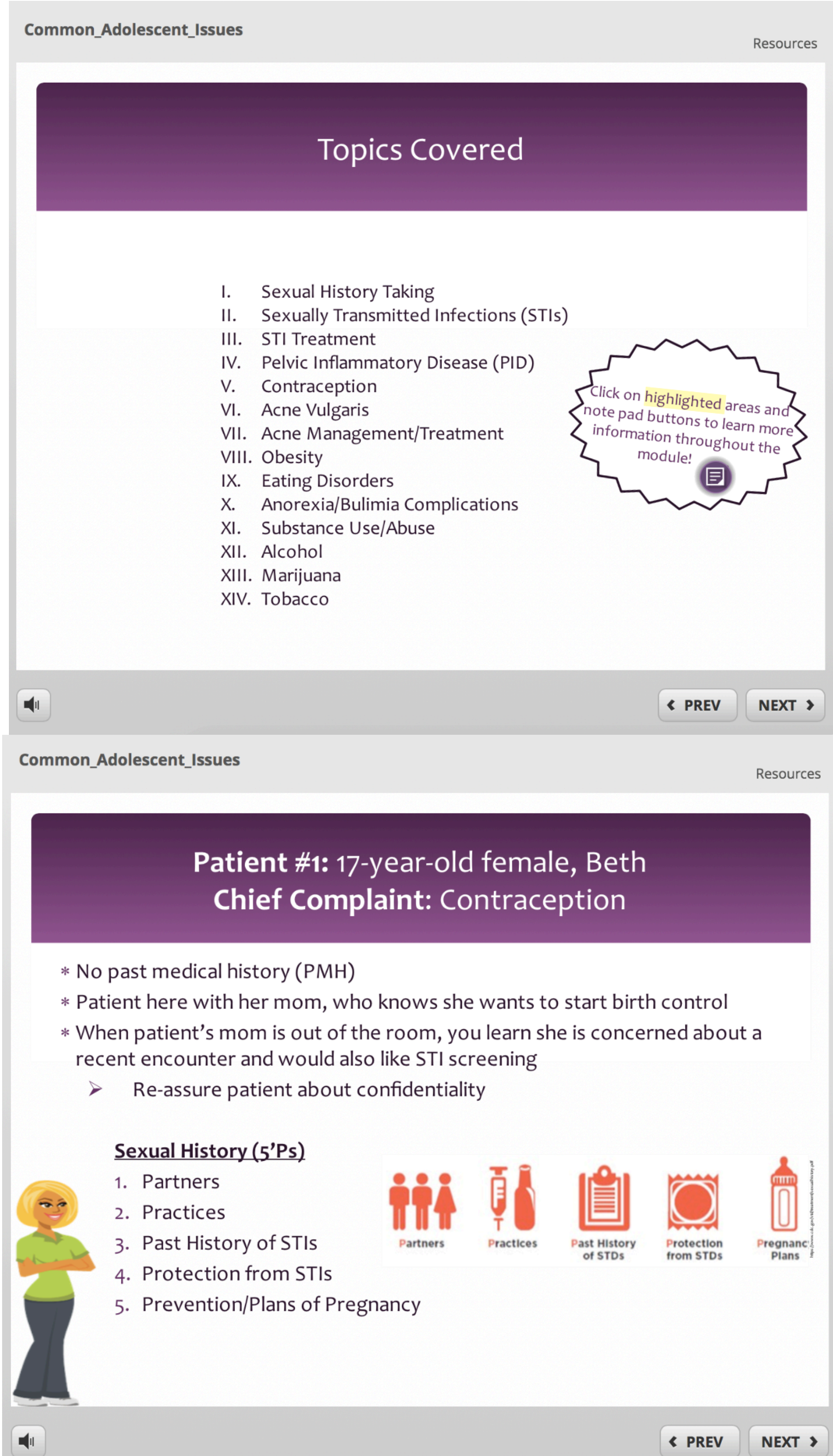
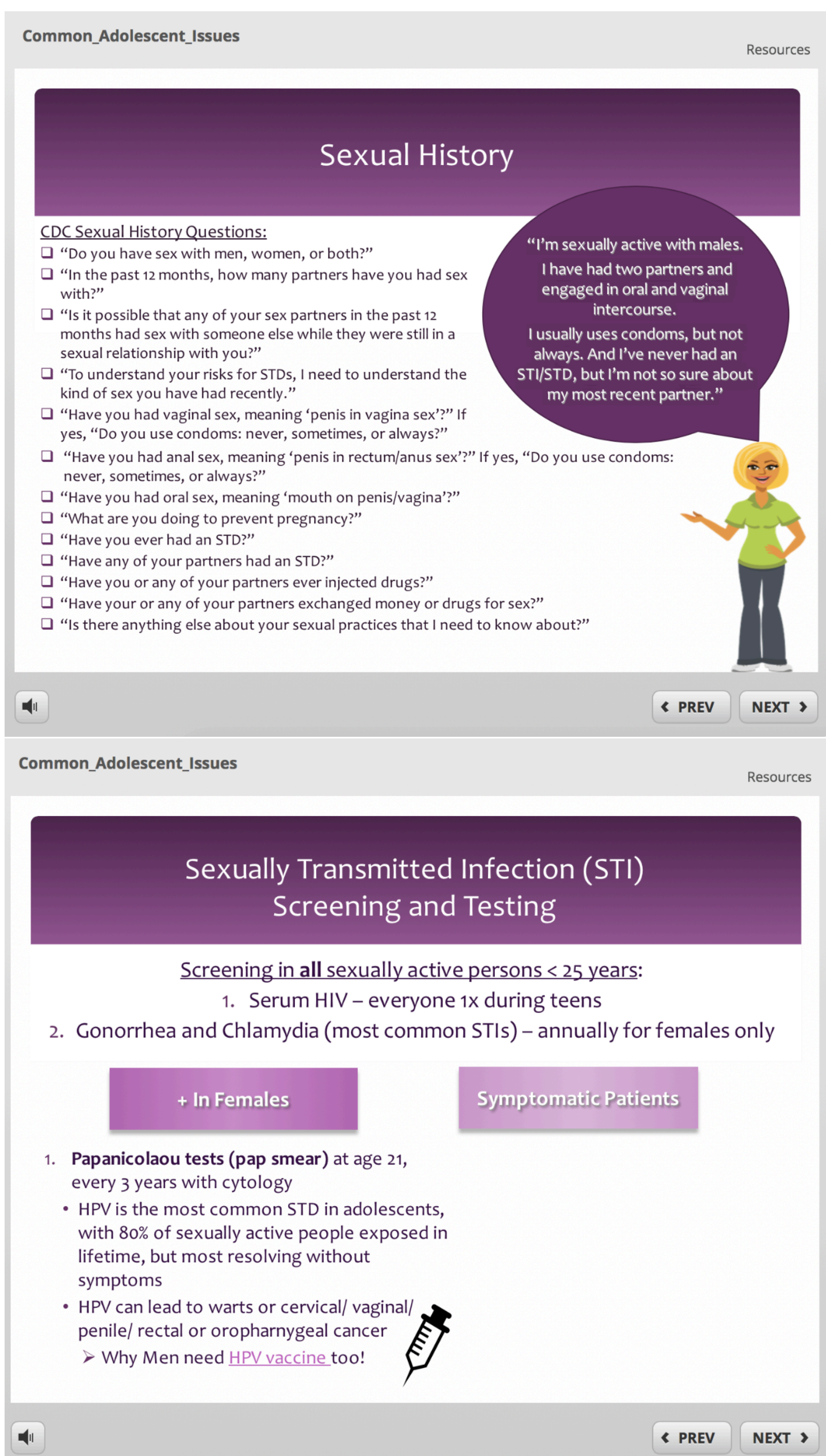


Common_Adolescent_Issues
Resources
Topics Covered
I. Sexual History Taking
II. Sexually Transmitted Infections (STIs)
III. STI Treatment
IV. Pelvic Inflammatory Disease (PID)
V. Contraception
VI. Acne Vulgaris
VII. Acne Management/Treatment
VIII. Obesity
IX. Eating Disorders
X. Anorexia/Bulimia Complications
XI. Substance Use/Abuse
XII. Alcohol
XIII. Marijuana
XIV. Tobacco
Click on highlighted areas and note pad buttons to learn more information throughout the module!
PREV
NEXT
Common_Adolescent_Issues
Resources
Patient #1: 17-year-old female, Beth
Chief Complaint: Contraception
* No past medical history (PMH)
* Patient here with her mom, who knows she wants to start birth control
* When patient's mom is out of the room, you learn she is concerned about a recent encounter and would also like STI screening
➢ Re-assure patient about confidentiality
Sexual History (5'Ps)
1. Partners
2. Practices
3. Past History of STIs
4. Protection from STIs
5. Prevention/Plans of Pregnancy
Partners
Practices
Past History of STDs
Protection from STDs
Pregnanc
Plans
PREV
NEXT


Common_Adolescent_Issues
Resources
Sexual History
CDC Sexual History Questions:
❑ "Do you have sex with men, women, or both?"
❑ "In the past 12 months, how many partners have you had sex with?"
❑ "Is it possible that any of your sex partners in the past 12 months had sex with someone else while they were still in a sexual relationship with you?"
❑ "To understand your risks for STDs, I need to understand the kind of sex you have had recently."
❑ "Have you had vaginal sex, meaning 'penis in vagina sex'?" If yes, "Do you use condoms: never, sometimes, or always?"
❑ "Have you had anal sex, meaning 'penis in rectum/anus sex'?" If yes, "Do you use condoms: never, sometimes, or always?"
❑ "Have you had oral sex, meaning 'mouth on penis/vagina'?"
❑ "What are you doing to prevent pregnancy?"
❑ "Have you ever had an STD?"
❑ "Have any of your partners had an STD?"
❑ "Have you or any of your partners ever injected drugs?"
❑ "Have your or any of your partners exchanged money or drugs for sex?"
❑ "Is there anything else about your sexual practices that I need to know about?"
"I'm sexually active with males.
I have had two partners and engaged in oral and vaginal intercourse.
I usually uses condoms, but not always. And I've never had an STI/STD, but I'm not so sure about my most recent partner."
PREV
NEXT
Common_Adolescent_Issues
Resources
Sexually Transmitted Infection (STI) Screening and Testing
Screening in all sexually active persons < 25 years:
1. Serum HIV – everyone 1x during teens
2. Gonorrhea and Chlamydia (most common STIs) – annually for females only
+ In Females
Symptomatic Patients
1. Papanicolaou tests (pap smear) at age 21, every 3 years with cytology
• HPV is the most common STD in adolescents, with 80% of sexually active people exposed in lifetime, but most resolving without symptoms
• HPV can lead to warts or cervical/ vaginal/ penile/ rectal or oropharnygeal cancer
➢ Why Men need HPV vaccine too!
PREV
NEXT

Sexually Transmitted Infection (STI) Screening and Testing

Screening in **all** sexually active persons < 25 years:

1. Serum HIV – everyone 1x during teens
2. Gonorrhea and Chlamydia (most common STIs) – annually for females only

+ In Females

Symptomatic Patients

1. Visual exam of external genitalia
   - Herpes testing limited to symptomatic patients/high risk
2. Trichomonas vaginalis – males and females
3. Gonorrhea and Chlamydia – males and females
4. Wet mount for yeast, Bacterial Vaginosis (BV) - females only
5. Syphilis – males and females + annually for sexually active MSM

STI Treatment

"Okay Beth, we will go ahead and do testing today. But it will be very important to follow-up and receive treatment if anything comes back positive!"

Click each Box for Tx

Gonorrhea Treatment

Chlamydia Treatment

Syphillis Treatment

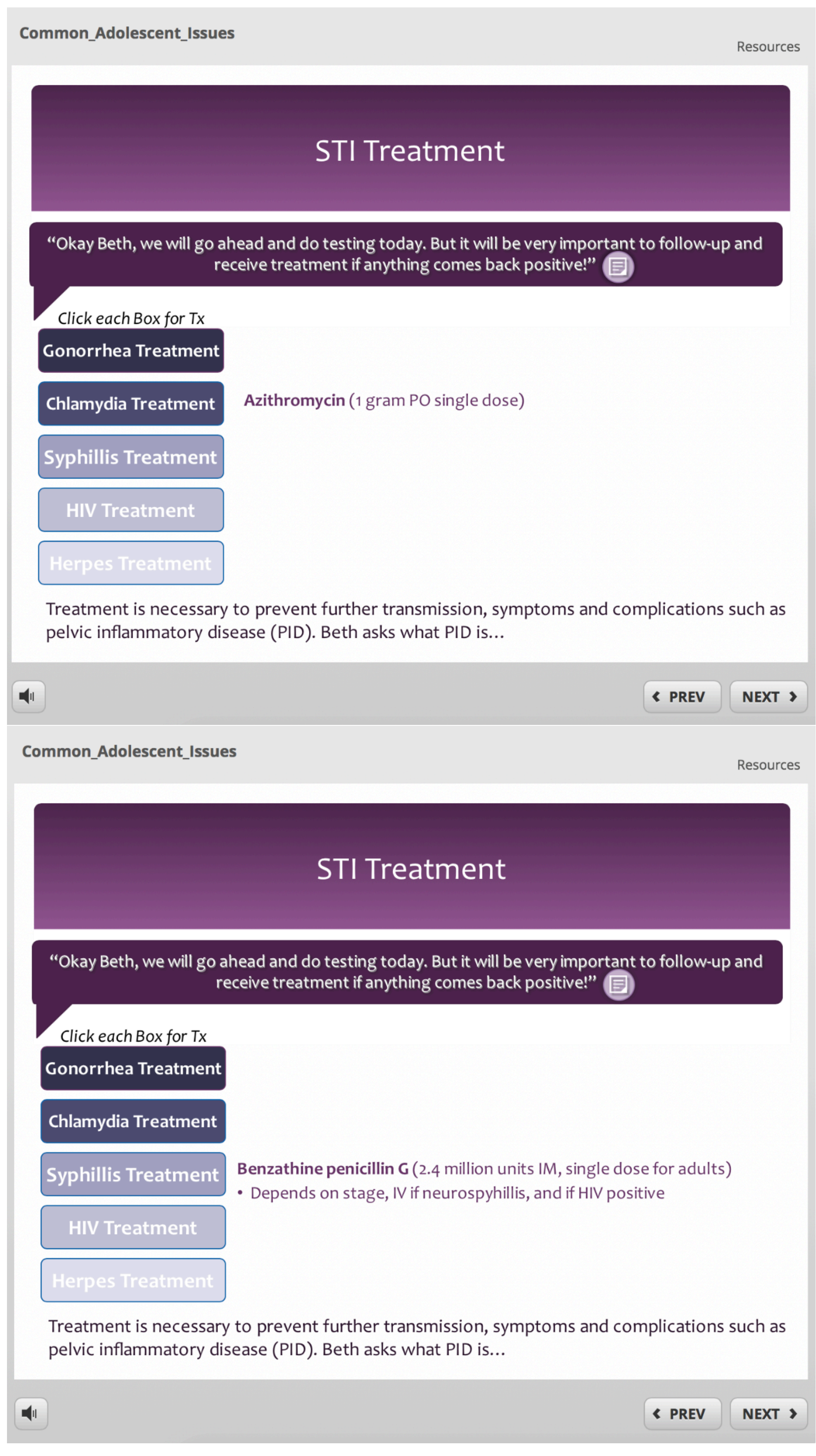
HIV Treatment

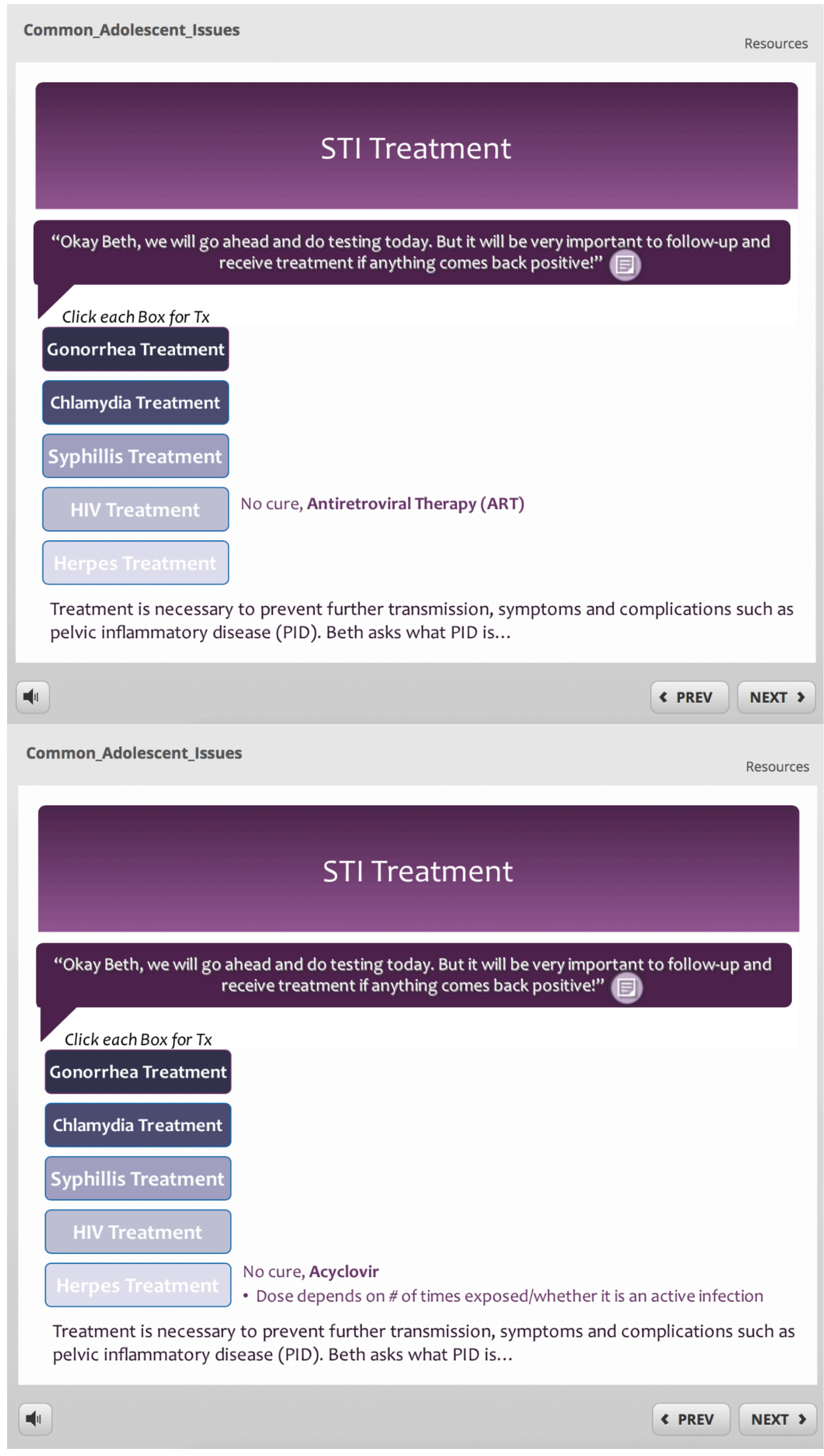
Herpes Treatment

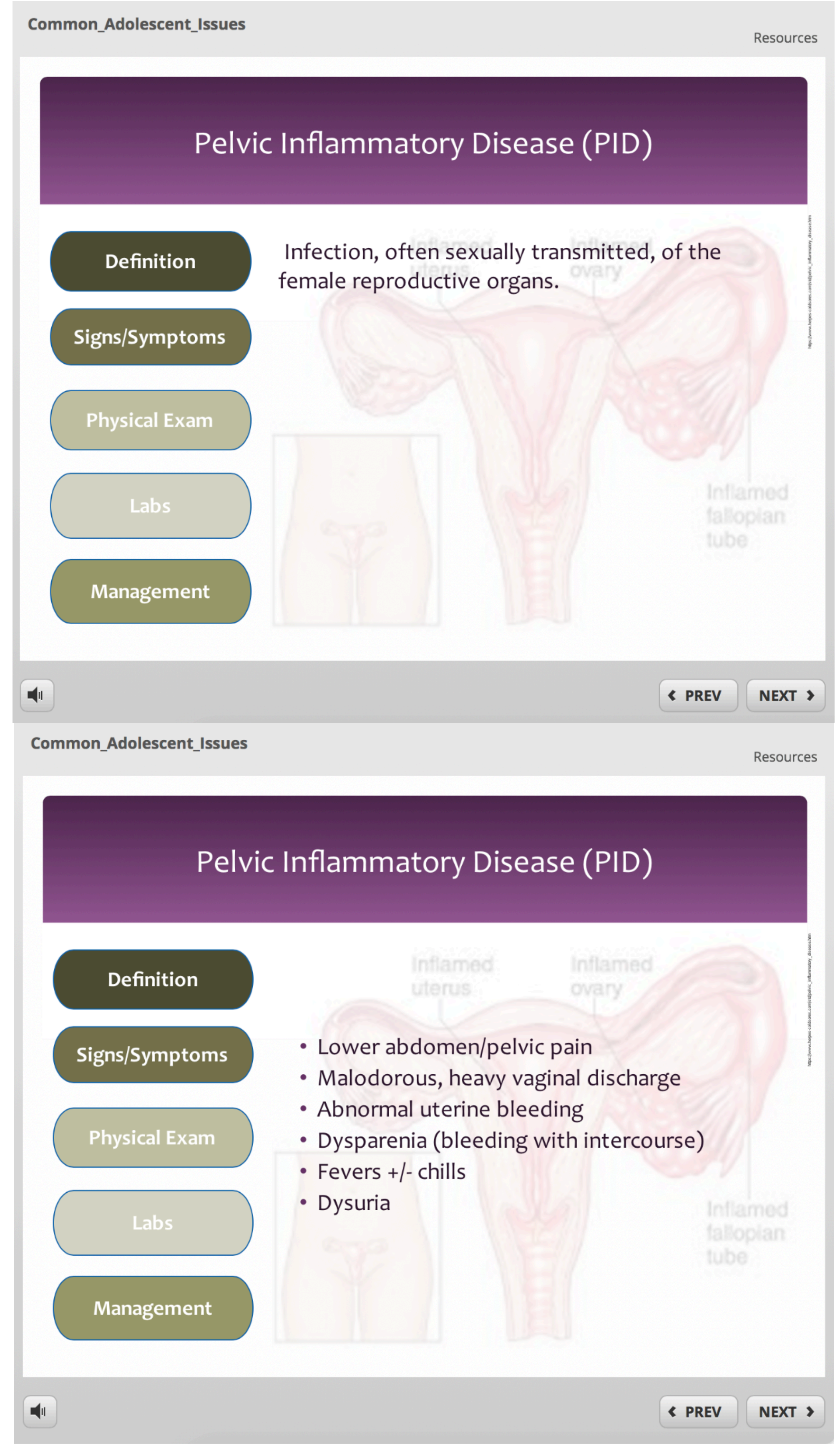
Ceftriaxone (250 mg IM single dose) + **Azithromycin** (1 g PO single dose)

