

# The Female Reproductive System

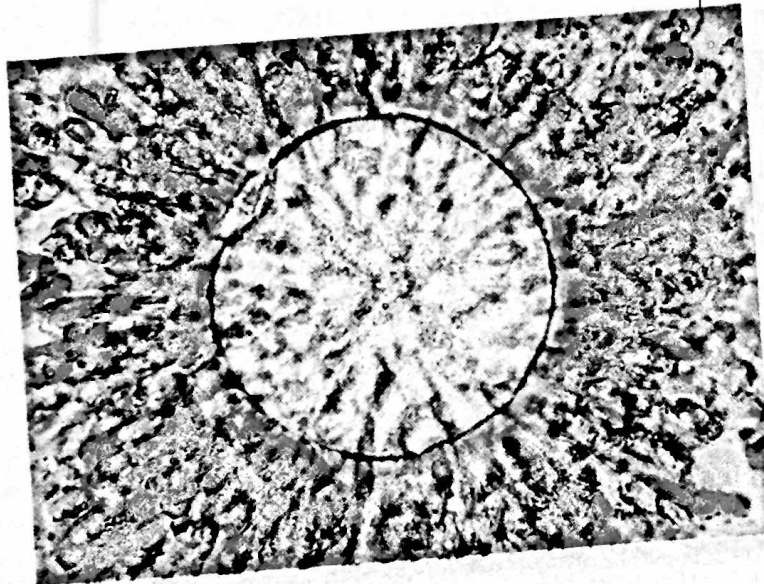
Like the male reproductive system, the female reproductive system matures during the early teen years. Like the male body, the female body goes through a number of changes. These include the development of breasts and widening of the hips. Other changes that occur are treated in the paragraphs that follow.

## HEALTH TERMS

**ova**  
**vagina**  
**ovaries**  
**ovulation**  
**fallopian tubes**  
**zygote**  
**uterus**  
**cervix**  
**menstrual cycle**  
**infertility**

## HEALTH CONCEPTS

- The female reproductive system produces ova, or egg cells.
- The menstrual flow rids the body of tissue when fertilization does not take place.
- In order to keep the female reproductive system in good health, it is important to practice regular hygiene and breast self-examination.
- Females should have a Pap test done by age 18 to help prevent cervical cancer.



Magnified ovum

## Functions and Structure of the Female Reproductive System

As with the male, the primary biological functions of the female reproductive system are related to the process of reproduction. The female reproductive system stores *female reproductive cells*, or *ova*. It also nourishes and protects each fertilized ovum from the beginning of pregnancy through birth. Sperm from the male enter the female reproductive system through the *vagina*, a *muscular, elastic passageway that extends from the uterus to the outside of the body*.

## Female Reproductive Organs

Ova are stored in the ovaries, *the female sex glands that house the ova and produce female sex hormones*. The two ovaries are almond-shaped and located on each side of the body in the lower abdominal area. At birth, a female has over 400,000 immature ova in her ovaries.

During the early teen years, hormones cause the immature ova to mature. The ovaries begin *the process of releasing one mature ovum each month*. This process is called **ovulation**. Usually, one ovary releases a mature ovum one month, and the other ovary releases a mature ovum the next month.

When a mature ovum is released from an ovary, it moves into one of the **fallopian tubes**. These are *a pair of tubes with fingerlike projections that draw the ovum in*. Each fallopian tube is about 4 inches (10 cm) long and about  $\frac{1}{3}$  inch (0.8 cm) in diameter. Tiny hairlike structures and muscular contractions move the ovum along.

