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CHAPTER 16

Endocrine and Reproductive Health

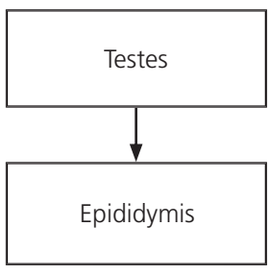
LESSON 2 The Male Reproductive System

BIG Idea

The male reproductive system is a series of organs involved in producing children.

Study Coach

Flow Chart As you read, sketch the path that sperm take through each of the male reproductive organs.



READING CHECK

1. **Identify** Which hormone causes physical changes as the body matures? What are some of those changes?

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Before You Read

Puberty brings about many physical changes. If you have questions about reproductive health, where can you go for answers? Write your ideas on the lines below. As you read, add additional ideas to your list.

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Read to Learn

How Male Reproduction Works

The male reproductive system has two main functions. First, it produces and stores **sperm**. Sperm are the male reproductive cells. The male reproductive cells are also known as *gametes*. This system also transfers sperm to the female's body during sexual intercourse. The male reproductive system matures during the early teen years, usually between the ages of 12 and 15. At that time, hormones produced in the pituitary gland stimulate the production of testosterone. **Testosterone** is the male sex hormone. This hormone causes many changes in the body that signal maturity. The shoulders broaden, muscles, facial hair, and body hair develop, and the voice deepens. Testosterone also controls the production of sperm. After puberty, a physically mature male is able to produce sperm for the rest of his life. ✓

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What are the external organs of the male reproductive system?

Some of the organs of the male reproductive system are located outside of the body. These external organs include the testes, penis, and scrotum. The **testes**, also called *testicles*, are two small glands that secrete testosterone and produce sperm. They are located in the **scrotum**, an external skin sac. The **penis** is a tube-shaped organ that extends from the trunk of the body just above the testes. The penis is composed of spongy tissue that contains many blood vessels. When blood flow to the penis increases, it becomes enlarged and erect. This is known as an erection. When the penis becomes erect, semen can be ejected from the body. **Semen** is a thick fluid containing sperm and other secretions. At the height of sexual arousal, a series of muscular contractions known as *ejaculation* may occur. If this occurs during sexual intercourse, fertilization may result.

At birth, the tip of the penis is covered by a thin, loose skin, called the *foreskin*. The foreskin may be removed shortly after birth. This is known as *circumcision*. This procedure is often done for cultural or religious reasons.

Sperm cannot live in an environment that is warmer than normal body temperature. The scrotum protects sperm by keeping the testes slightly below 98.6 degrees F. When body temperature rises, muscles attached to the scrotum relax. This causes the testes to lower away from the body. If body temperature lowers, the testes move closer to the body. Tight clothing that holds the testes too close to the body may interfere with sperm production.

When a male begins to produce sperm, he may experience an ejaculation that occurs during sleep. This is known as a nocturnal emission. Nocturnal emissions are a normal part of puberty. Nocturnal emissions relieve the buildup of pressure as sperm production begins.

READING CHECK

2. Explain How does the scrotum protect the testes?

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What are the internal organs of the male reproductive system?

Sperm must travel through several structures inside the body before they are released. These structures include the vas deferens, the urethra, the seminal vesicles, and the prostate and Cowper's glands. The figure on the next page shows the path taken by sperm cells.