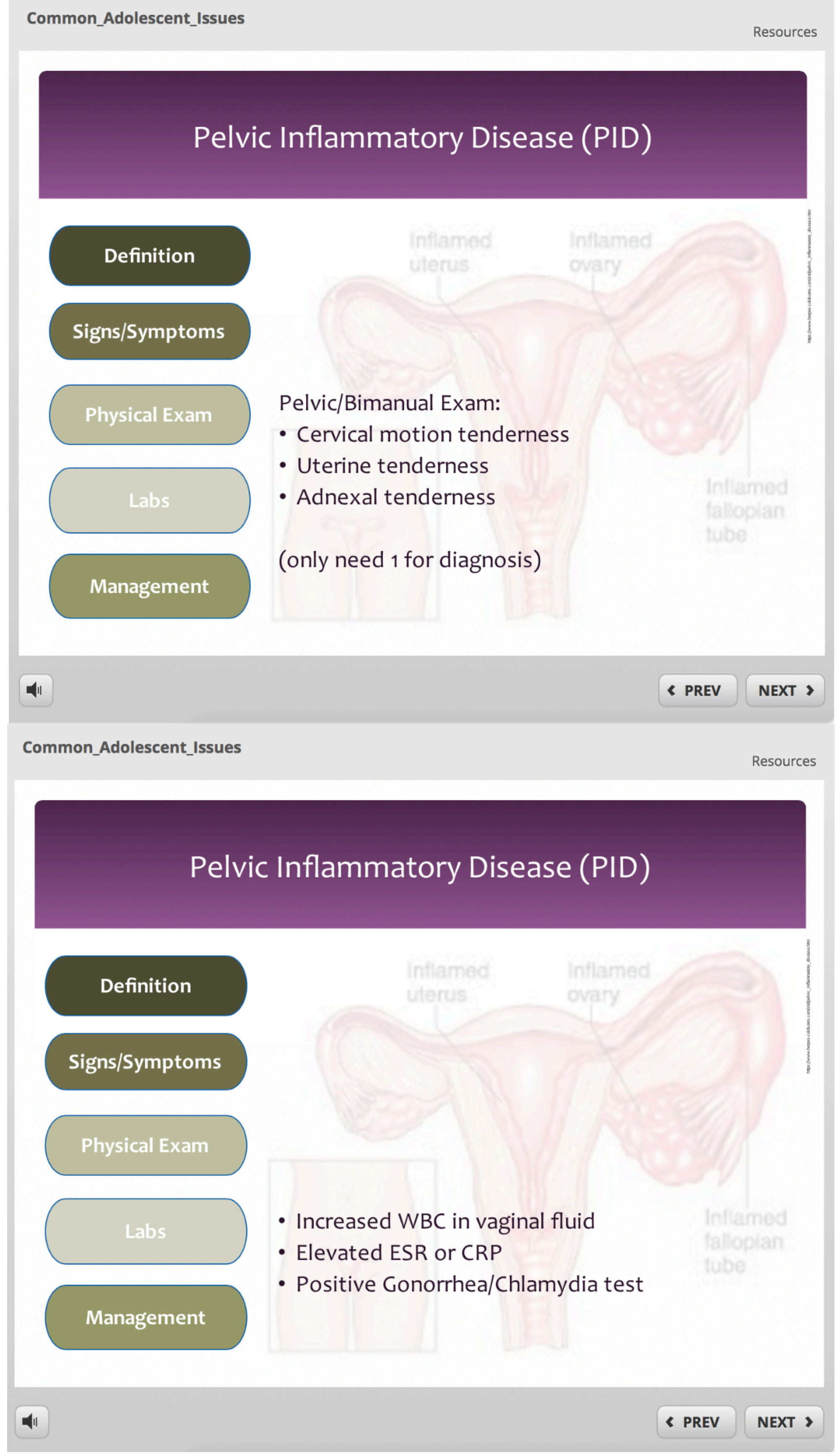
- Give both to patients with Gonorrhea, as antimicrobial resistance has developed, and using both allows better coverage + patients often co-infected with Chlamydia.

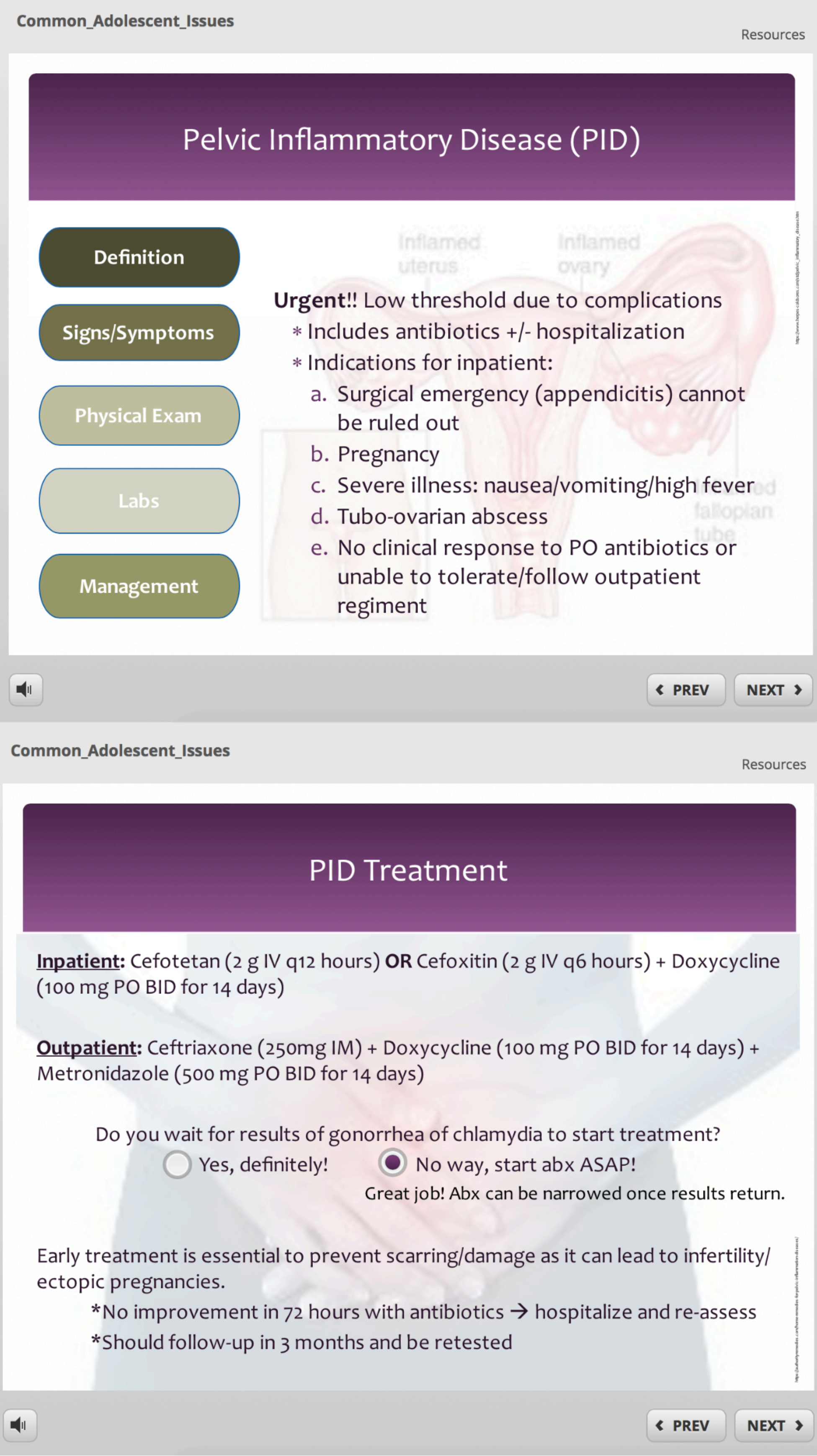
Treatment is necessary to prevent further transmission, symptoms and complications such as pelvic inflammatory disease (PID). Beth asks what PID is…


Common_Adolescent_Issues
Resources
STI Treatment
"Okay Beth, we will go ahead and do testing today. But it will be very important to follow-up and receive treatment if anything comes back positive!"
Click each Box for Tx
Gonorrhea Treatment
Chlamydia Treatment
Azithromycin (1 gram PO single dose)
Syphillis Treatment
HIV Treatment
Herpes Treatment
Treatment is necessary to prevent further transmission, symptoms and complications such as pelvic inflammatory disease (PID). Beth asks what PID is…
PREV
NEXT
Common_Adolescent_Issues
Resources
STI Treatment
"Okay Beth, we will go ahead and do testing today. But it will be very important to follow-up and receive treatment if anything comes back positive!"
Click each Box for Tx
Gonorrhea Treatment
Chlamydia Treatment
Syphillis Treatment
Benzathine penicillin G (2.4 million units IM, single dose for adults)
• Depends on stage, IV if neurospyphillis, and if HIV positive
HIV Treatment
Herpes Treatment
Treatment is necessary to prevent further transmission, symptoms and complications such as pelvic inflammatory disease (PID). Beth asks what PID is…
PREV
NEXT


Common_Adolescent_Issues
Resources
STI Treatment
“Okay Beth, we will go ahead and do testing today. But it will be very important to follow-up and receive treatment if anything comes back positive!”
Click each Box for Tx
Gonorrhea Treatment
Chlamydia Treatment
Syphillis Treatment
HIV Treatment
No cure, Antiretroviral Therapy (ART)
Herpes Treatment
Treatment is necessary to prevent further transmission, symptoms and complications such as pelvic inflammatory disease (PID). Beth asks what PID is…
PREV
NEXT
Common_Adolescent_Issues
Resources
STI Treatment
“Okay Beth, we will go ahead and do testing today. But it will be very important to follow-up and receive treatment if anything comes back positive!”
Click each Box for Tx
Gonorrhea Treatment
Chlamydia Treatment
Syphillis Treatment
HIV Treatment
Herpes Treatment
No cure, Acyclovir
• Dose depends on # of times exposed/whether it is an active infection
Treatment is necessary to prevent further transmission, symptoms and complications such as pelvic inflammatory disease (PID). Beth asks what PID is…
PREV
NEXT


Common_Adolescent_Issues
Resources
Pelvic Inflammatory Disease (PID)
Definition
Signs/Symptoms
Physical Exam
Labs
Management
Infection, often sexually transmitted, of the female reproductive organs.
Inflamed fallopian tube
PREV
NEXT
Common_Adolescent_Issues
Resources
Pelvic Inflammatory Disease (PID)
Definition
Signs/Symptoms
Physical Exam
Labs
Management
Inflamed uterus
Inflamed ovary
• Lower abdomen/pelvic pain
• Malodorous, heavy vaginal discharge
• Abnormal uterine bleeding
• Dysparenia (bleeding with intercourse)
• Fevers +/- chills
• Dysuria
Inflamed fallopian tube
PREV
NEXT


Common_Adolescent_Issues
Resources
Pelvic Inflammatory Disease (PID)
Definition
Signs/Symptoms
Physical Exam
Labs
Management
Inflamed uterus
Inflamed ovary
Inflamed fallopian tube
Pelvic/Bimanual Exam:
• Cervical motion tenderness
• Uterine tenderness
• Adnexal tenderness
(only need 1 for diagnosis)
PREV
NEXT
Common_Adolescent_Issues
Resources
Pelvic Inflammatory Disease (PID)
Definition
Signs/Symptoms
Physical Exam
Labs
Management
Inflamed uterus
Inflamed ovary
Inflamed fallopian tube
• Increased WBC in vaginal fluid
• Elevated ESR or CRP
• Positive Gonorrhea/Chlamydia test
PREV
NEXT


Common_Adolescent_Issues
Resources
Pelvic Inflammatory Disease (PID)
Definition
Signs/Symptoms
Physical Exam
Labs
Management
Urgent!! Low threshold due to complications
* Includes antibiotics +/- hospitalization
* Indications for inpatient:
a. Surgical emergency (appendicitis) cannot be ruled out
b. Pregnancy
c. Severe illness: nausea/vomiting/high fever
d. Tubo-ovarian abscess
e. No clinical response to PO antibiotics or unable to tolerate/follow outpatient regiment
PREV
NEXT
Common_Adolescent_Issues
Resources
PID Treatment
Inpatient: Cefotetan (2 g IV q12 hours) OR Cefoxitin (2 g IV q6 hours) + Doxycycline (100 mg PO BID for 14 days)
Outpatient: Ceftriaxone (250mg IM) + Doxycycline (100 mg PO BID for 14 days) + Metronidazole (500 mg PO BID for 14 days)
Do you wait for results of gonorrhea of chlamydia to start treatment?
Yes, definitely!
No way, start abx ASAP!
Great job! Abx can be narrowed once results return.
Early treatment is essential to prevent scarring/damage as it can lead to infertility/ ectopic pregnancies.
*No improvement in 72 hours with antibiotics → hospitalize and re-assess
*Should follow-up in 3 months and be retested
PREV
NEXT

Beth would like to prevent pregnancy…

* After ordering urine Gonorrhea/Chlamydia and HIV for Beth, you decide to review the different contraception (birth control) options for her…

Long Acting Reversible Contraception (LARC)

American College of Obstetrics & Gynecology recommends LARC, but respect an adolescent's choice!

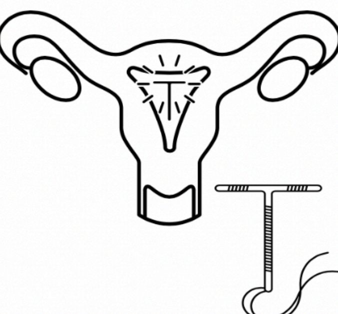
Intrauterine Device (IUD) | **Contraceptive Implant**

Levonorgestrel-Releasing IUD: Hormonal device that causes increased cervical mucus to prevent sperm penetration.

- Last 3-5 years
- Mirena, Liletta, Kyleena and Skyla
- Side effects: *headaches, acne, breast tenderness, nausea mood changes and ovarian cyst formation. As well as, decreased menstrual bleeding.*

Copper IUD: The metal inhibits sperm migration/viability.

- Lasts 10 years
- Most effective emergency contraception (within 5 days)
- Side effects: *heavy menstrual bleeding/pain*



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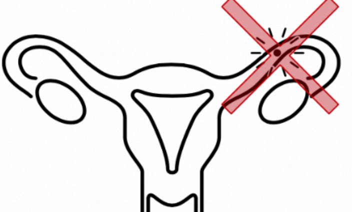
Intrauterine Device (IUD)

Contraceptive Implant



Subdermal rod placed in inner arm that releases etonogestrel to suppress ovulation.

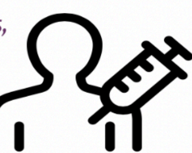
- Lasts 3 years
- Nexplanon
- Side effects: *Amenorrhea or change in frequency of bleeding. Headaches, worsening acne, breast pain, gastrointestinal difficulties, and vaginitis. Reported weight gain.*

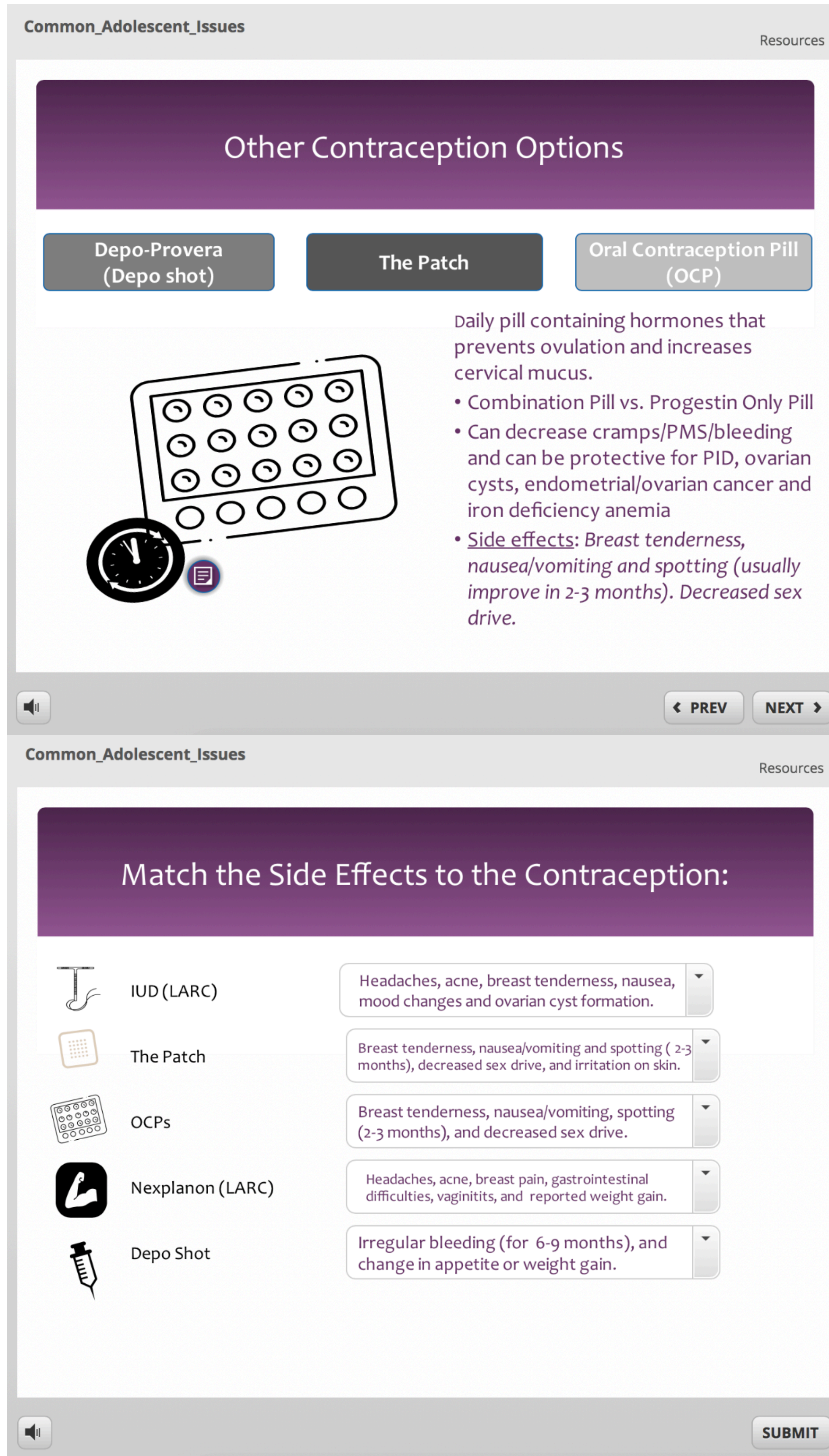
Other Contraception Options

Depo-Provera (Depo shot) | **The Patch** | **Oral Contraception Pill (OCP)**

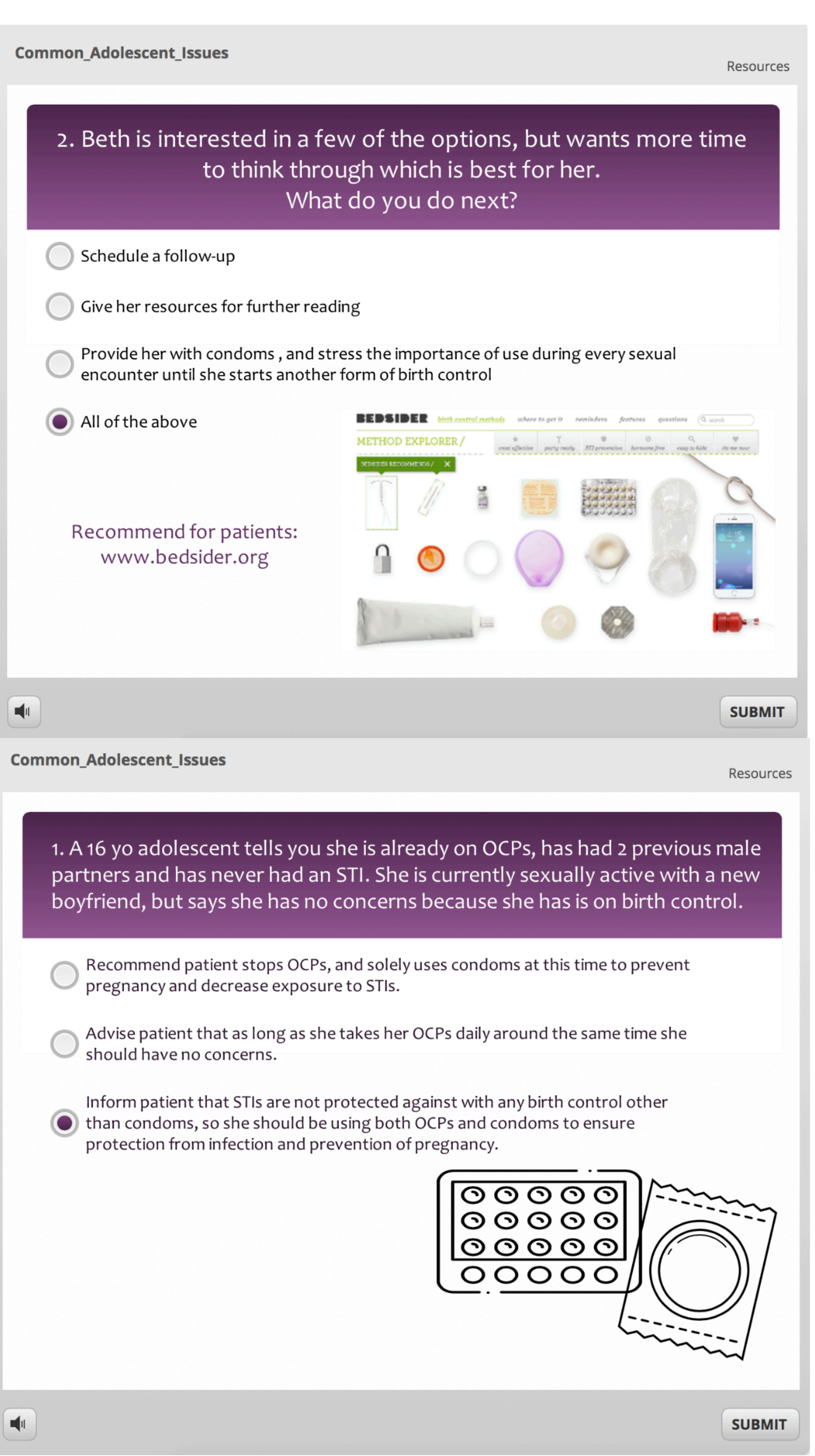
Injection every 12 weeks with progestin that prevents ovulation and increases cervical mucus.