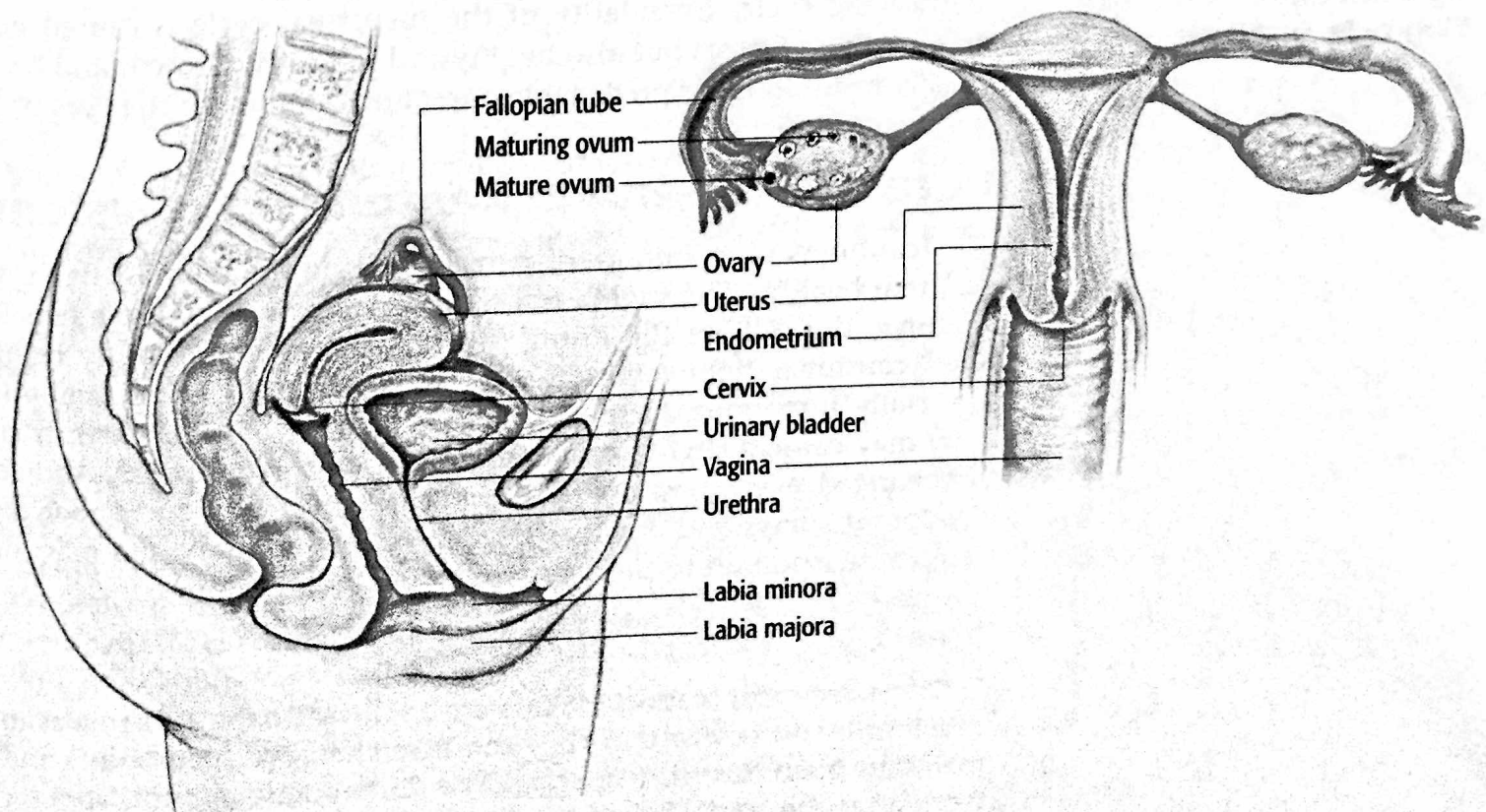
If a sperm cell introduced during intercourse is present in the fallopian tubes, it may unite with an ovum and fertilization occurs. *The cell that results from the union of sperm and ovum is a zygote*.

The **uterus** is *a small, muscular, pear-shaped organ, about the size of a fist*. Once a zygote has been formed, it leaves the fallopian tube, travels to the uterus, and attaches itself to the uterine wall.

