Chapter 16 Endocrine and Reproductive Health
Lesson 1 The Endocrine System

VIDEO SUMMARY

The endocrine system includes numerous glands, such as those that produce the hormones estrogen and testosterone. These two chemical messengers have powerful effects on both the body and the mind. They trigger the physical and emotional changes teens experience during puberty and throughout adolescence. In many ways, the hormones estrogen and testosterone are responsible for the emotional ups and downs most teens experience.

Click here to watch video; 00:02:30

Discussion Questions
Show the video for Lesson 1. Then guide students in discussing their responses to these questions.

1. What are the chemical messengers referred to in the video? Where are they produced?
   The chemical messengers estrogen and testosterone are known as hormones. Estrogen is produced in the ovaries of females, and testosterone is produced in the testes of males.

2. Other than muscle and bone growth, what are some of the physical changes caused by hormones during puberty?
   Other changes include the development of secondary sex characteristics such as body hair growth in males or menstruation in females.

3. How does understanding the chemical causes of puberty’s emotional ups and downs help make them easier to accept? Explain your ideas.
   Answers will vary.

4. Hormones continue to influence the functions of your body throughout your life, not just during puberty. What are some other functions of hormones?
   Hormones regulate glucose in the blood, the development of the immune system, the sleep cycle, and more.

Explain

Accessing Information This skill addresses the important steps to take to get valid health information and appropriate health services.

Have students work with partners to learn more about the specific functions and effects of estrogen and testosterone. Ask the partners to list three or four questions they would like to answer. Then have them work together to use appropriate Web sites to find reliable answers to their questions. Conclude by having students share what they learned with the rest of the class.

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- A detailed explanation of the endocrine system, including its parts, functions, and potential problems, is presented in this article at KidsHealth.org.
- This article from the Hormone Foundation Web site explains the endocrine system and includes a diagram. Click on each feature of the diagram for links to more information about that gland.

Go to Fitness Zone Online for additional fitness activities, videos, and podcasts.
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After you have watched the video, write your responses to these questions.

1. What are the chemical messengers referred to in the video? Where are they produced?

2. Other than muscle and bone growth, what are some of the physical changes caused by hormones during puberty?

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4. Hormones continue to influence the functions of your body throughout your life, not just during puberty. What are some other functions of hormones?
Chapter 16 Endocrine and Reproductive Health
Lesson 2 The Male Reproductive System

VIDEO SUMMARY

In this video, the creation of sperm in the male reproductive system highlights the complexity of the penis and the testes. Individual sperm cells, which are produced at a rate of 1,000 per second, carry a genetic blueprint of a human being.

Click here to watch video; 00:01:29

Discussion Questions
Show the video for Lesson 2. Then guide students in discussing their responses to these questions.

1. How are the endocrine system and the male reproductive system interrelated?
   The hormone testosterone controls the production of sperm.

2. What would be the result if the genetic blueprint of a sperm was changed?
   Any changes to the genetic blueprint of a sperm would cause changes to the genetic blueprint of anyone conceived of that sperm.

3. Why do you think it is important for males to wear protective cups or athletic supporters when participating in physical activities?
   Proper safety equipment protects the external organs of the male reproductive system.

Discuss

Advocacy This skill calls for the use of persuasion to promote positive health choices personally and for others.

Remind students that practicing abstinence is important in maintaining reproductive health. Then divide the class into discussion groups with five or six members each. Have group members discuss their responses to questions such as these: How does practicing abstinence protect reproductive health? How does it protect teens’ emotional and social health? How can teens influence other teens to practice abstinence?

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- A detailed discussion of the male reproductive system, especially as it changes during the teen years, is presented in this KidsHealth.org article.
- Visit KidsHealth.org for information about changes all teens face during puberty, as well as a brief discussion of the male reproductive system.

Go to Fitness Zone Online for additional fitness activities, videos, and podcasts.
In this video, the creation of sperm in the male reproductive system highlights the complexity of the penis and the testes. Individual sperm cells, which are produced at a rate of 1,000 per second, carry a genetic blueprint of a human being.

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Chapter 16 Endocrine and Reproductive Health
Lesson 3 The Female Reproductive System

VIDEO SUMMARY

This video uses a new form of imaging to show the major organs of the female reproductive system. The uterus is a massive muscle in which a baby can grow. Fallopian tubes connect the uterus to the two ovaries, which contain a lifetime supply of eggs. At puberty, the pituitary gland in the brain signals the ovaries to begin releasing eggs.

Click here to watch video; 00:02:18

Discussion Questions

Show the video for Lesson 3. Then guide students in discussing their responses to these questions.

1. When is a female’s supply of eggs formed?
   Eggs are formed when a female is an eight-week old embryo.

2. How are the endocrine system and the female reproductive system interrelated?
   The pituitary gland stimulates the ovaries to begin releasing eggs at puberty.

3. What are the most important differences between a female’s egg supply and a male’s sperm supply?
   Females have a lifetime store of eggs at birth, but males are able to produce sperm after puberty and throughout their lives.

4. If the egg released during ovulation is not fertilized, what process occurs?
   Menstruation, the shedding of the uterine lining, occurs when a mature egg is not fertilized.

Journal

Accessing Information  This skill addresses the important steps to take to get valid health information and appropriate health services.

Remind students that everyone has questions and concerns, especially about reproductive health. Ask students to consider how they will handle their own questions. Whom do you trust to ask, and who will give you honest, accurate answers? Suggest that students might consider older family members, health care professionals, and other trusted adults. Then have students write private journal entries recording their ideas.

WEB LINKS AND ADDITIONAL GLENCOE RESOURCES

- A detailed discussion of the female reproductive system, especially as it changes during the teen years, is presented in this article from KidsHealth.org.
- This KidsHealth.org article discusses the process of menstruation.

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Chapter 16 Endocrine and Reproductive Health
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This video uses a new form of imaging to show the major organs of the female reproductive system. The uterus is a massive muscle in which a baby can grow. Fallopian tubes connect the uterus to the two ovaries, which contain a lifetime supply of eggs. At puberty, the pituitary gland in the brain signals the ovaries to begin releasing eggs.

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