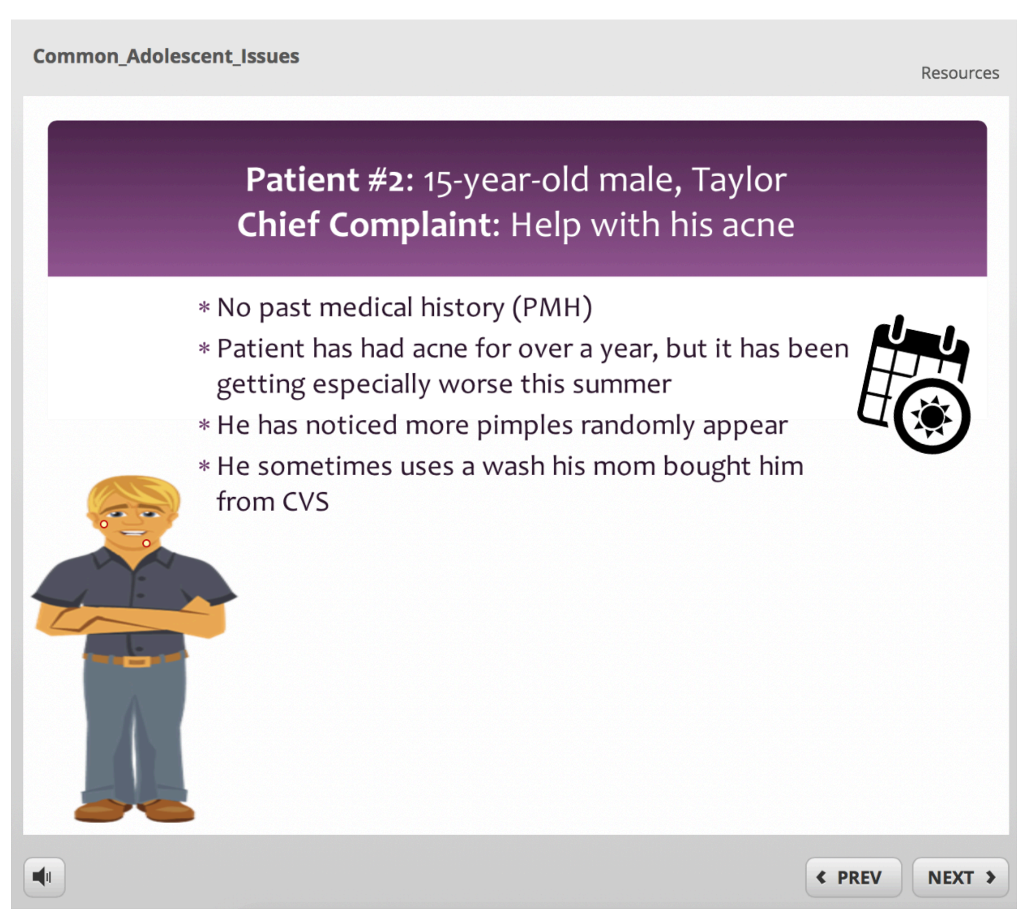
- Side effects: *Irregular bleeding (improves in 6-9 months), change in appetite or weight gain. Less common are headache, nausea, sore breasts, hair loss, depression, change in sex drive and sore breasts.*

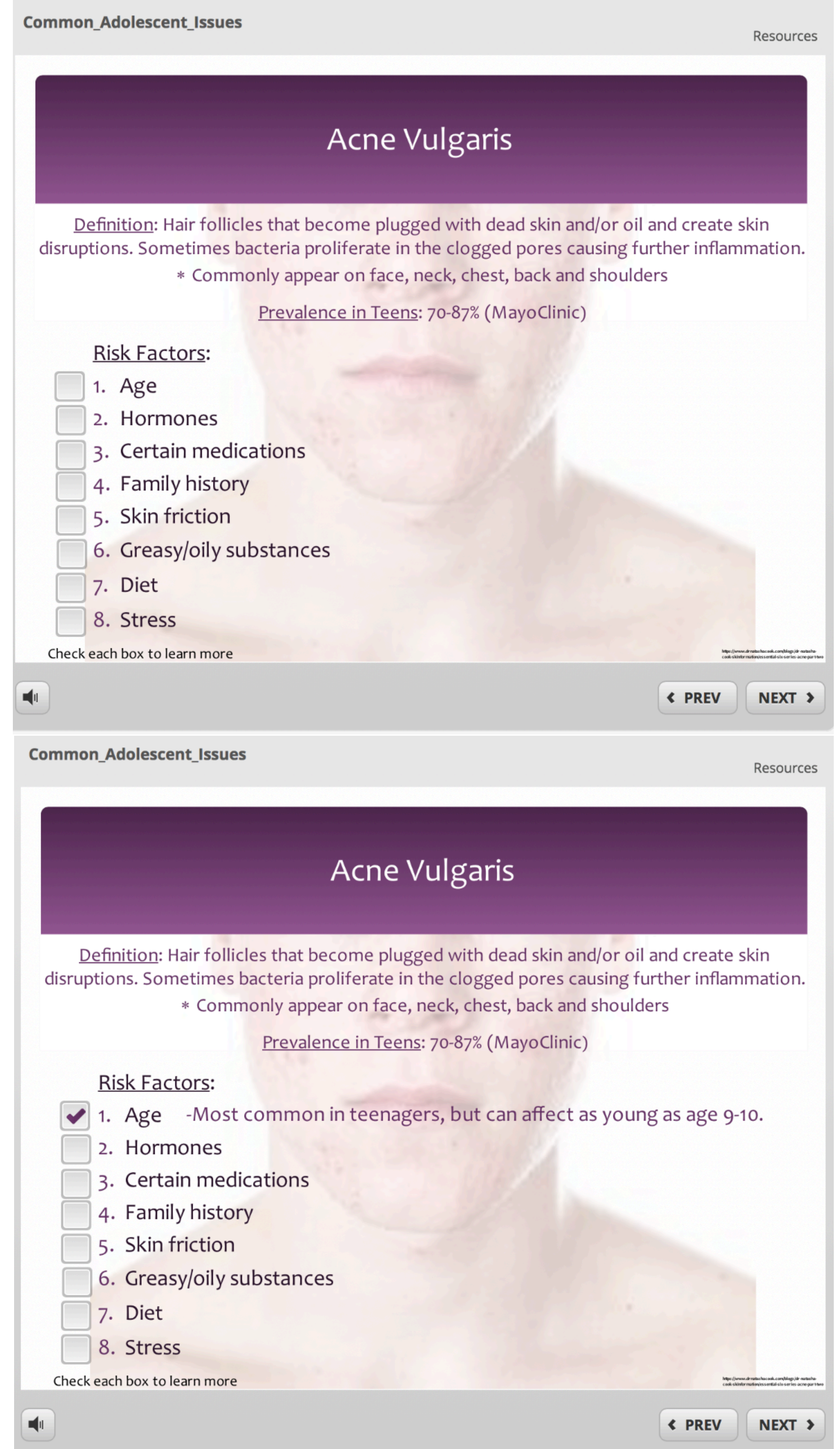



Common_Adolescent_Issues
Resources
Other Contraception Options
Depo-Provera (Depo shot)
The Patch
Oral Contraception Pill (OCP)
Daily pill containing hormones that prevents ovulation and increases cervical mucus.
• Combination Pill vs. Progestin Only Pill
• Can decrease cramps/PMS/bleeding and can be protective for PID, ovarian cysts, endometrial/ovarian cancer and iron deficiency anemia
• Side effects: Breast tenderness, nausea/vomiting and spotting (usually improve in 2-3 months). Decreased sex drive.
PREV
NEXT
Common_Adolescent_Issues
Resources
Match the Side Effects to the Contraception:
IUD (LARC)
Headaches, acne, breast tenderness, nausea, mood changes and ovarian cyst formation.
The Patch
Breast tenderness, nausea/vomiting and spotting (2-3 months), decreased sex drive, and irritation on skin.
OCPs
Breast tenderness, nausea/vomiting, spotting (2-3 months), and decreased sex drive.
Nexplanon (LARC)
Headaches, acne, breast pain, gastrointestinal difficulties, vaginitits, and reported weight gain.
Depo Shot
Irregular bleeding (for 6-9 months), and change in appetite or weight gain.
SUBMIT

Common_Adolescent_Issues
Resources
CDC Medical Eligibility Criteria (MEC) App for Contraception
CDC Contraception 2016
MEC by Condition
MEC by Method
SPR
About this App
Full Guidelines
Provider Tools
Resources
SPR
How To Be Reasonably Certain That A Woman Is Not Pregnant
Cu-IUD
LNG-IUD
Implants
Injectables
Combined Hormonal Contraceptives
Progestin Only Pills
Standard Days Method
Emergency Contraception (IUDs and ECPs)
Female Sterilization
Male Sterilization
Contraception from CDC
• Developed from the CDC MMWR by the Division of Reproductive Health; covers >60 characteristics or medical conditions (MEC) and numerous clinical situations (SPR).
• While recommendations serve as source of clinical guidance, they do not replace the clinician's assessment of individual clinical circumstances of the individual or family seeking medical counsel.
PREV
NEXT
Common_Adolescent_Issues
Resources
Other Contraception Options
Depo-Provera (Depo shot)
The Patch
Oral Contraception Pill (OCP)
Square, beige patch you place weekly on stomach, outer arm, butt or upper torso, that releases estrogen and progestin hormones to prevent ovulation and block sperm.
• Keep in mind: less effective if >198 lbs and complications if >35 years old and smoke!
• Side effects: Breast tenderness, nausea/vomiting and spotting (usually improve in 2-3 months). Decreased sex drive. Area of irritation on skin.
PREV
NEXT


Common_Adolescent_Issues
Resources
2. Beth is interested in a few of the options, but wants more time to think through which is best for her.
What do you do next?
Schedule a follow-up
Give her resources for further reading
Provide her with condoms , and stress the importance of use during every sexual encounter until she starts another form of birth control
All of the above
Recommend for patients:
www.bedsider.org
BEDSIDER
METHOD EXPLORER /
SUBMIT
Common_Adolescent_Issues
Resources
1. A 16 yo adolescent tells you she is already on OCPs, has had 2 previous male partners and has never had an STI. She is currently sexually active with a new boyfriend, but says she has no concerns because she has is on birth control.
Recommend patient stops OCPs, and solely uses condoms at this time to prevent pregnancy and decrease exposure to STIs.
Advise patient that as long as she takes her OCPs daily around the same time she should have no concerns.
Inform patient that STIs are not protected against with any birth control other than condoms, so she should be using both OCPs and condoms to ensure protection from infection and prevention of pregnancy.
SUBMIT


Common_Adolescent_Issues
Resources
Patient #2: 15-year-old male, Taylor
Chief Complaint: Help with his acne
* No past medical history (PMH)
* Patient has had acne for over a year, but it has been getting especially worse this summer
* He has noticed more pimples randomly appear
* He sometimes uses a wash his mom bought him from CVS
PREV
NEXT


Common_Adolescent_Issues
Resources
Acne Vulgaris
Definition: Hair follicles that become plugged with dead skin and/or oil and create skin disruptions. Sometimes bacteria proliferate in the clogged pores causing further inflammation.
* Commonly appear on face, neck, chest, back and shoulders
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT
Common_Adolescent_Issues
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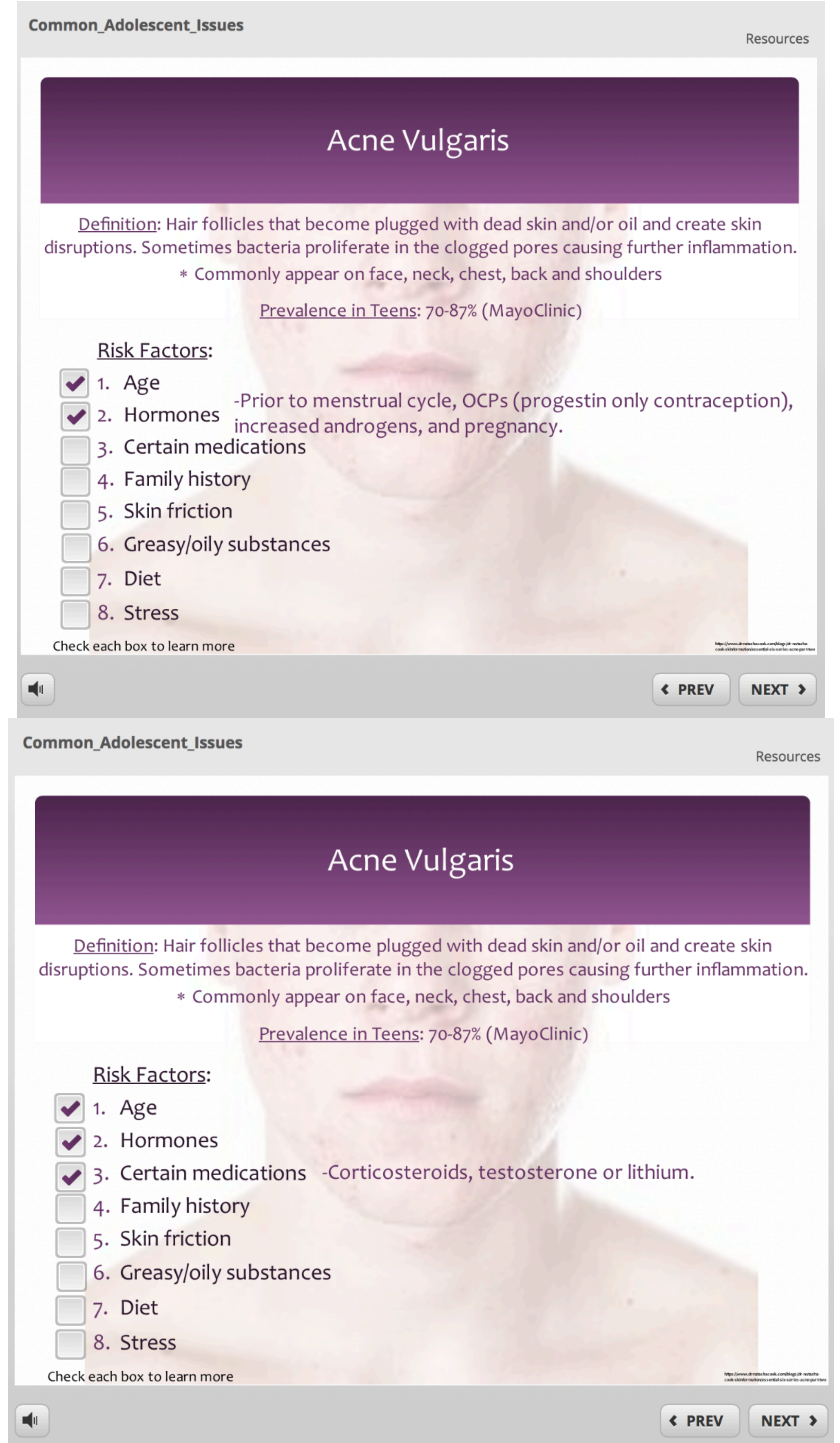
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age -Most common in teenagers, but can affect as young as age 9-10.
2. Hormones
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT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Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
-Prior to menstrual cycle, OCPs (progestin only contraception), increased androgens, and pregnancy.
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT
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Resources
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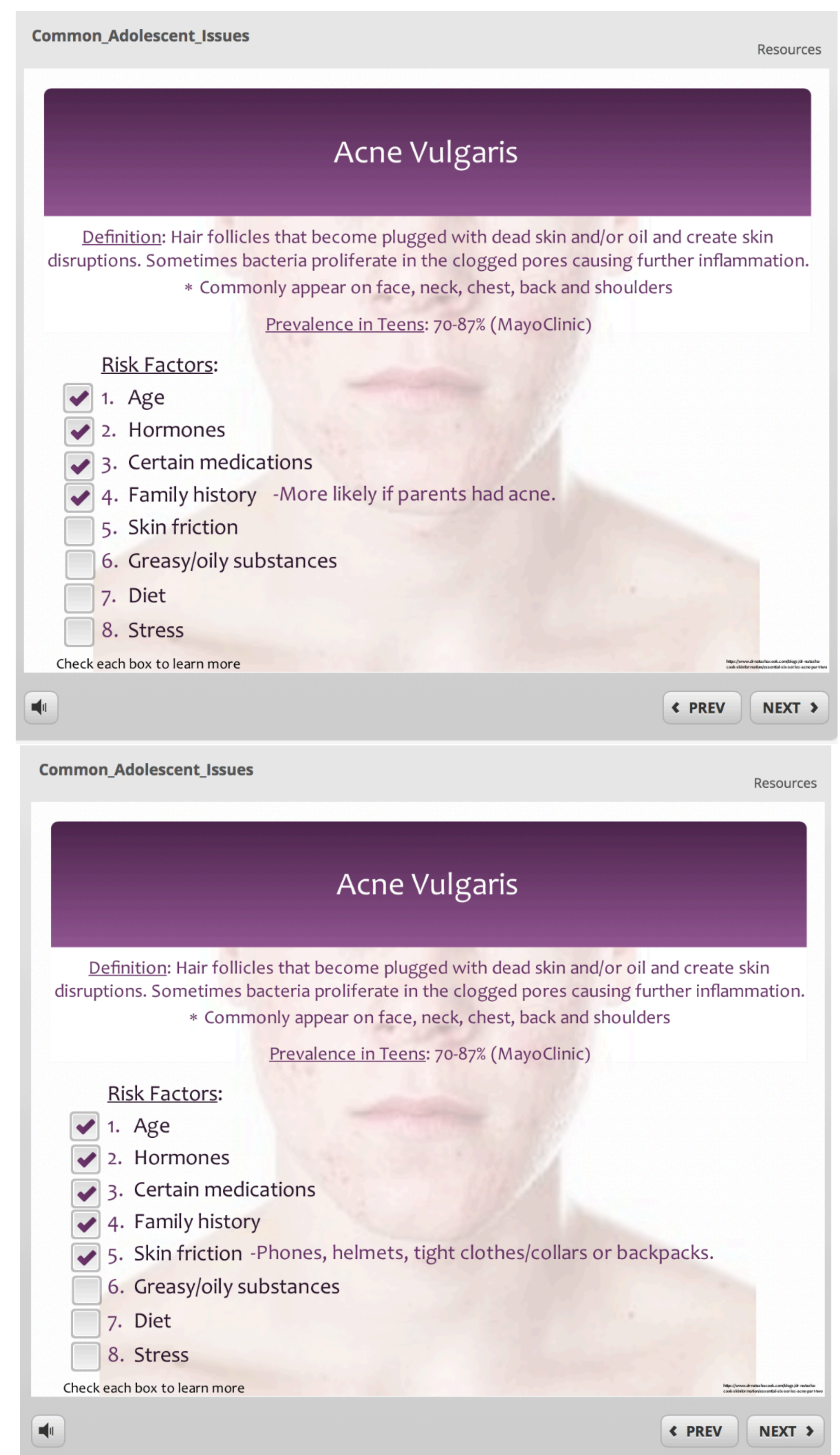
* Commonly appear on face, neck, chest, back and shoulders
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
-Corticosteroids, testosterone or lithium.
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT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Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history -More likely if parents had acne.
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT
Common_Adolescent_Issues
Resources
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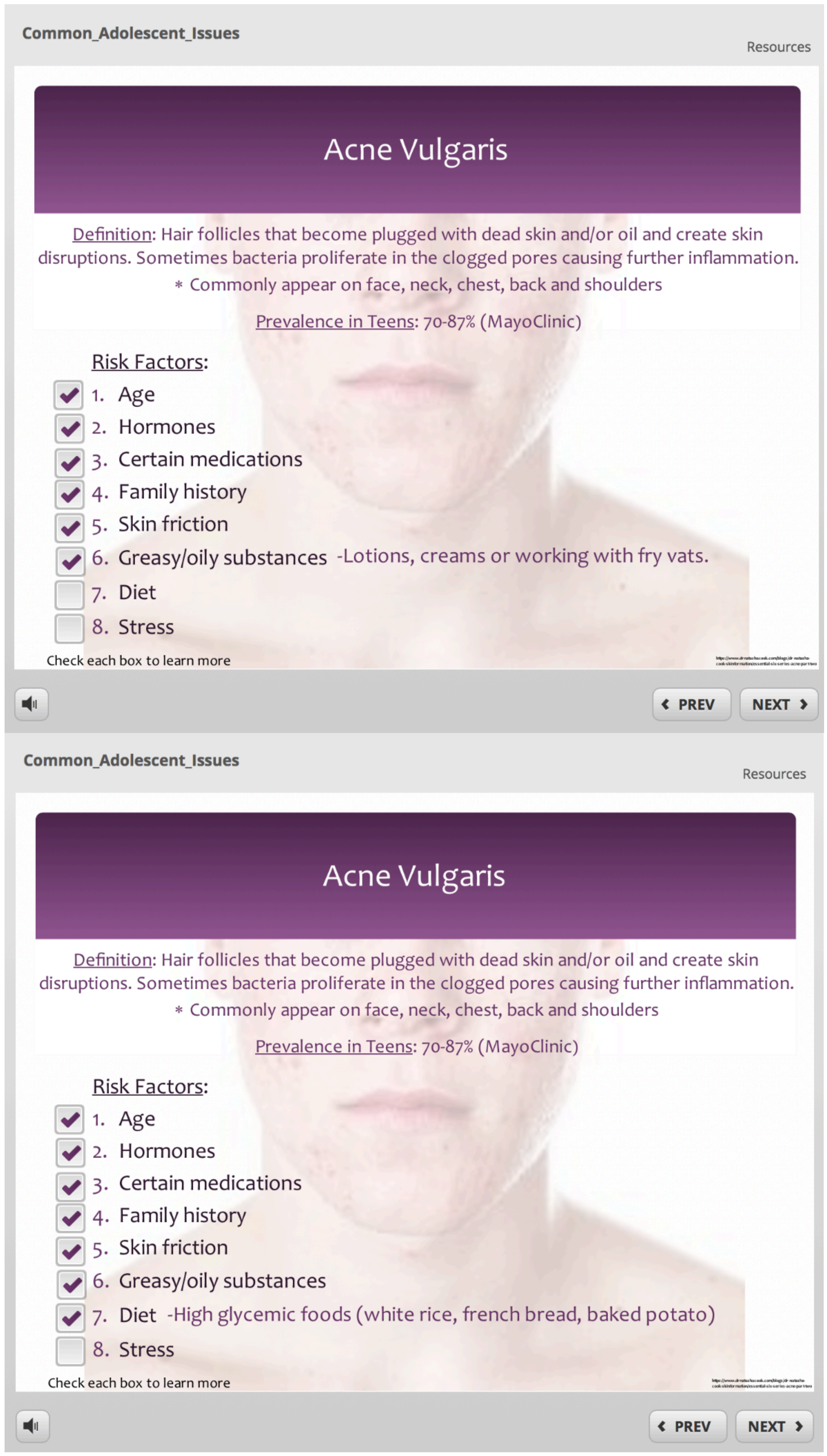
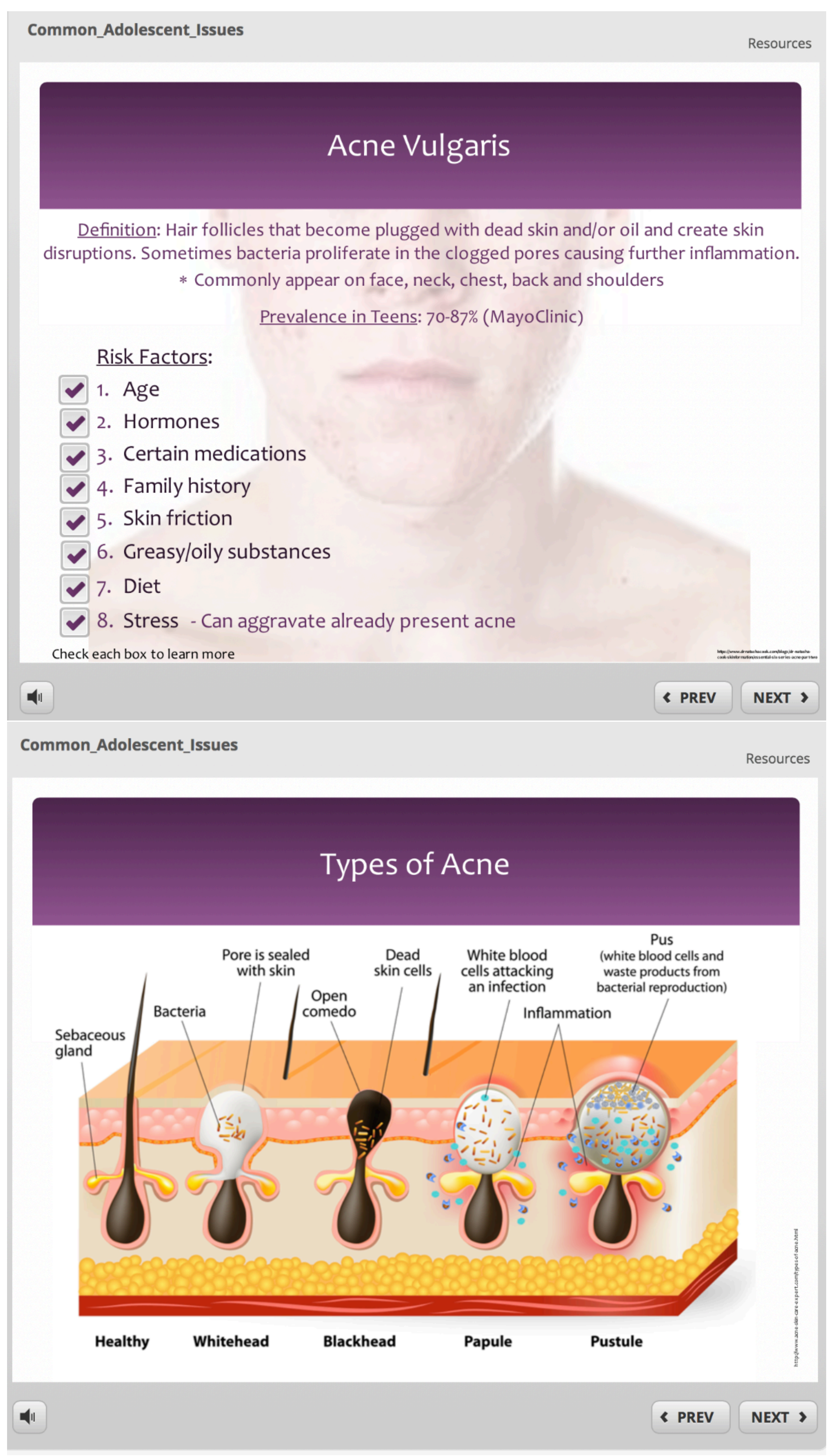
Definition: Hair follicles that become plugged with dead skin and/or oil and create skin disruptions. Sometimes bacteria proliferate in the clogged pores causing further inflammation.
* Commonly appear on face, neck, chest, back and shoulders
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history
5. Skin friction -Phones, helmets, tight clothes/collars or backpacks.
6. Greasy/oily substances
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT