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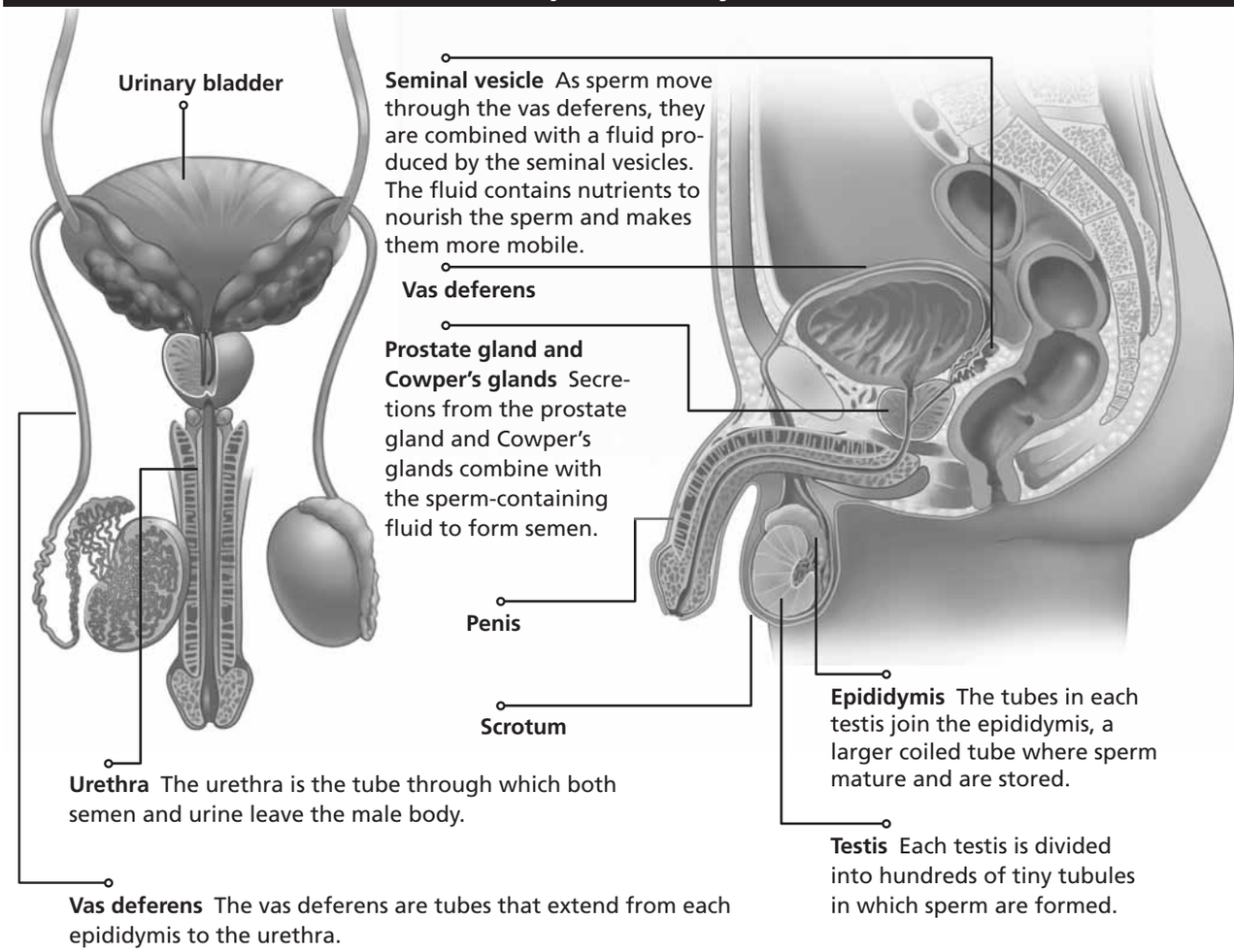
Male Reproductive System



Picture This

3. Explain What path does sperm travel before it leaves the body?

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Maintaining Reproductive Health

To care for the male reproductive system:

- **Shower or bathe daily.** Males should thoroughly cleanse the penis and scrotum. Uncircumcised males should take care to wash under the foreskin.
- **Wear productive equipment.** Use a protective cup or athletic supporter during physical activities. This will shield the external reproductive organs from injury. Practice abstinence to avoid contracting sexually transmitted diseases (STDs).
- **Perform regular self-examinations.** Check the scrotum and testicles monthly for signs of cancer. Report any change to a physician. Follow the directions on the next page to perform a testicular self-examination.
- **Get regular checkups.** All males should get regular checkups every 12 to 18 months.

How to Do a Testicular Self-Exam (TSE)

The American Cancer Society recommends that males perform a testicular self-exam once a month:

1. Stand in front of a mirror and check for swelling. Examine each testicle with both hands. Roll the testicle gently between the thumbs and forefingers.
2. Cancerous lumps usually are found on the side of the testicle but can appear on the front. Find the epididymis, the soft tube behind each testicle. Become familiar with it so that you won't mistake it for a lump.
3. Consult a health professional if you find a lump, or if you experience swelling or pain. Lumps do not always indicate the presence of cancer.

READING CHECK

4. Explain Why is it important to know where the epididymis is when doing a testicular exam?

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Male Reproductive System Problems

Some problems of the male reproductive system are listed below. Males need to watch for the signs of the following problems, including infections from STDs:

- **Inguinal hernia.** An inguinal hernia occurs when part of the intestines pushes through a tear in the abdominal wall. Inguinal hernias can be caused by straining the abdominal muscles. They can also be caused by lifting heavy objects. Symptoms may include a lump in the groin near the thigh, pain in the groin, or blockage of the intestine. Surgery can repair the tear in the muscle wall.
- **Sterility.** Sterility is the inability to reproduce. This can result from too few sperm or sperm of poor quality. Sterility can be caused by exposure to X-rays or other radiation, toxic chemicals, or lead. Drugs, diseases such as mumps and STDs, and hormonal imbalances can also play a role.
- **Testicular cancer.** Testicular cancer occurs most often in males between the ages of 14 and 40. Testicular cancer can be treated with surgery, radiation, or chemotherapy, if it is detected early.
- **Prostate problems and prostate cancer.** Prostate problems and prostate cancer may occur later in life. The prostate gland can become enlarged as a result of an infection, a tumor, or age. Prostate cancer that is detected early can usually be treated.

READING CHECK

5. Identify What are three examples of factors that can cause sterility?

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