Common_Adolescent_Issues
Resources
Acne Vulgaris
Definition: Hair follicles that become plugged with dead skin and/or oil and create skin disruptions. Sometimes bacteria proliferate in the clogged pores causing further inflammation.
* Commonly appear on face, neck, chest, back and shoulders
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances -Lotions, creams or working with fry vats.
7. Diet
8. Stress
Check each box to learn more
PREV
NEXT
Common_Adolescent_Issues
Resources
Acne Vulgaris
Definition: Hair follicles that become plugged with dead skin and/or oil and create skin disruptions. Sometimes bacteria proliferate in the clogged pores causing further inflammation.
* Commonly appear on face, neck, chest, back and shoulders
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet -High glycemic foods (white rice, french bread, baked potato)
8. Stress
Check each box to learn more
PREV
NEXT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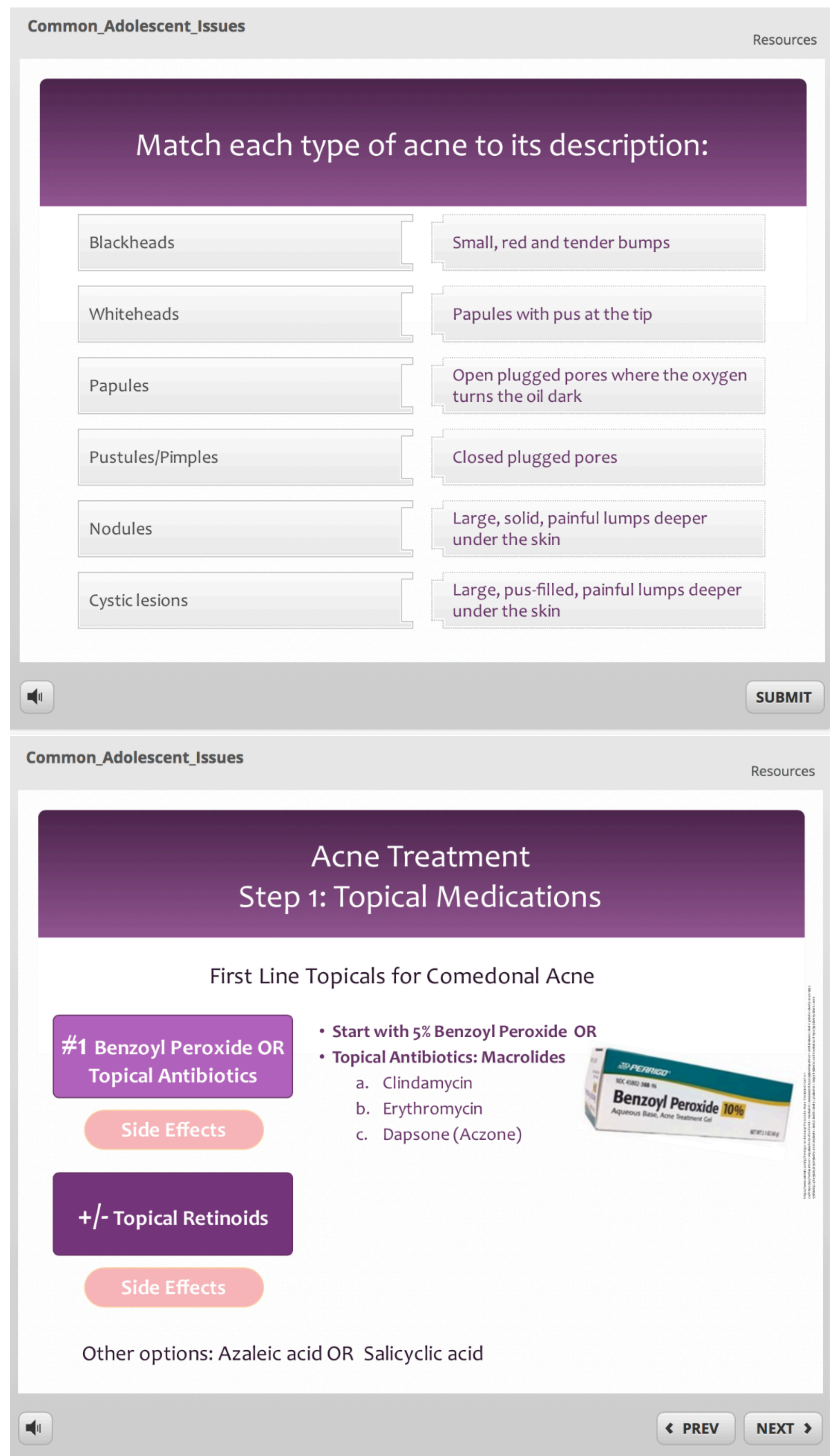
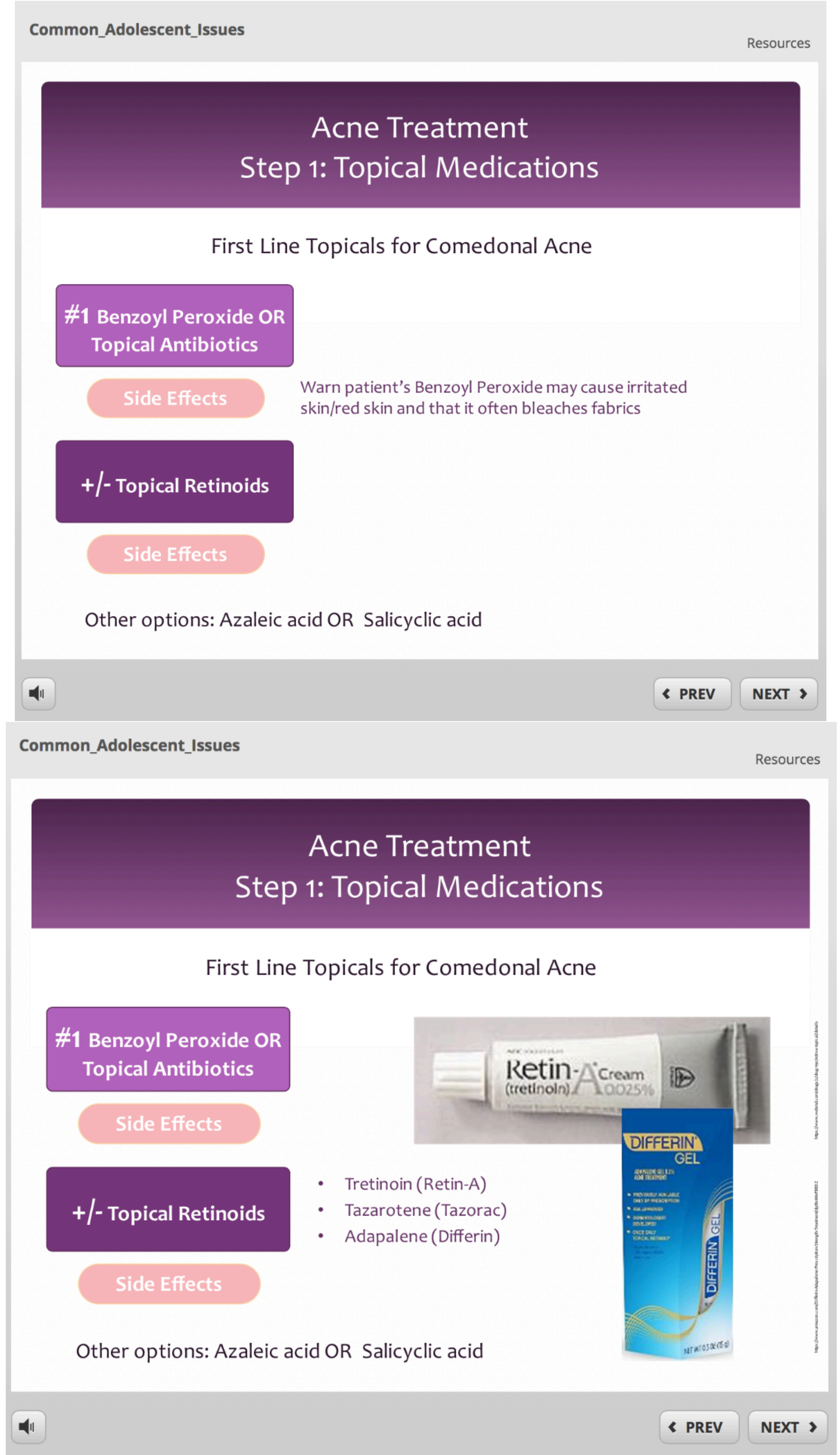
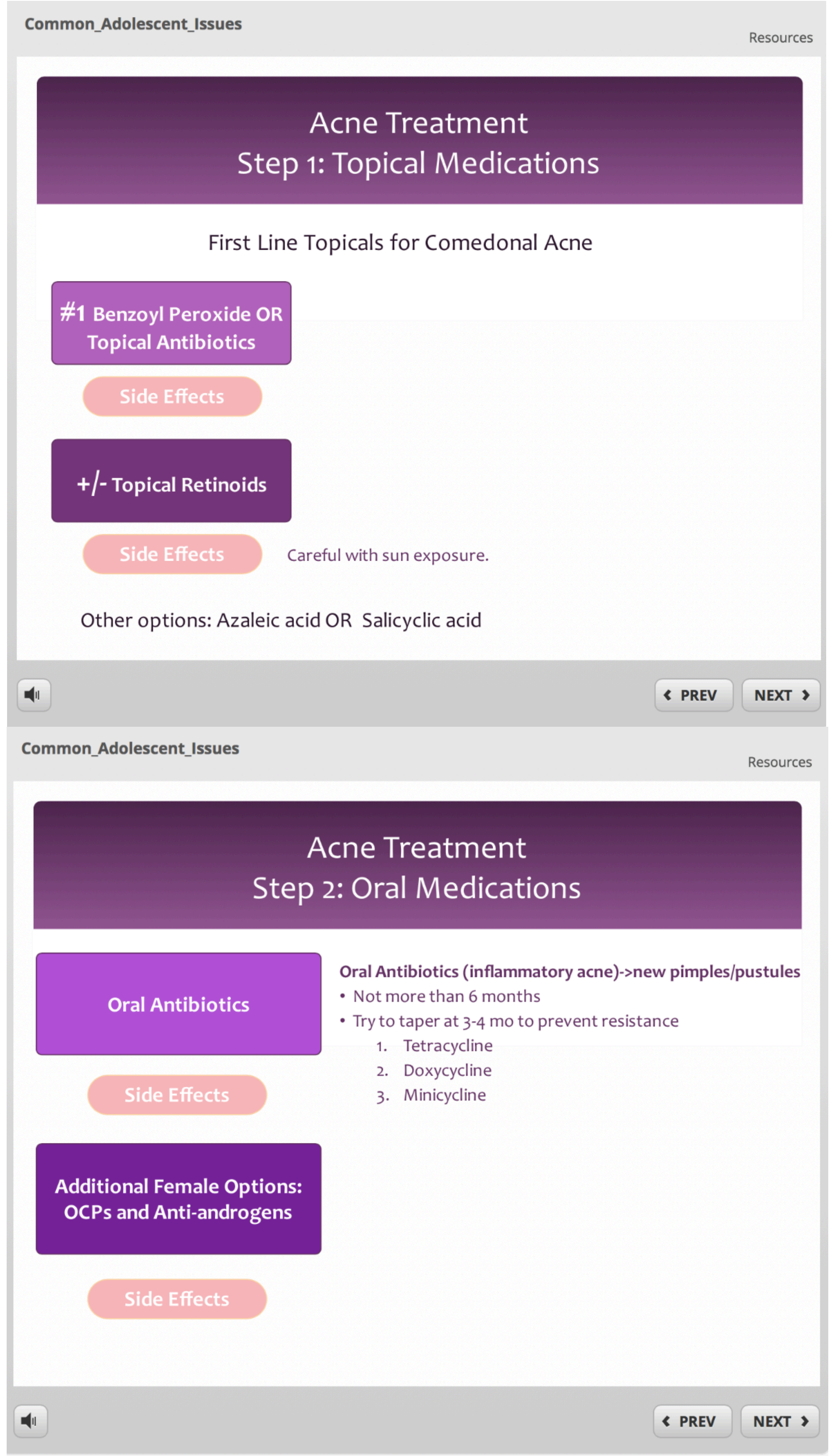
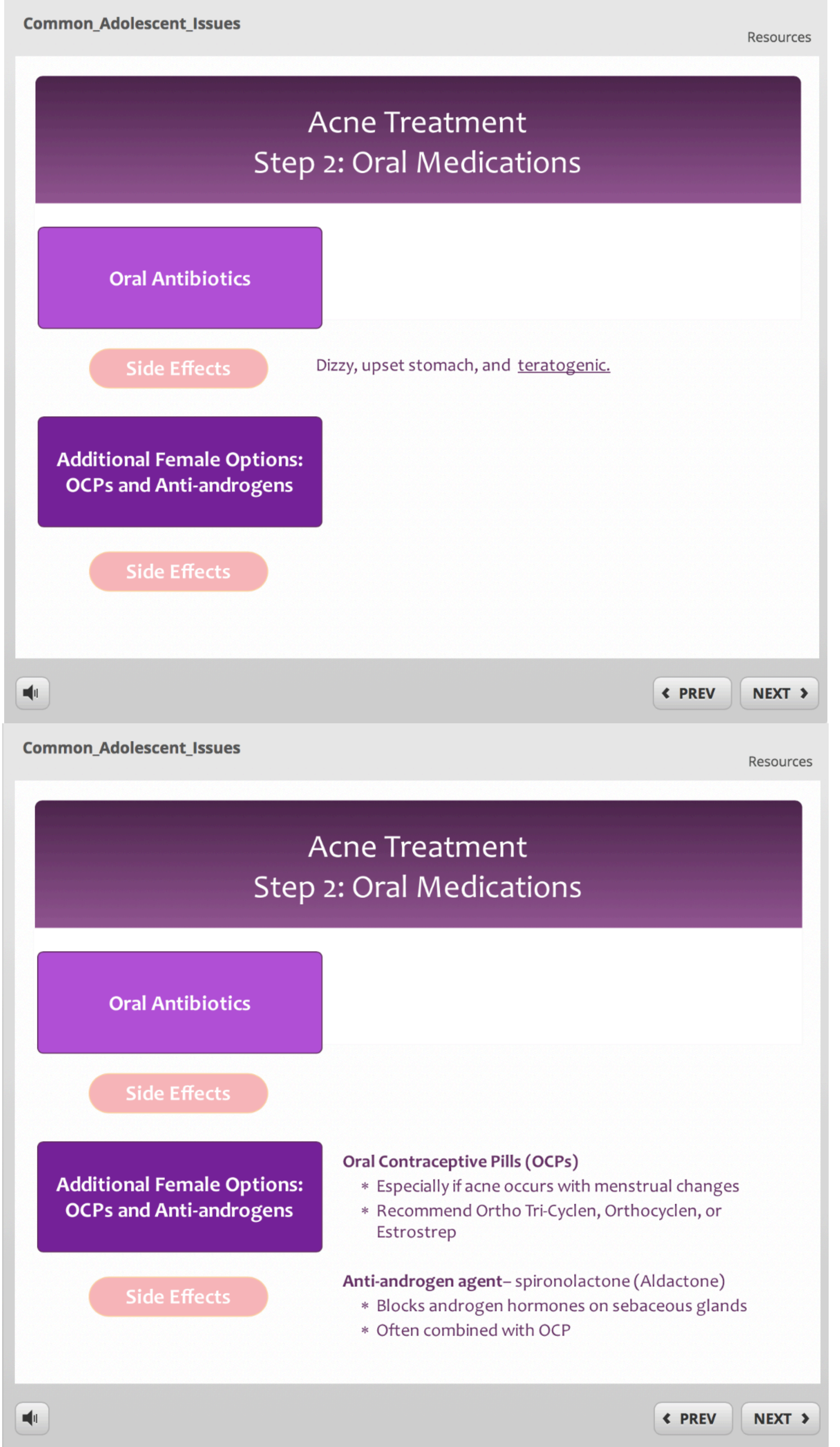
Prevalence in Teens: 70-87% (MayoClinic)
Risk Factors:
1. Age
2. Hormones
3. Certain medications
4. Family history
5. Skin friction
6. Greasy/oily substances
7. Diet
8. Stress - Can aggravate already present acne
Check each box to learn more
PREV
NEXT
Common_Adolescent_Issues
Resources
Types of Acne
Sebaceous gland
Bacteria
Pore is sealed with skin
Open comedo
Dead skin cells
White blood cells attacking an infection
Inflammation
Pus (white blood cells and waste products from bacterial reproduction)
Healthy
Whitehead
Blackhead
Papule
Pustule
PREV
NEXT

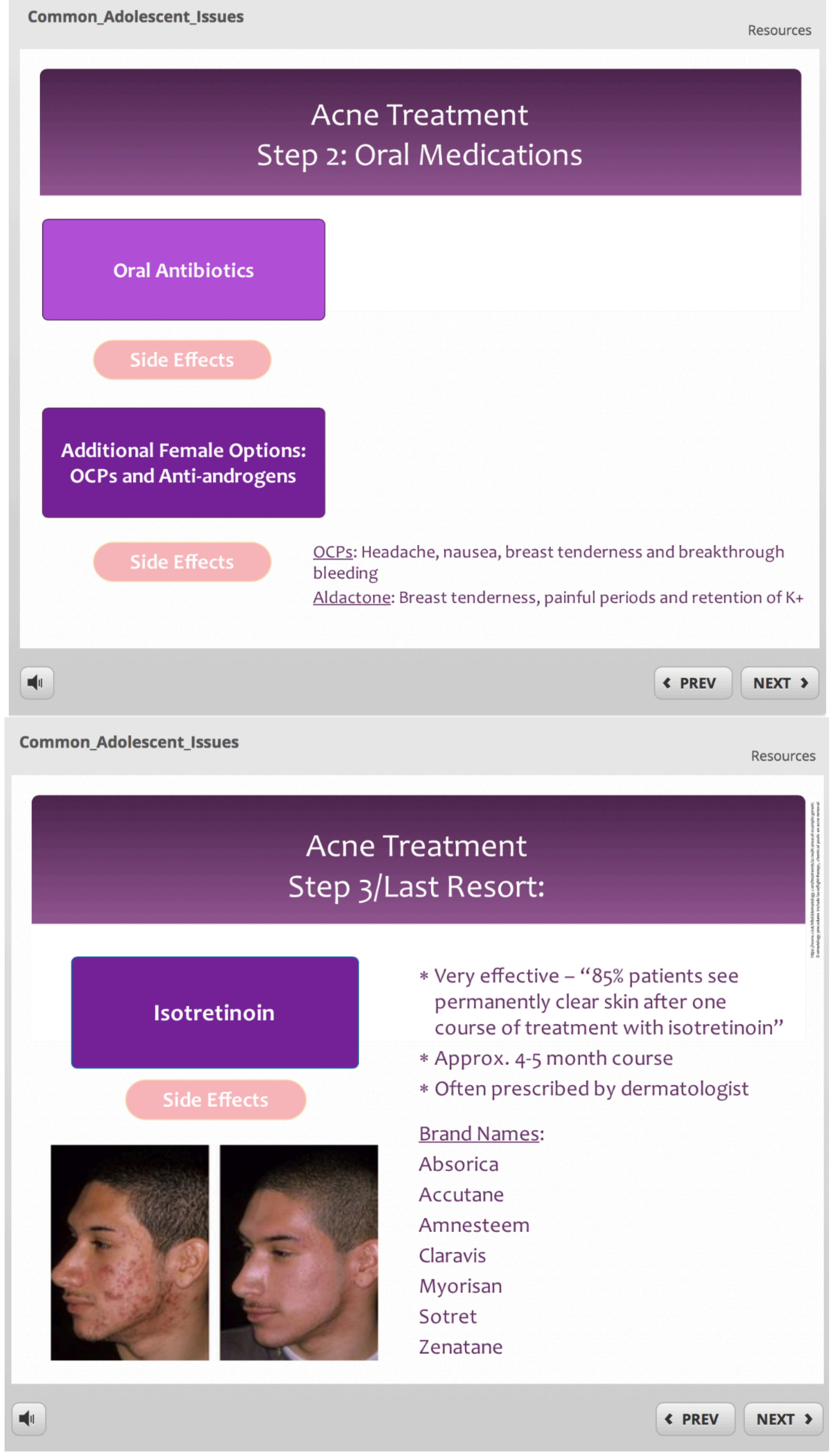


Common_Adolescent_Issues
Resources
Match each type of acne to its description:
Blackheads
Whiteheads
Papules
Pustules/Pimples
Nodules
Cystic lesions
Small, red and tender bumps
Papules with pus at the tip
Open plugged pores where the oxygen turns the oil dark
Closed plugged pores
Large, solid, painful lumps deeper under the skin
Large, pus-filled, painful lumps deeper under the skin
SUBMIT
Common_Adolescent_Issues
Resources
Acne Treatment
Step 1: Topical Medications
First Line Topicals for Comedonal Acne
#1 Benzoyl Peroxide OR Topical Antibiotics
Side Effects
+/- Topical Retinoids
Side Effects
• Start with 5% Benzoyl Peroxide OR
• Topical Antibiotics: Macrolides
a. Clindamycin
b. Erythromycin
c. Dapsone (Aczone)
Benzoyl Peroxide 10%
Other options: Azaleic acid OR Salicyclic acid
PREV
NEXT

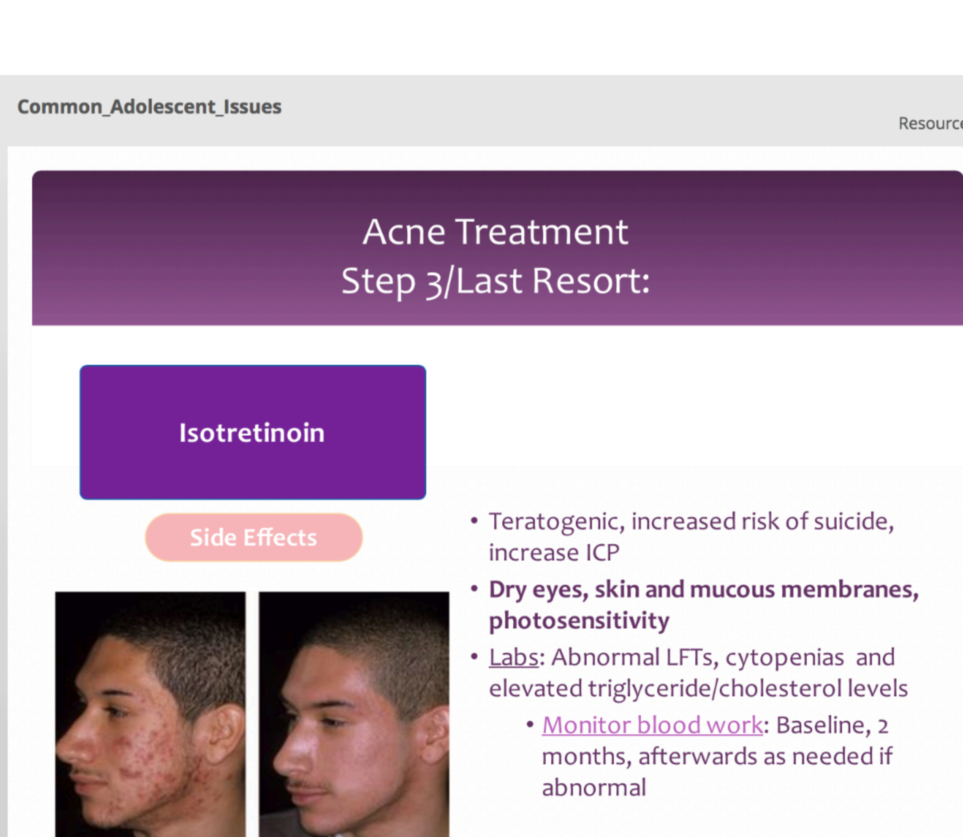

Common_Adolescent_Issues
Resources
Acne Treatment
Step 1: Topical Medications
First Line Topicals for Comedonal Acne
#1 Benzoyl Peroxide OR Topical Antibiotics
Side Effects
Warn patient's Benzoyl Peroxide may cause irritated skin/red skin and that it often bleaches fabrics
+/- Topical Retinoids
Side Effects
Other options: Azaleic acid OR Salicyclic acid
PREV
NEXT
Common_Adolescent_Issues
Resources
Acne Treatment
Step 1: Topical Medications
First Line Topicals for Comedonal Acne
#1 Benzoyl Peroxide OR Topical Antibiotics
Side Effects
+/- Topical Retinoids
Tretinoin (Retin-A)
Tazarotene (Tazorac)
Adapalene (Differin)
Side Effects
Retin-A Cream (tretinoin) 0.025%
DIFFERIN GEL
Other options: Azaleic acid OR Salicyclic acid
PREV
NEXT

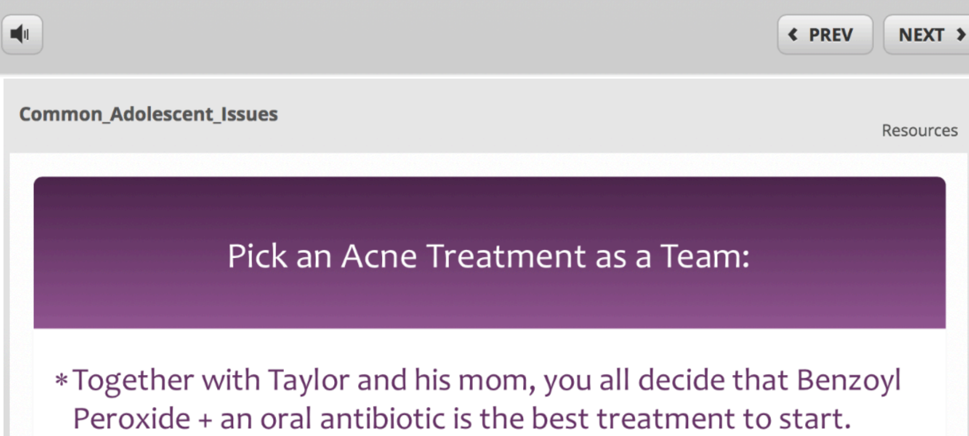

Common_Adolescent_Issues
Resources
Acne Treatment
Step 1: Topical Medications
First Line Topicals for Comedonal Acne
#1 Benzoyl Peroxide OR Topical Antibiotics
Side Effects
+/- Topical Retinoids
Side Effects
Careful with sun exposure.
Other options: Azaleic acid OR Salicyclic acid
PREV
NEXT
Common_Adolescent_Issues
Resources
Acne Treatment
Step 2: Oral Medications
Oral Antibiotics
Side Effects
Additional Female Options: OCPs and Anti-androgens
Side Effects
Oral Antibiotics (inflammatory acne)->new pimples/pustules
• Not more than 6 months
• Try to taper at 3-4 mo to prevent resistance
1. Tetracycline
2. Doxycycline
3. Minicycline
PREV
NEXT


Common_Adolescent_Issues
Resources
Acne Treatment
Step 2: Oral Medications
Oral Antibiotics
Side Effects
Dizzy, upset stomach, and teratogenic.
Additional Female Options: OCPs and Anti-androgens
Side Effects
PREV
NEXT
Common_Adolescent_Issues
Resources
Acne Treatment
Step 2: Oral Medications
Oral Antibiotics
Side Effects
Additional Female Options: OCPs and Anti-androgens
Side Effects
Oral Contraceptive Pills (OCPs)
Especially if acne occurs with menstrual changes
Recommend Ortho Tri-Cyclen, Orthocyclen, or Estrostrep
Anti-androgen agent– spironolactone (Aldactone)
Blocks androgen hormones on sebaceous glands
Often combined with OCP
PREV
NEXT



Common_Adolescent_Issues
Resources
Acne Treatment
Step 2: Oral Medications
Oral Antibiotics
Side Effects
Additional Female Options: OCPs and Anti-androgens
Side Effects
OCPs: Headache, nausea, breast tenderness and breakthrough bleeding
Aldactone: Breast tenderness, painful periods and retention of K+
PREV
NEXT
Common_Adolescent_Issues
Resources
Acne Treatment
Step 3/Last Resort:
Isotretinoin
Side Effects
* Very effective – "85% patients see permanently clear skin after one course of treatment with isotretinoin"
* Approx. 4-5 month course
* Often prescribed by dermatologist
Brand Names:
Absorica
Accutane
Amnesteem
Claravis
Myorisan
Sotret
Zenatane
PREV
NEXT

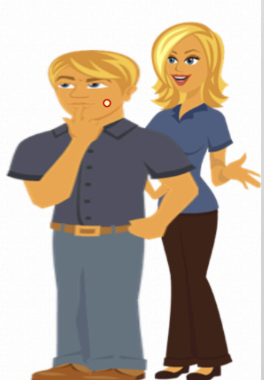




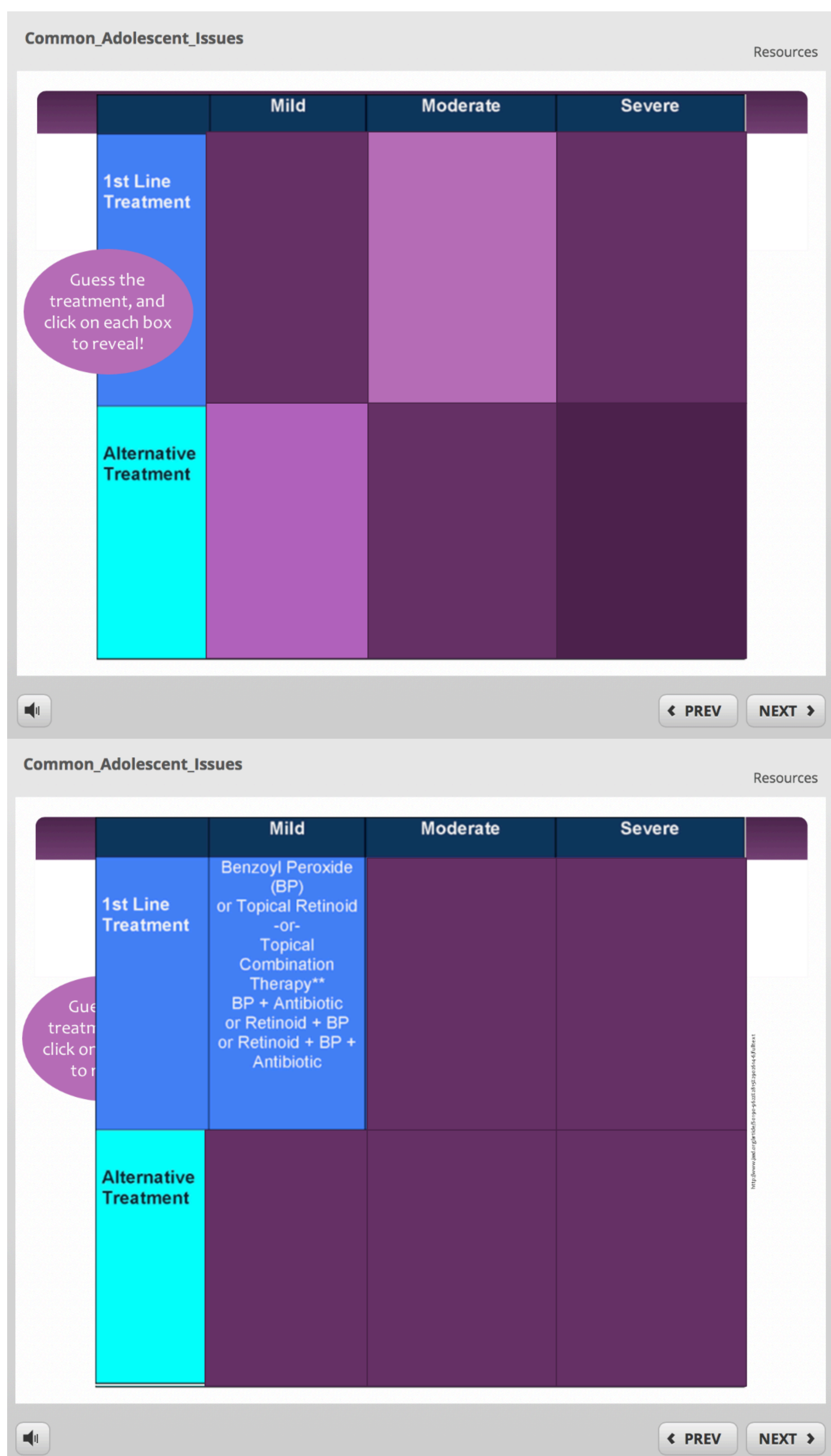
Remind him that:

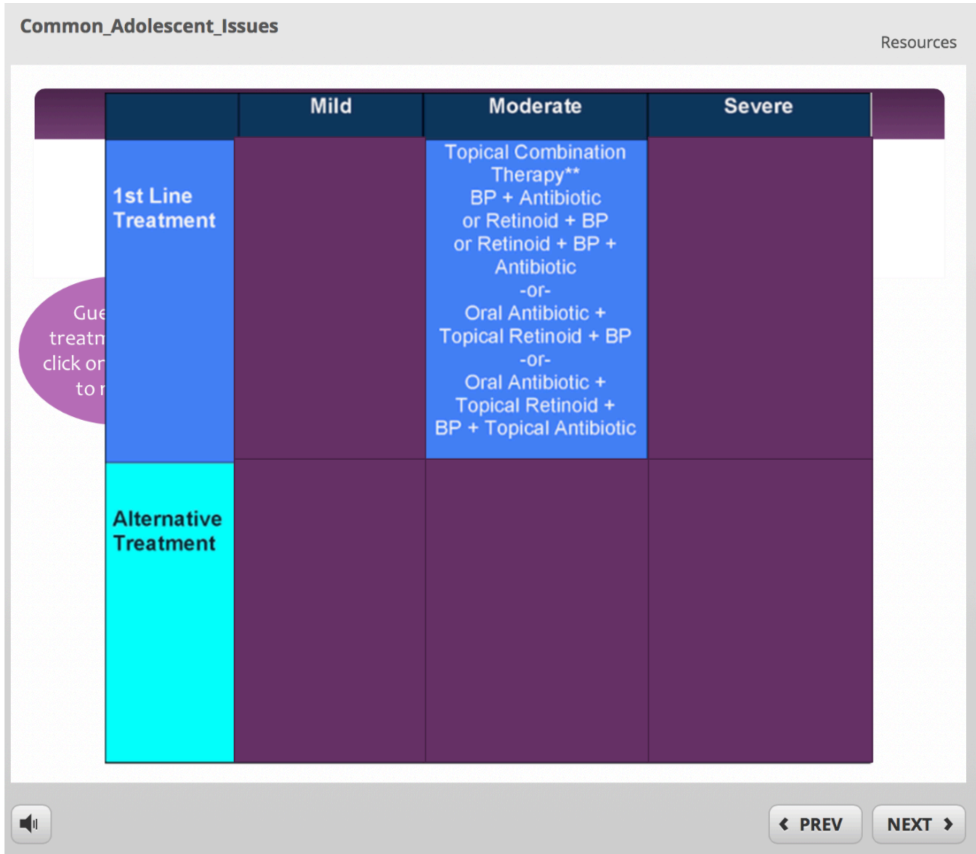
1. At-home treatment takes **6-8 weeks** to take effect, so important to keep using it, *even if* he does not see results for a while

2. Schedule follow-up in 2 months



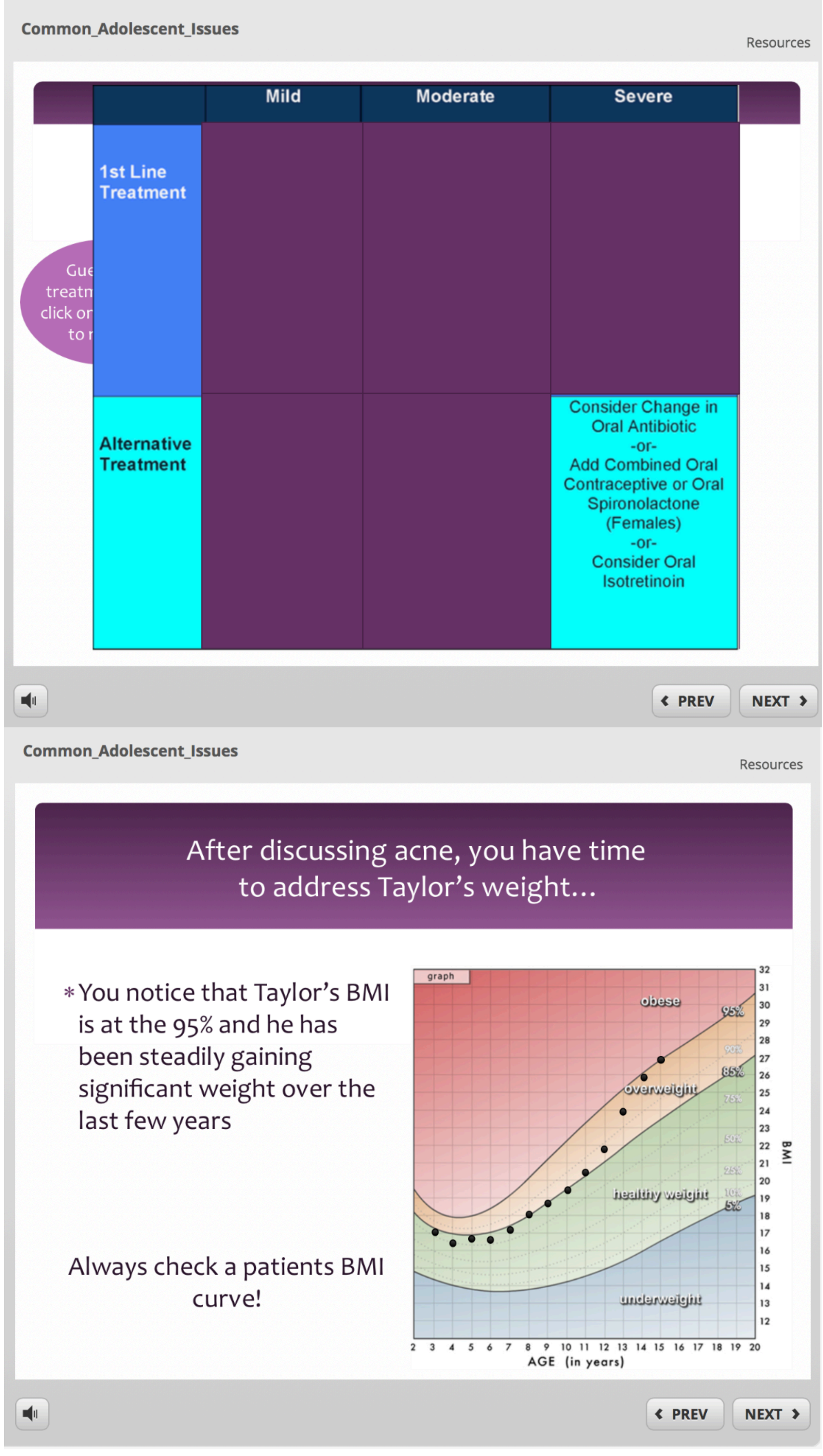
PREV NEXT


Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Guess the treatment, and click on each box to reveal!
Alternative Treatment
PREV
NEXT
Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Benzoyl Peroxide (BP) or Topical Retinoid -or- Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic
Alternative Treatment
PREV
NEXT


Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Topical Combination Therapy**
BP + Antibiotic
or Retinoid + BP
or Retinoid + BP + Antibiotic
-or-
Oral Antibiotic +
Topical Retinoid + BP
-or-
Oral Antibiotic +
Topical Retinoid +
BP + Topical Antibiotic
Alternative Treatment
PREV
NEXT

Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Oral Antibiotic
+
Topical Combination Therapy**
BP + Antibiotic
or Retinoid + BP
or Retinoid + BP + Antibiotic
-or-
Oral Isotretinoin
Alternative Treatment
PREV
NEXT

Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Alternative Treatment
Add Topical Retinoid or BP (if not on already)
-or-
Consider Alternate Retinoid
-or-
Consider Topical Dapsone
PREV
NEXT
Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Alternative Treatment
Consider Alternate Combination Therapy
-or-
Consider Change in Oral Antibiotic
-or-
Add Combined Oral Contraceptive or Oral Spironolactone (Females)
-or-
Consider Oral Isotretinoin
PREV
NEXT


Common_Adolescent_Issues
Resources
Mild
Moderate
Severe
1st Line Treatment
Alternative Treatment
Consider Change in Oral Antibiotic
-or-
Add Combined Oral Contraceptive or Oral Spironolactone (Females)
-or-
Consider Oral Isotretinoin
PREV
NEXT
Common_Adolescent_Issues
Resources
After discussing acne, you have time to address Taylor's weight…
You notice that Taylor's BMI is at the 95% and he has been steadily gaining significant weight over the last few years
Always check a patients BMI curve!
obese
95%
overweight
85%
healthy weight
underweight
BMI
AGE (in years)
PREV
NEXT

Causes for Increasing Pediatric Obesity

Obesity Trends in the United States

Percent Obese: 0%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%
Year: 1972, 1979, 1986, 1993, 2000, 2007, 2014
Adults 20-74 years of age
Children/Youth 2-19 years of age

Pediatric obesity rates have increased 3x between 1980 and 2010.

- According to the "Let's Move" campaign children 8-18 years old spend 7.5 hours/ day on computer/TV/video games or electronic media.
- High schoolers are only getting 1/3 of the level of recommended fitness
- Portion sizes have increase 2-5x since 1980
- Sugar and fast food consumption at all time high

"Obese kids between the ages of 10-13 have an 80% chance of becoming an obese adult"
https://www.livestrong.com/article/397013-facts-on-teen-obesity/

Adolescent Obesity Management

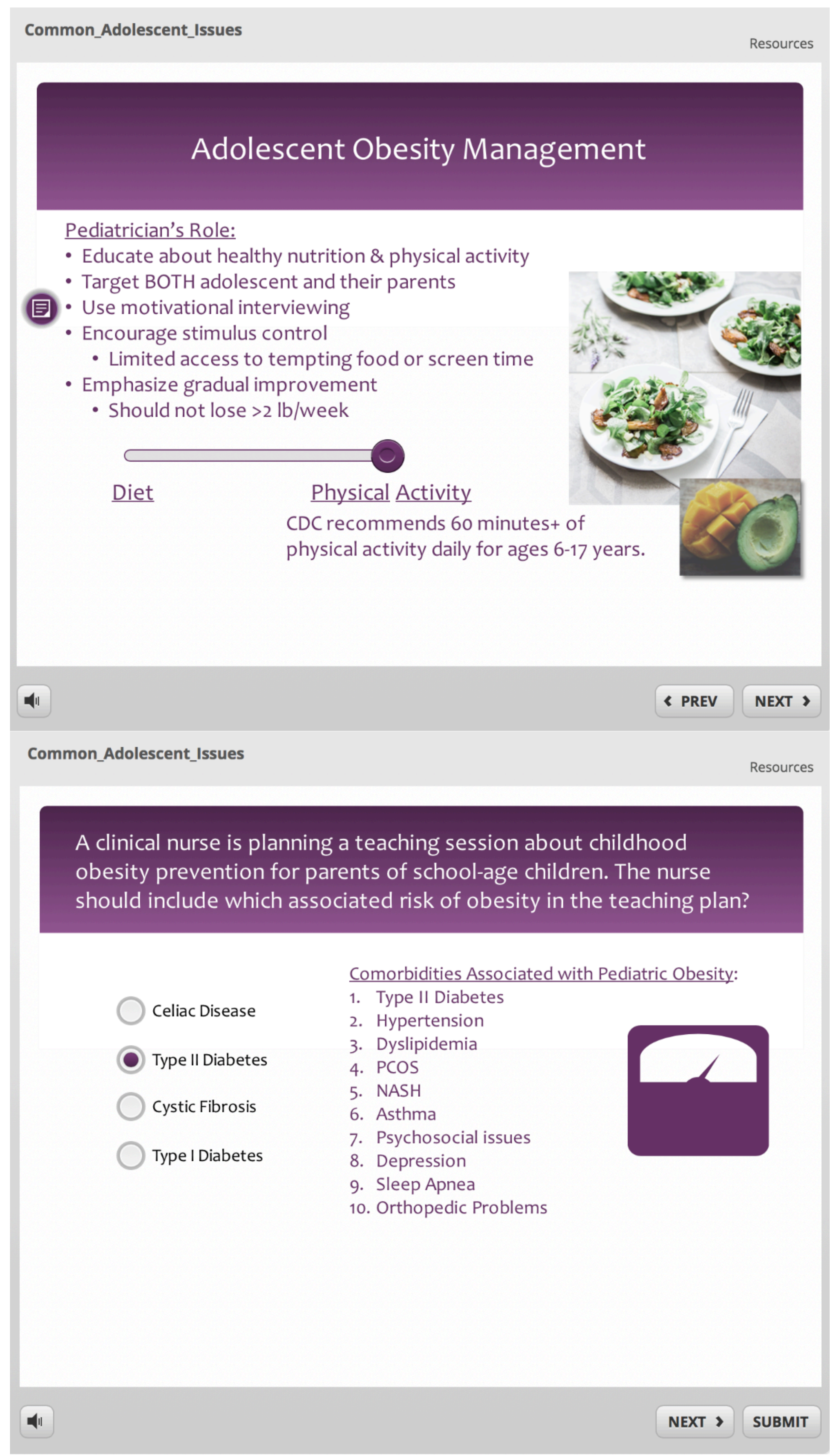
Pediatrician's Role:

- Educate about healthy nutrition & physical activity
- Target BOTH adolescent and their parents
- Use motivational interviewing
- Encourage stimulus control
  - Limited access to tempting food or screen time
- Emphasize gradual improvement
  - Should not lose >2 lb/week

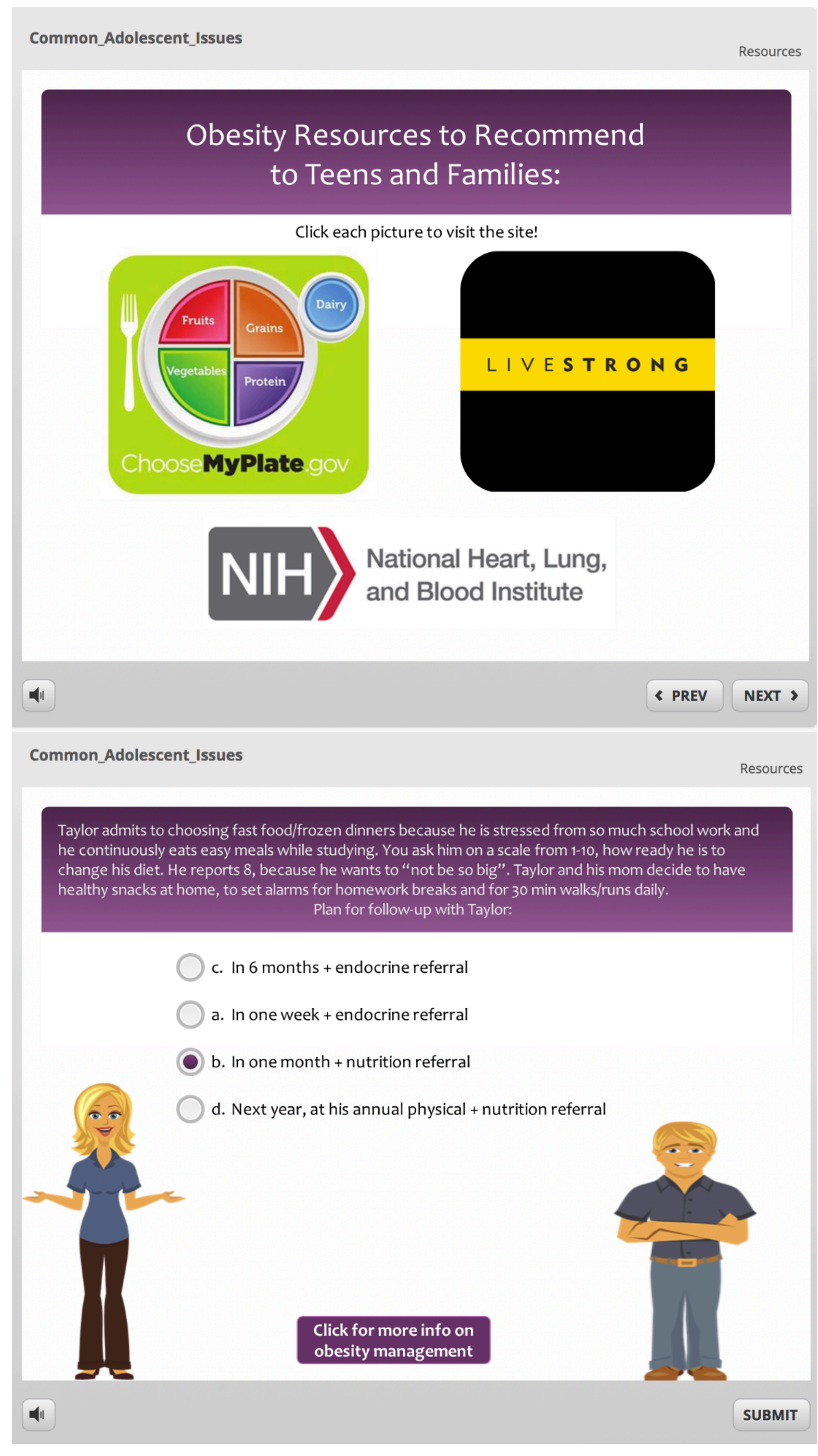
Diet Physical Activity

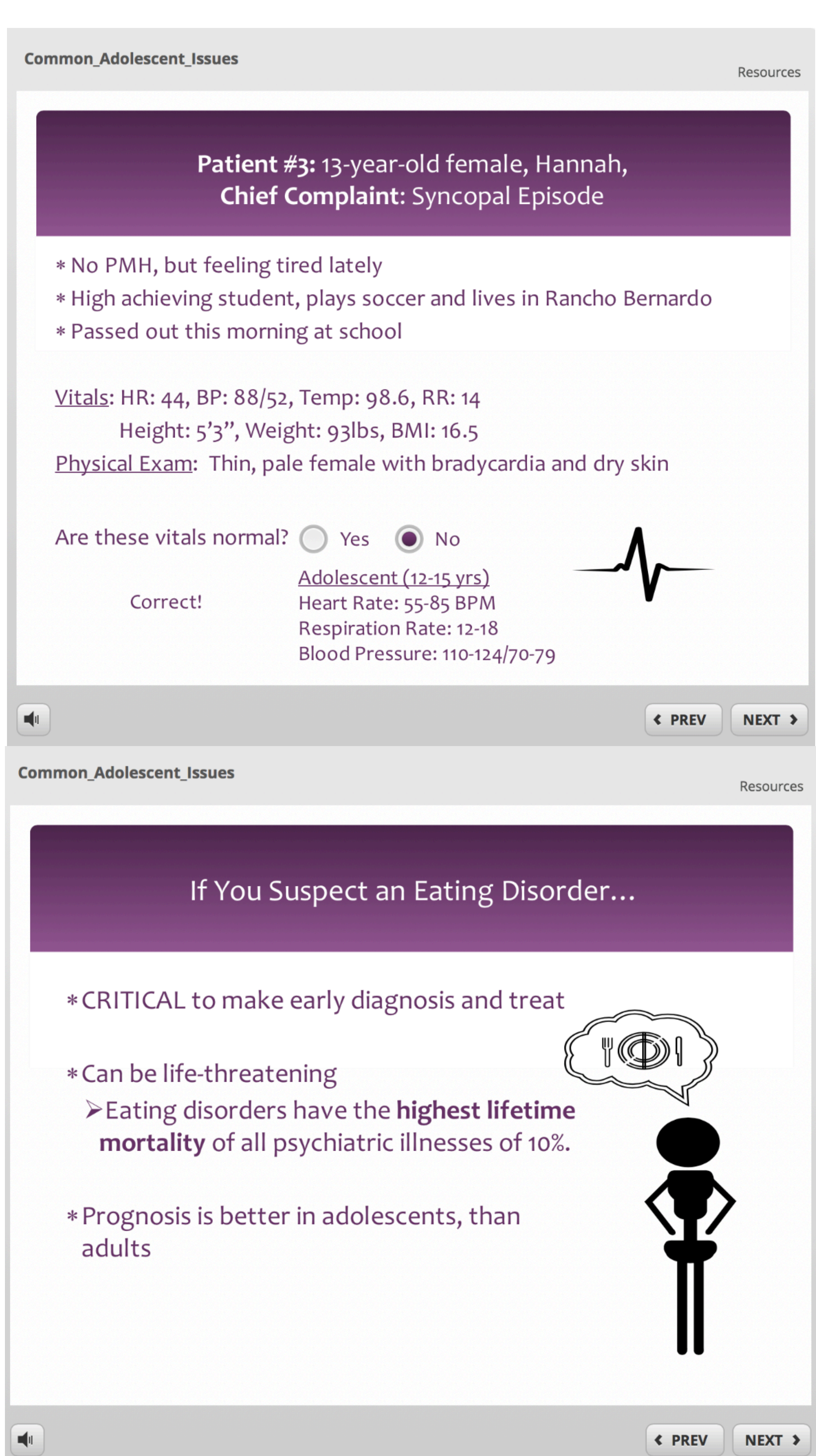
1. Stress variety, moderation and proportionality
   - Eat the rainbow!
2. Emphasize food patterns, not individual foods
3. Nutrient dense foods in appropriate quantities
4. Reduce trans fats, processed foods and fast foods!

Total Diet Approach

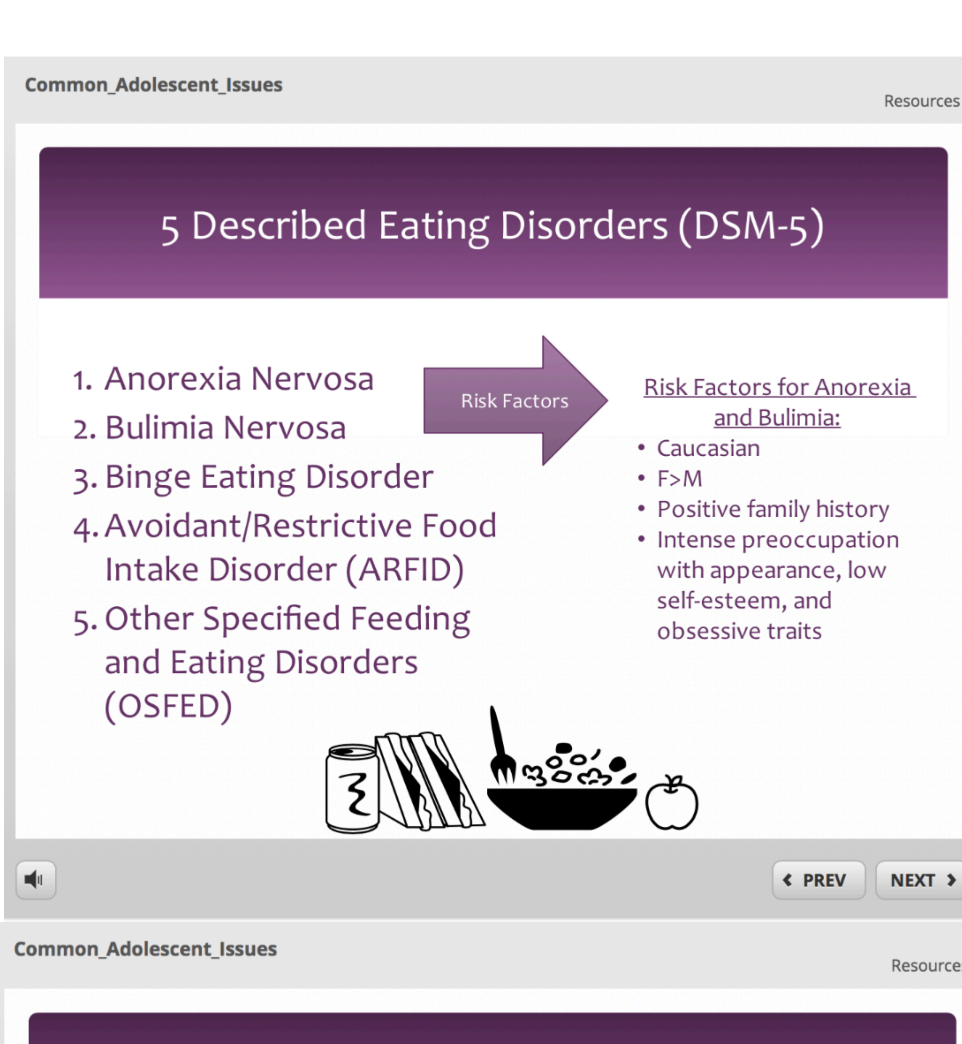


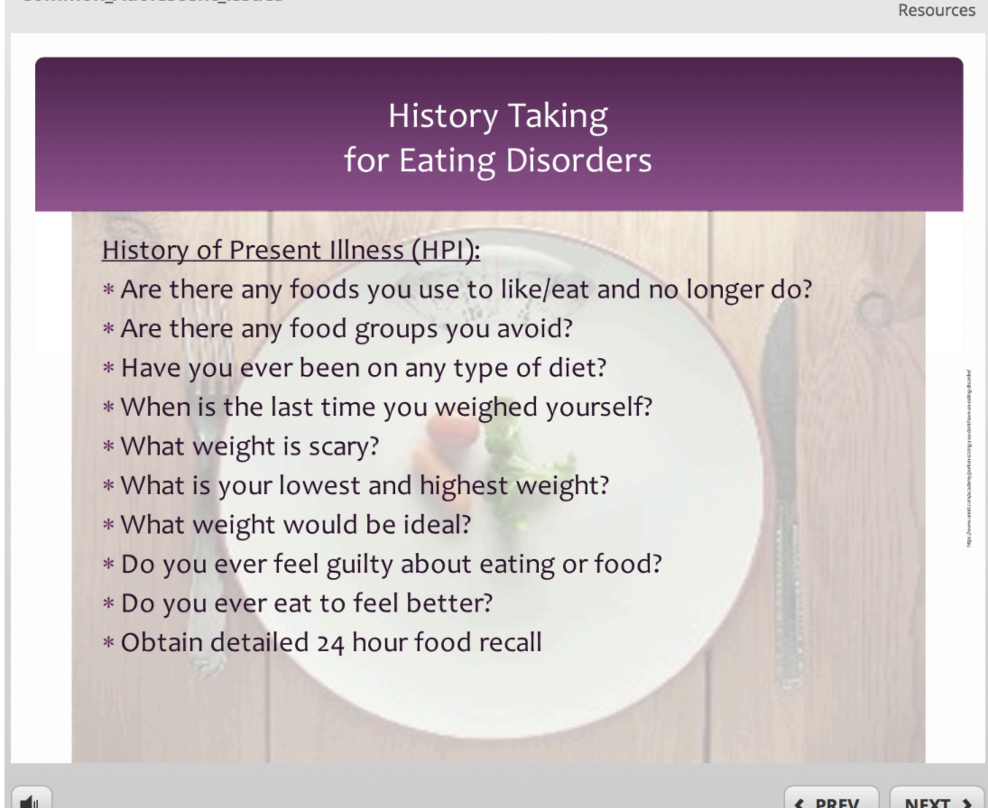
Common_Adolescent_Issues
Resources
Adolescent Obesity Management
Pediatrician's Role:
• Educate about healthy nutrition & physical activity
• Target BOTH adolescent and their parents
• Use motivational interviewing
• Encourage stimulus control
• Limited access to tempting food or screen time
• Emphasize gradual improvement
• Should not lose >2 lb/week
Diet
Physical Activity
CDC recommends 60 minutes+ of physical activity daily for ages 6-17 years.
PREV
NEXT
Common_Adolescent_Issues
Resources
A clinical nurse is planning a teaching session about childhood obesity prevention for parents of school-age children. The nurse should include which associated risk of obesity in the teaching plan?
Celiac Disease
Type II Diabetes
Cystic Fibrosis
Type I Diabetes
Comorbidities Associated with Pediatric Obesity:
1. Type II Diabetes
2. Hypertension
3. Dyslipidemia
4. PCOS
5. NASH
6. Asthma
7. Psychosocial issues
8. Depression
9. Sleep Apnea
10. Orthopedic Problems
NEXT
SUBMIT

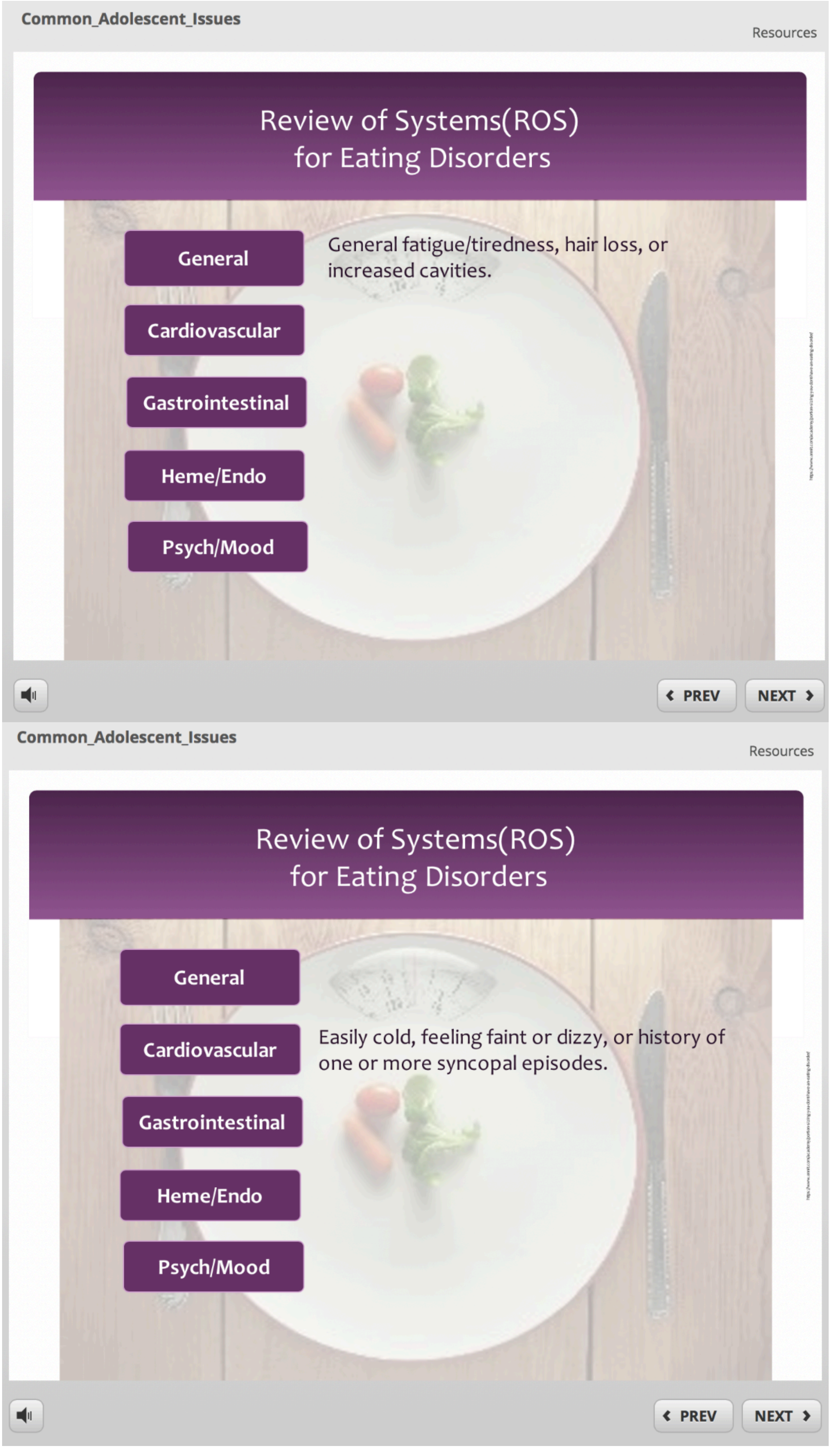

Common_Adolescent_Issues
Resources
Obesity Resources to Recommend to Teens and Families:
Click each picture to visit the site!
Fruits
Grains
Dairy
Vegetables
Protein
ChooseMyPlate.gov
LIVESTRONG
NIH
National Heart, Lung, and Blood Institute
PREV
NEXT
Common_Adolescent_Issues
Resources
Taylor admits to choosing fast food/frozen dinners because he is stressed from so much school work and he continuously eats easy meals while studying. You ask him on a scale from 1-10, how ready he is to change his diet. He reports 8, because he wants to "not be so big". Taylor and his mom decide to have healthy snacks at home, to set alarms for homework breaks and for 30 min walks/runs daily.
Plan for follow-up with Taylor:
c. In 6 months + endocrine referral
a. In one week + endocrine referral
b. In one month + nutrition referral
d. Next year, at his annual physical + nutrition referral
Click for more info on obesity management
SUBMIT

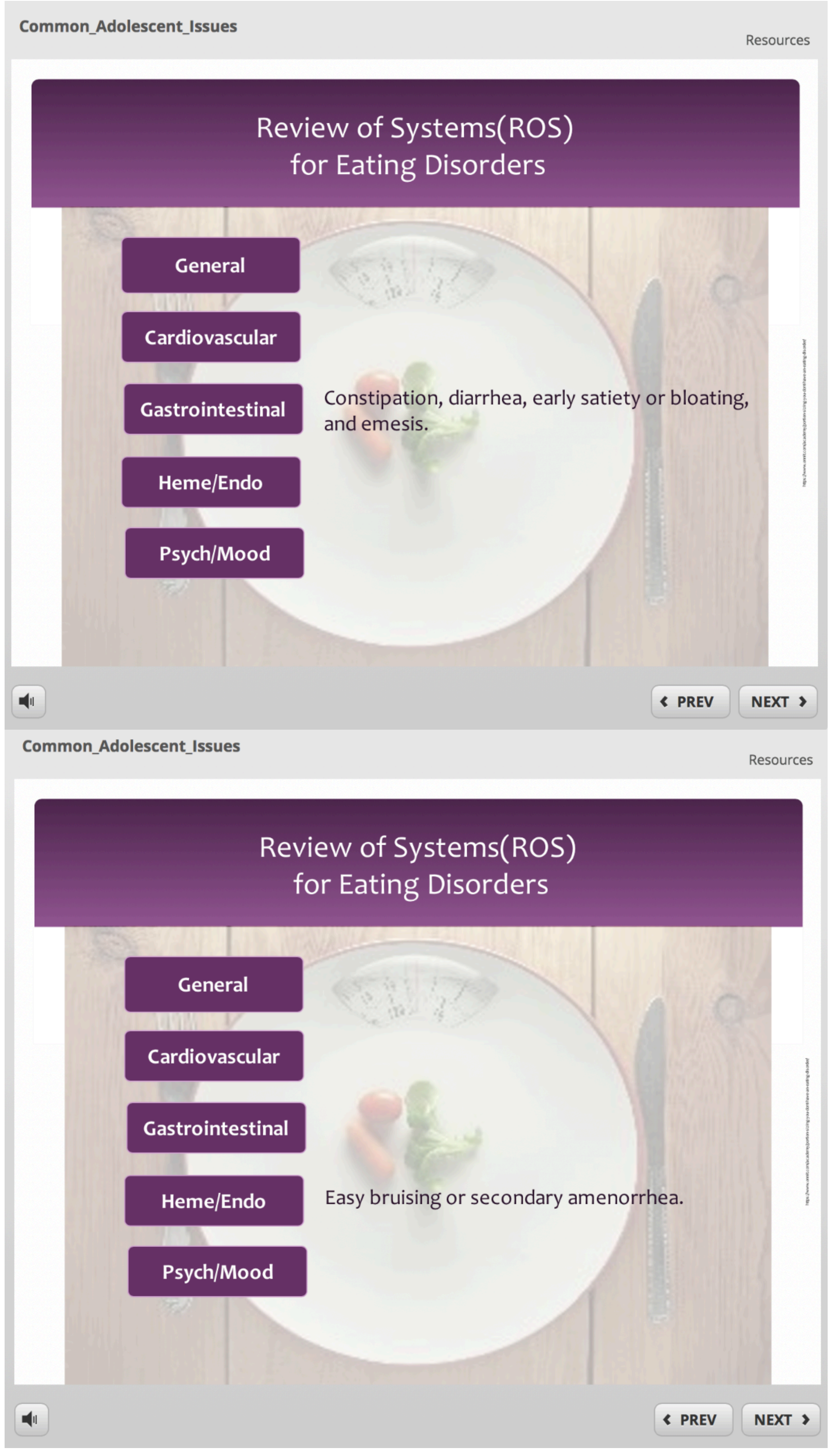


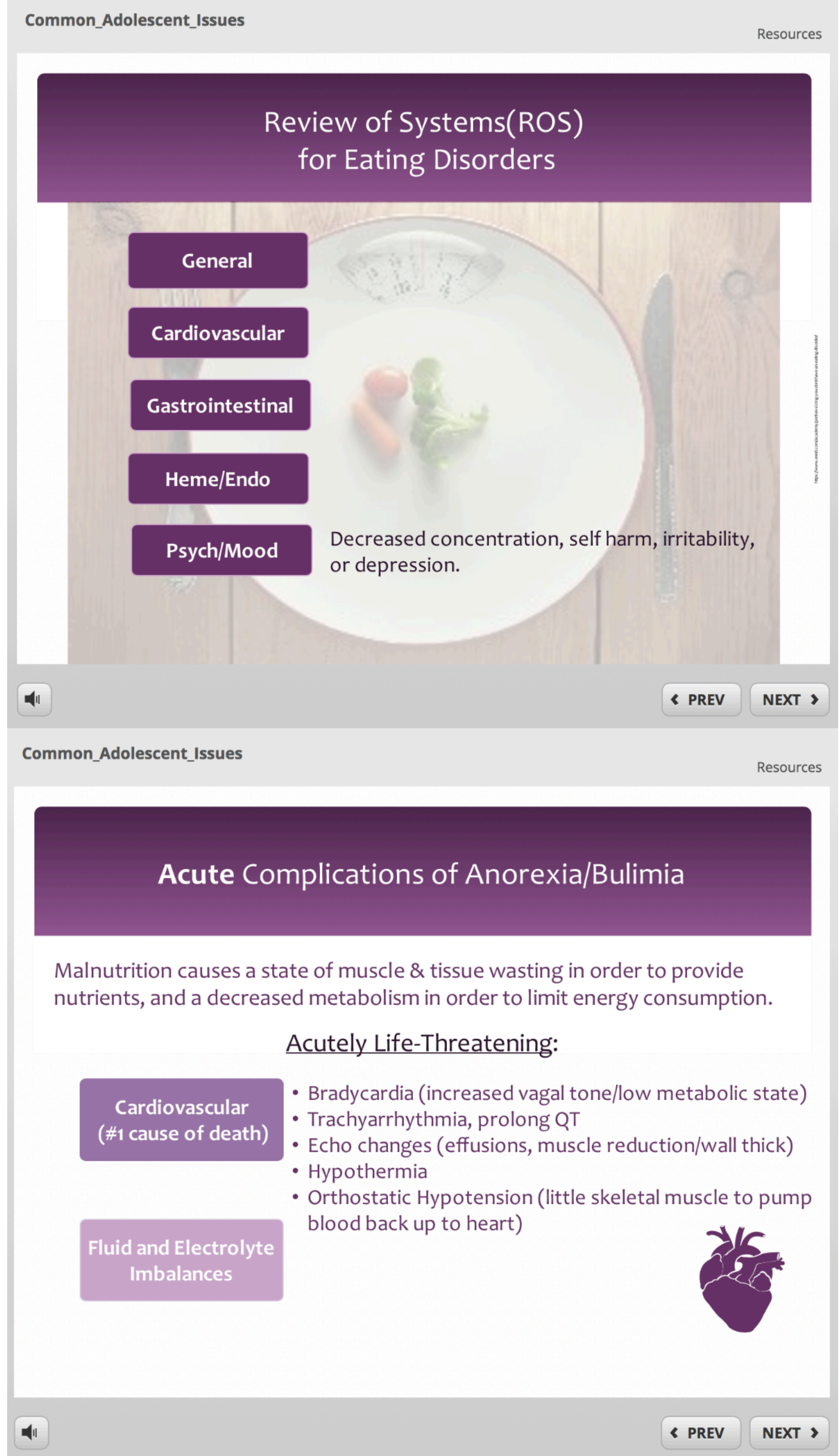
Common_Adolescent_Issues
Resources
Patient #3: 13-year-old female, Hannah,
Chief Complaint: Syncopal Episode
∗ No PMH, but feeling tired lately
∗ High achieving student, plays soccer and lives in Rancho Bernardo
∗ Passed out this morning at school
Vitals: HR: 44, BP: 88/52, Temp: 98.6, RR: 14
Height: 5'3", Weight: 93lbs, BMI: 16.5
Physical Exam: Thin, pale female with bradycardia and dry skin
Are these vitals normal? Yes No
Correct!
Adolescent (12-15 yrs)
Heart Rate: 55-85 BPM
Respiration Rate: 12-18
Blood Pressure: 110-124/70-79
PREV
NEXT
Common_Adolescent_Issues
Resources
If You Suspect an Eating Disorder…
∗ CRITICAL to make early diagnosis and treat
∗ Can be life-threatening
➢ Eating disorders have the highest lifetime mortality of all psychiatric illnesses of 10%.
∗ Prognosis is better in adolescents, than adults
PREV
NEXT

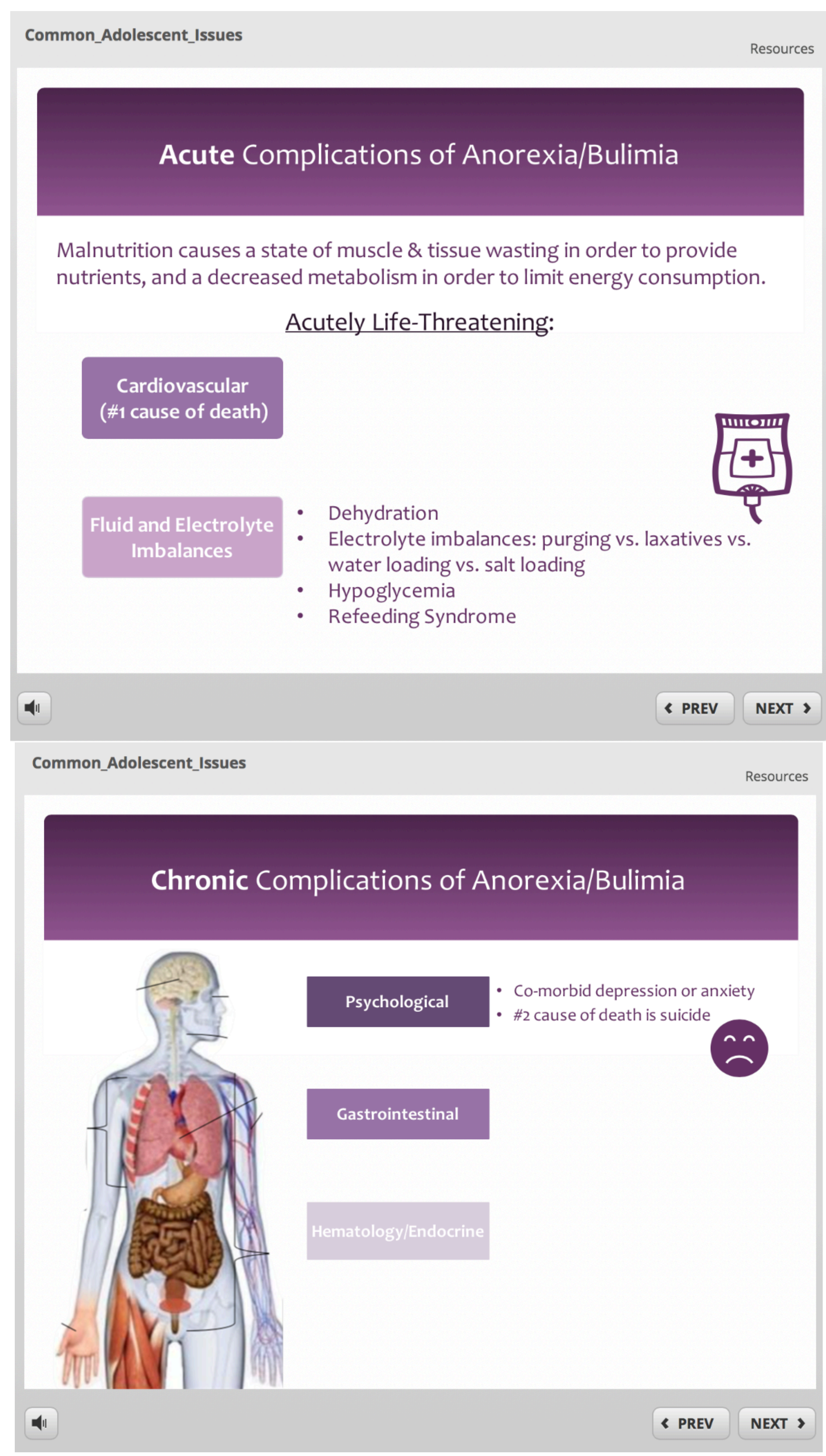

Common_Adolescent_Issues
Resources
5 Described Eating Disorders (DSM-5)
1. Anorexia Nervosa
2. Bulimia Nervosa
3. Binge Eating Disorder
4. Avoidant/Restrictive Food Intake Disorder (ARFID)
5. Other Specified Feeding and Eating Disorders (OSFED)
Risk Factors
Risk Factors for Anorexia and Bulimia:
• Caucasian
• F>M
• Positive family history
• Intense preoccupation with appearance, low self-esteem, and obsessive traits
PREV
NEXT

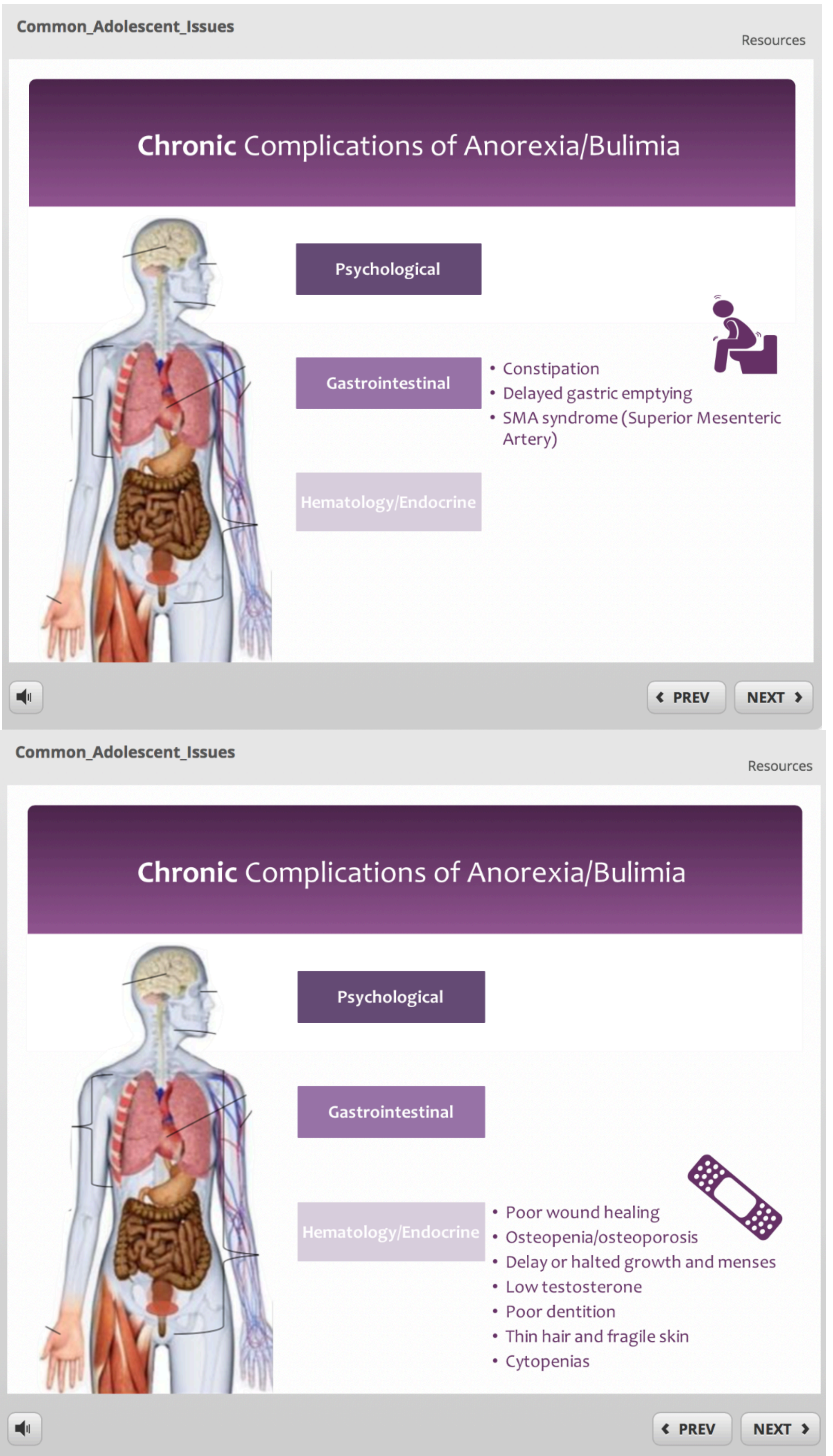

Common_Adolescent_Issues
Resources
History Taking for Eating Disorders
History of Present Illness (HPI):
* Are there any foods you use to like/eat and no longer do?
* Are there any food groups you avoid?
* Have you ever been on any type of diet?
* When is the last time you weighed yourself?
* What weight is scary?
* What is your lowest and highest weight?
* What weight would be ideal?
* Do you ever feel guilty about eating or food?
* Do you ever eat to feel better?
* Obtain detailed 24 hour food recall
PREV
NEXT


Common_Adolescent_Issues
Resources
Review of Systems(ROS)
for Eating Disorders
General
Cardiovascular
Gastrointestinal
Heme/Endo
Psych/Mood
General fatigue/tiredness, hair loss, or increased cavities.
PREV
NEXT
Common_Adolescent_Issues
Resources
Review of Systems(ROS)
for Eating Disorders
General
Cardiovascular
Gastrointestinal
Heme/Endo
Psych/Mood
Easily cold, feeling faint or dizzy, or history of one or more syncopal episodes.
PREV
NEXT


Common_Adolescent_Issues
Resources
Review of Systems(ROS)
for Eating Disorders
General
Cardiovascular
Gastrointestinal
Constipation, diarrhea, early satiety or bloating, and emesis.
Heme/Endo
Psych/Mood
PREV
NEXT
Common_Adolescent_Issues
Resources
Review of Systems(ROS)
for Eating Disorders
General
Cardiovascular
Gastrointestinal
Heme/Endo
Easy bruising or secondary amenorrhea.
Psych/Mood
PREV
NEXT


Common_Adolescent_Issues
Resources
Review of Systems(ROS)
for Eating Disorders
General
Cardiovascular
Gastrointestinal
Heme/Endo
Psych/Mood
Decreased concentration, self harm, irritability, or depression.
PREV
NEXT
Common_Adolescent_Issues
Resources
Acute Complications of Anorexia/Bulimia
Malnutrition causes a state of muscle & tissue wasting in order to provide nutrients, and a decreased metabolism in order to limit energy consumption.
Acutely Life-Threatening:
Cardiovascular (#1 cause of death)
• Bradycardia (increased vagal tone/low metabolic state)
• Trachyarrhythmia, prolong QT
• Echo changes (effusions, muscle reduction/wall thick)
• Hypothermia
• Orthostatic Hypotension (little skeletal muscle to pump blood back up to heart)
Fluid and Electrolyte Imbalances
PREV
NEXT


Common_Adolescent_Issues
Resources
Acute Complications of Anorexia/Bulimia
Malnutrition causes a state of muscle & tissue wasting in order to provide nutrients, and a decreased metabolism in order to limit energy consumption.
Acutely Life-Threatening:
Cardiovascular (#1 cause of death)
Fluid and Electrolyte Imbalances
Dehydration
Electrolyte imbalances: purging vs. laxatives vs. water loading vs. salt loading
Hypoglycemia
Refeeding Syndrome
PREV
NEXT
Common_Adolescent_Issues
Resources
Chronic Complications of Anorexia/Bulimia
Psychological
Co-morbid depression or anxiety
#2 cause of death is suicide
Gastrointestinal
Hematology/Endocrine
PREV
NEXT


Common_Adolescent_Issues
Resources
Chronic Complications of Anorexia/Bulimia
Psychological
Gastrointestinal
• Constipation
• Delayed gastric emptying
• SMA syndrome (Superior Mesenteric Artery)
Hematology/Endocrine
PREV
NEXT
Common_Adolescent_Issues
Resources
Chronic Complications of Anorexia/Bulimia
Psychological
Gastrointestinal
Hematology/Endocrine
• Poor wound healing
• Osteopenia/osteoporosis
• Delay or halted growth and menses
• Low testosterone
• Poor dentition
• Thin hair and fragile skin
• Cytopenias
PREV
NEXT

Eating Disorder Treatment

Depends on Severity...

Level 1: Outpatient

Level 2: Intensive Outpatient

Level 3: Full- Day/Partial Hospitalization Treatment

Level 4: Residential Treatment

Level 5: Inpatient Hospitalization

Inpatient Criteria:

a. Heart rate at 45BPM or less (UCSD MBU), Orthostatic blood pressure changes (>20 BPM increase in heart rat,e or >10 mmHg to 20 mmHg drop in BP), BP <80/50 mmHg, low potassium, phosphate or magnesium levels

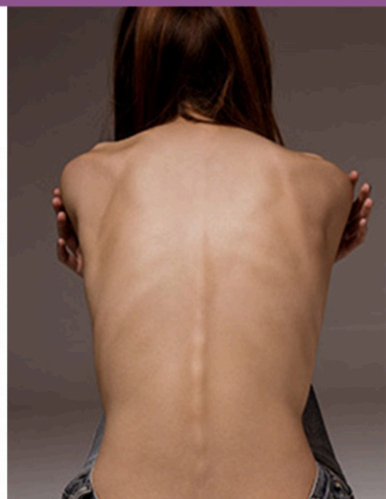
b. Suicide plan/attempt

c. Weight as percent healthy body weight of <75% (UCSD MBU) or food refusal

Diagnosis: Anorexia

Hannah is admitted inpatient to the Rady Medical Behavioral Unit (MBU) to receive care until her vitals stabilize and she is on a nutritional regiment.

- Her vitals improve after 2 weeks
- She starts to gain a small amount of weight with intense medical and psychology care
- She is discharged to a residential treatment program here in San Diego.



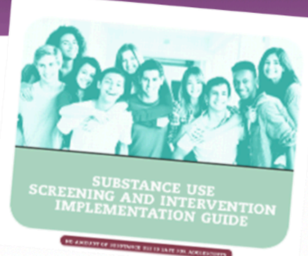
Patient #4: 16-year-old male, Chris
Chief Concern: Positive drug screen at football

* PMH: Broken right ankle (2 years ago)
* Play varsity football, and was found to have a + drug screen for Marijuana
* Mom reports he has seemed less interested in things

Vitals: All within normal limits for age.
Physical Exam: Benign exam.

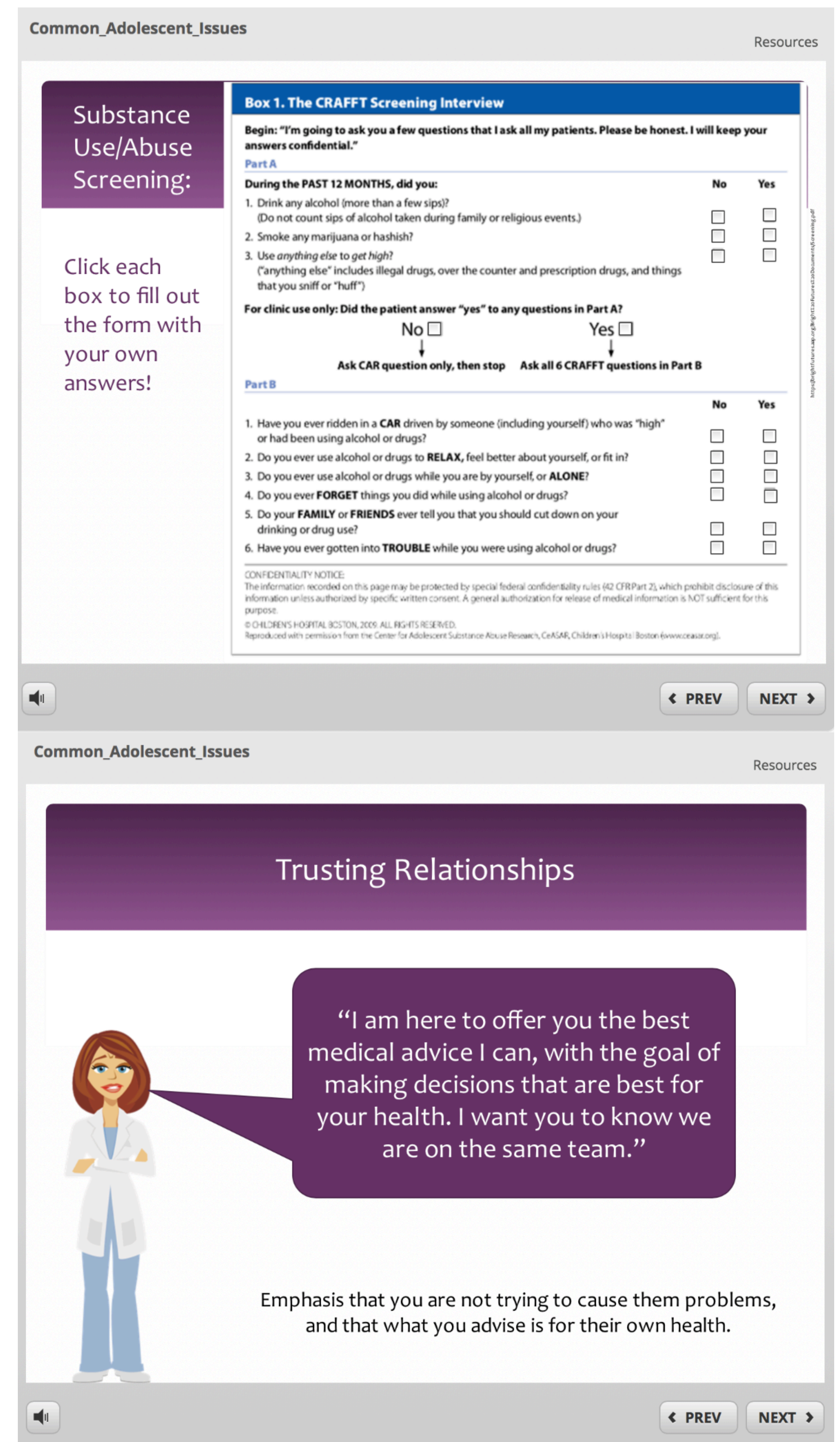
PREV NEXT

Substance Use and Abuse in Adolescents



- Adolescents are at *highest risk* for health problems related to substance use
- AAP reports there is no amount of substance use that is safe
- Important to do Screening, Brief Intervention, and Referral to Treatment (SBIRT) for use of substances for ALL patients
  - Start young!
- Studies show that reinforcement and providers encouraging/ supporting adolescent's healthy and smart choices is beneficial

PREV NEXT


Common_Adolescent_Issues
Resources
Substance Use/Abuse Screening:
Click each box to fill out the form with your own answers!
Box 1. The CRAFFT Screening Interview
Begin: "I'm going to ask you a few questions that I ask all my patients. Please be honest. I will keep your answers confidential."
Part A
During the PAST 12 MONTHS, did you:
No
Yes
1. Drink any alcohol (more than a few sips)?
(Do not count sips of alcohol taken during family or religious events.)
2. Smoke any marijuana or hashish?
3. Use anything else to get high?
("anything else" includes illegal drugs, over the counter and prescription drugs, and things that you sniff or "huff")
For clinic use only: Did the patient answer "yes" to any questions in Part A?
No
Yes
Ask CAR question only, then stop
Ask all 6 CRAFFT questions in Part B
Part B
No
Yes
1. Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?
2. Do you ever use alcohol or drugs to RELAX, feel better about yourself, or fit in?
3. Do you ever use alcohol or drugs while you are by yourself, or ALONE?
4. Do you ever FORGET things you did while using alcohol or drugs?
5. Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?
6. Have you ever gotten into TROUBLE while you were using alcohol or drugs?
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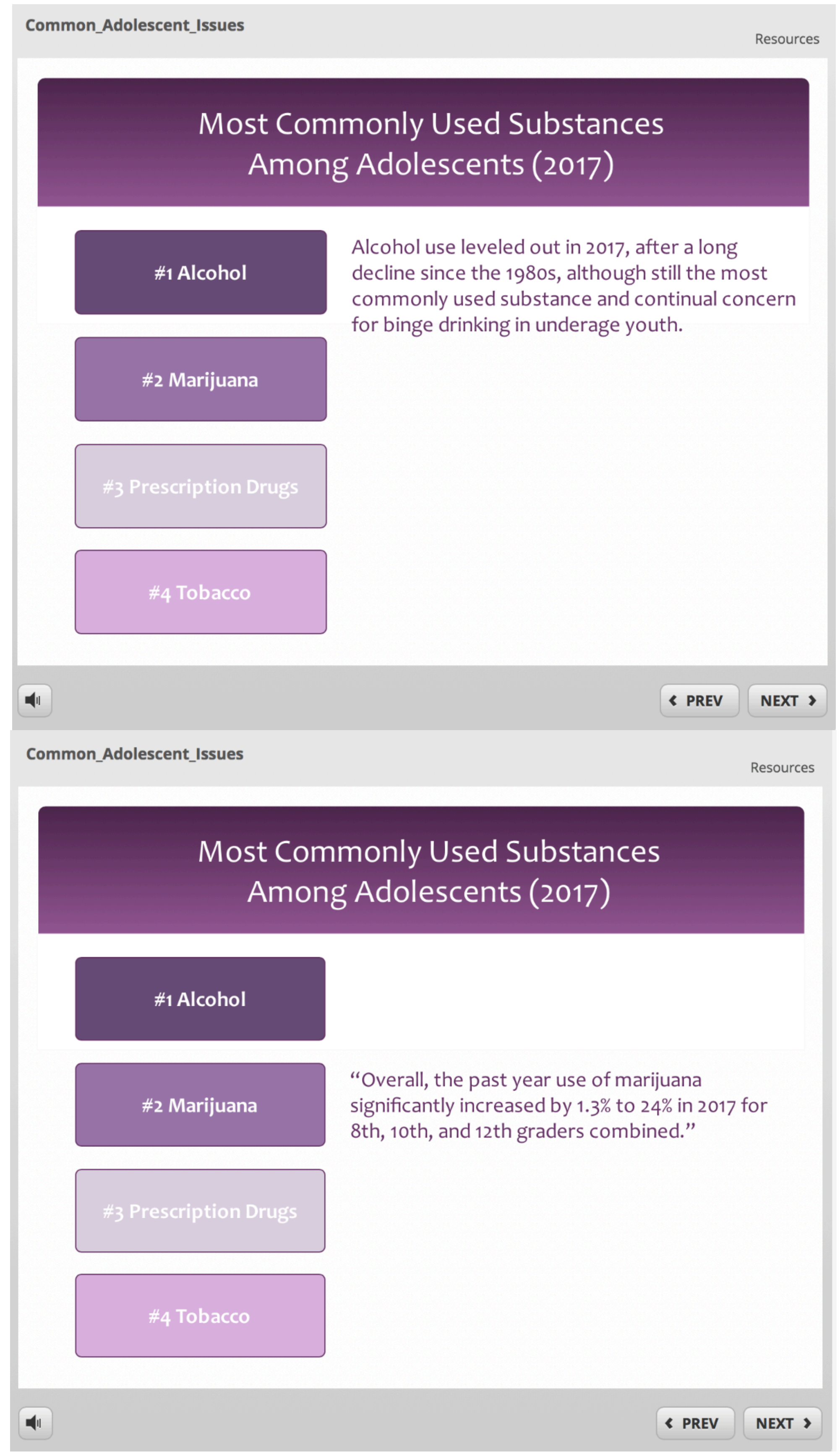
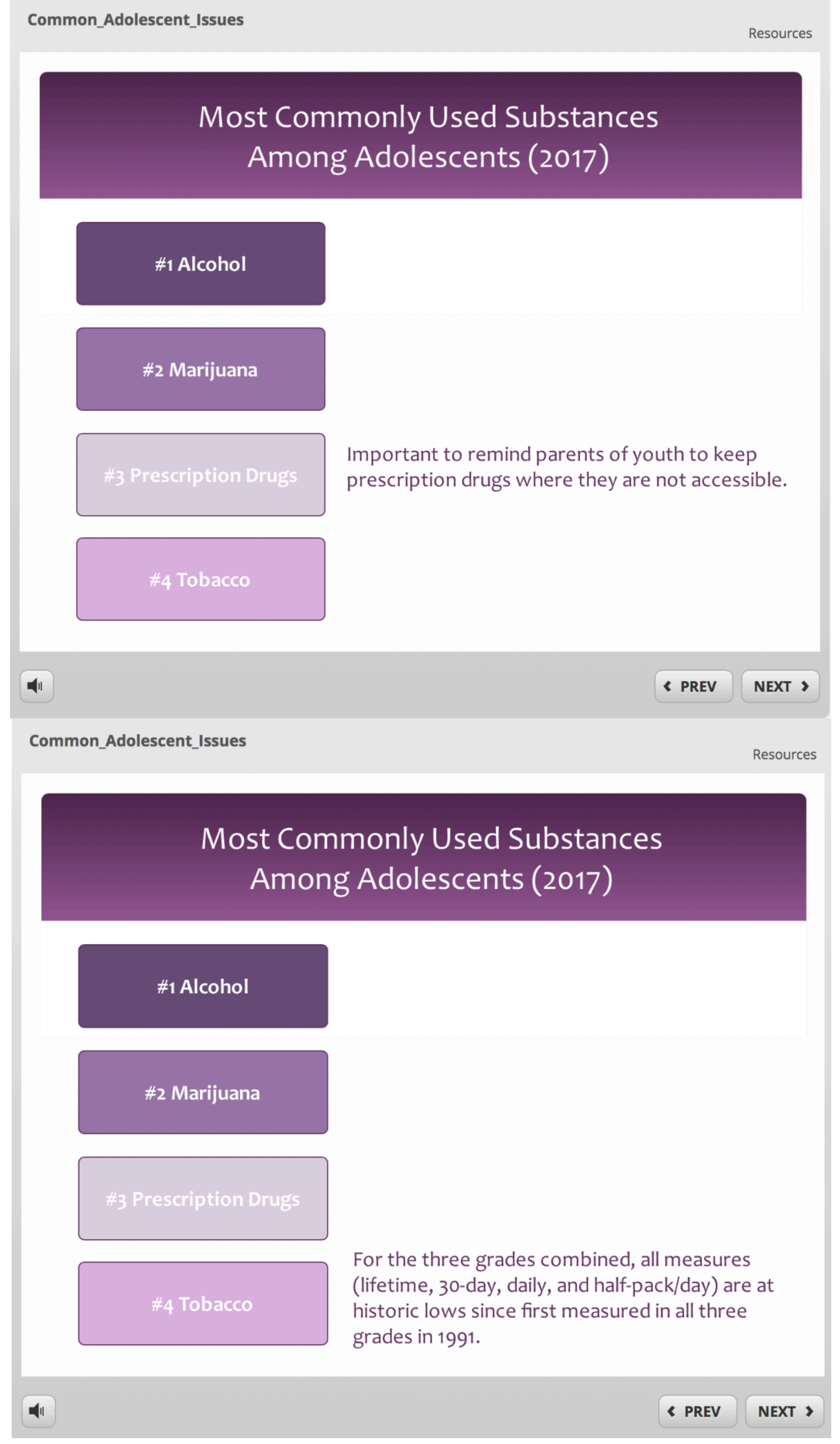
PREV
NEXT
Common_Adolescent_Issues
Resources
Trusting Relationships
"I am here to offer you the best medical advice I can, with the goal of making decisions that are best for your health. I want you to know we are on the same team."
Emphasis that you are not trying to cause them problems, and that what you advise is for their own health.
PREV
NEXT


Common_Adolescent_Issues
Resources
Most Commonly Used Substances
Among Adolescents (2017)
#1 Alcohol
Alcohol use leveled out in 2017, after a long decline since the 1980s, although still the most commonly used substance and continual concern for binge drinking in underage youth.
#2 Marijuana
#3 Prescription Drugs
#4 Tobacco
PREV
NEXT
Common_Adolescent_Issues
Resources
Most Commonly Used Substances
Among Adolescents (2017)
#1 Alcohol
#2 Marijuana
"Overall, the past year use of marijuana significantly increased by 1.3% to 24% in 2017 for 8th, 10th, and 12th graders combined."
#3 Prescription Drugs
#4 Tobacco
PREV
NEXT


Common_Adolescent_Issues
Resources
Most Commonly Used Substances
Among Adolescents (2017)
#1 Alcohol
#2 Marijuana
#3 Prescription Drugs
Important to remind parents of youth to keep prescription drugs where they are not accessible.
#4 Tobacco
PREV
NEXT
Common_Adolescent_Issues
Resources
Most Commonly Used Substances
Among Adolescents (2017)
#1 Alcohol
#2 Marijuana
#3 Prescription Drugs
#4 Tobacco
For the three grades combined, all measures (lifetime, 30-day, daily, and half-pack/day) are at historic lows since first measured in all three grades in 1991.
PREV
NEXT

#1 Alcohol Use/Abuse

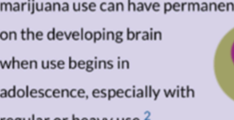
* Often the 1st substances adolescents use
* Providers **underestimate** substance use
  * 28% of 8th graders have tried it
  * 68% of 12th graders have tried it

* Many serious consequences:
  * Academic and social problems
  * According to the CDC 4,300 deaths in underage youth each year from drinking
  * Motor vehicle accidents (MVA)
  * Suicidal behavior
  * Unintentional injuries/death (esp. as adolescents are more physically active)

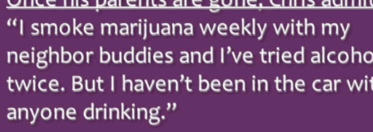
#2 Marijuana Use/Abuse

Fast Facts

* 38% of high school students report having used marijuana in their life.[1]
* Research shows that marijuana use can have permanent effects on the developing brain when use begins in adolescence, especially with regular or heavy use.[2]
* Frequent or long-term marijuana use is linked to school dropout and lower educational achievement.[3]



https://www.cdc.gov/marijuana/factsheets/teens.htm



Once his parents are gone, Chris admits, "I smoke marijuana weekly with my neighbor buddies and I've tried alcohol twice. But I haven't been in the car with anyone drinking."

Discuss with Chris:

* His understanding of the consequences of marijuana
* What would motivate him to stop
* His own concrete plan of how to quit

"I recommend that you stop smoking, and now is the best time. We will have a follow-up in 1 month."

#4 Tobacco Use/Abuse

Many different forms including electronic cigarettes (most common), cigarettes, cigars, smokeless tobacco, hookah, pipe tobacco and bidis.

* Contain 4000 different chemicals
* "Starting smoking at a younger age is associated with more severe addiction and decreased rates of stopping smoking"

Smoking Cessation for Adolescents:

Behavior based interventions | **Nicotine replacement**

- Cognitive Behavioral Therapy (CBT)
- Counseling
- National Cancer Institute's App for Teen Smoking Cessation SmokefreeTXT

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Resources

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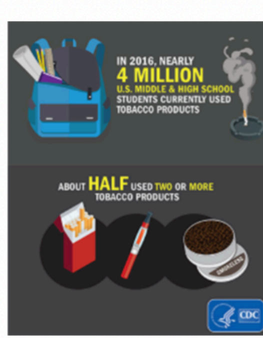

Smoking Cessation for Adolescents:

Behavior based interventions | **Nicotine replacement**

a. 14 mg patch (<10 cigs/day) for 6 weeks
b. 21 mg patch (>10 cigs/day) for 6 weeks
  * Not at night -> Unable to sleep
  * Wean by 7 mg every 2 weeks until off the patch

"A 16-year-old boy who is the backup quarterback for his high school team is complaining of worsening acne. For a few months, he has noted more acne and more oily hair. On exam, you note gynecomastia and small testicular volume. He is SMR 5. Which of the following drugs of abuse is the likely explanation for all of this findings?"

- (●) Oxandrolone
- ( ) Toluene
- ( ) Cocaine
- ( ) Marijuana
- ( ) Methylenedioxymethamphetamine (MDMA)

SUBMIT

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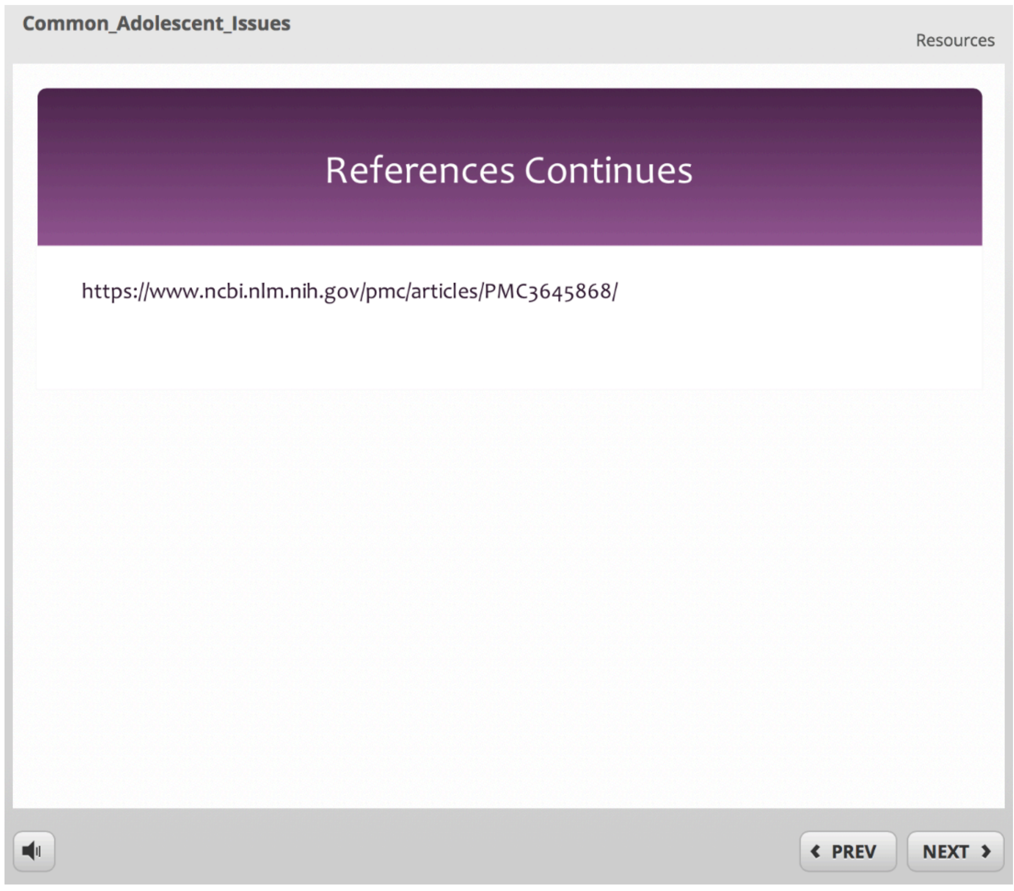
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