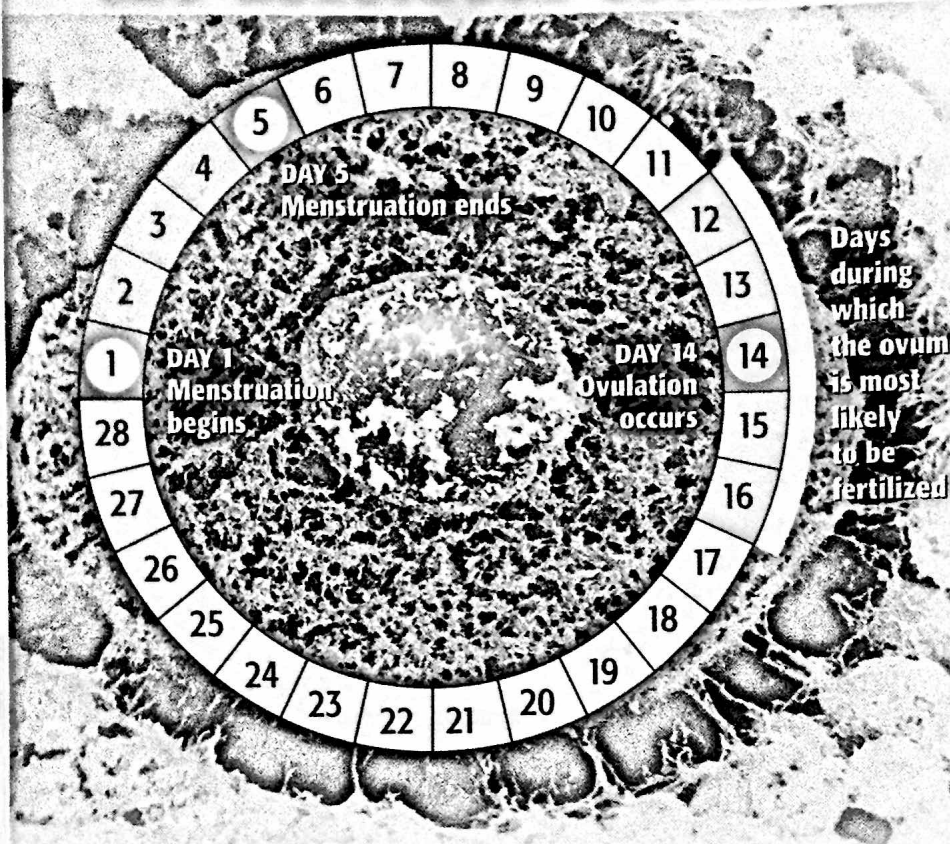
▼ **The female reproductive system produces ova to unite with sperm in the process of reproduction.**

**ACTIVITY** Name another function of the female reproductive system.

### THE FEMALE REPRODUCTIVE SYSTEM



## THE MENSTRUAL CYCLE



## Menstruation

If the ovum does not become fertilized, the lining of the uterus breaks down into blood, tissue, and fluids which pass through the cervix, or neck of the uterus, and out of the vagina. This process of shedding the lining of the uterus is called *menstruation*, from the Latin word *mensis*, meaning "month."

The menstrual flow usually lasts about three to five days. Women wear either sanitary pads or tampons to absorb the blood flow from menstruation. After the menstrual period ends, the entire cycle begins again. The lining of the uterus thickens again, preparing for the possibility of receiving a fertilized egg. Although there can be great variations, the **menstrual cycle**—the time from the beginning of one menstrual period to the onset of the next—is usually 28 days. The menstrual cycle is regulated by endocrine hormones.

▲ On average, the menstrual cycle is 28 days.

**ACTIVITY** Name the days during which the ovum is most likely to be fertilized.

Most females begin menstruating between the ages of 10 and 15. The menstrual cycle may be irregular at first. Although hormones control the menstrual cycle, poor nutrition, stress, and illness can influence the cycle. Irregularity of the menstrual cycle is caused not only by these factors but also by physical maturity. Growth and time usually result in more predictable onset and duration of the cycle.

## Care of the Female Reproductive System

Cleanliness is an important part of keeping the reproductive system healthy. The vagina is a self-cleansing organ. Once a female matures, the cells in the lining of the vagina are constantly being shed, causing a slight vaginal discharge. This is normal. Cleanliness is especially important during the menstrual period, when menstrual flow may cause a slight odor. Sanitary napkins and tampons should be changed every few hours. Feminine hygiene products such as deodorant sprays and douches should not be necessary and may, in fact, cause irritation to the sensitive tissues around the vagina.

## Breast Self-Examination

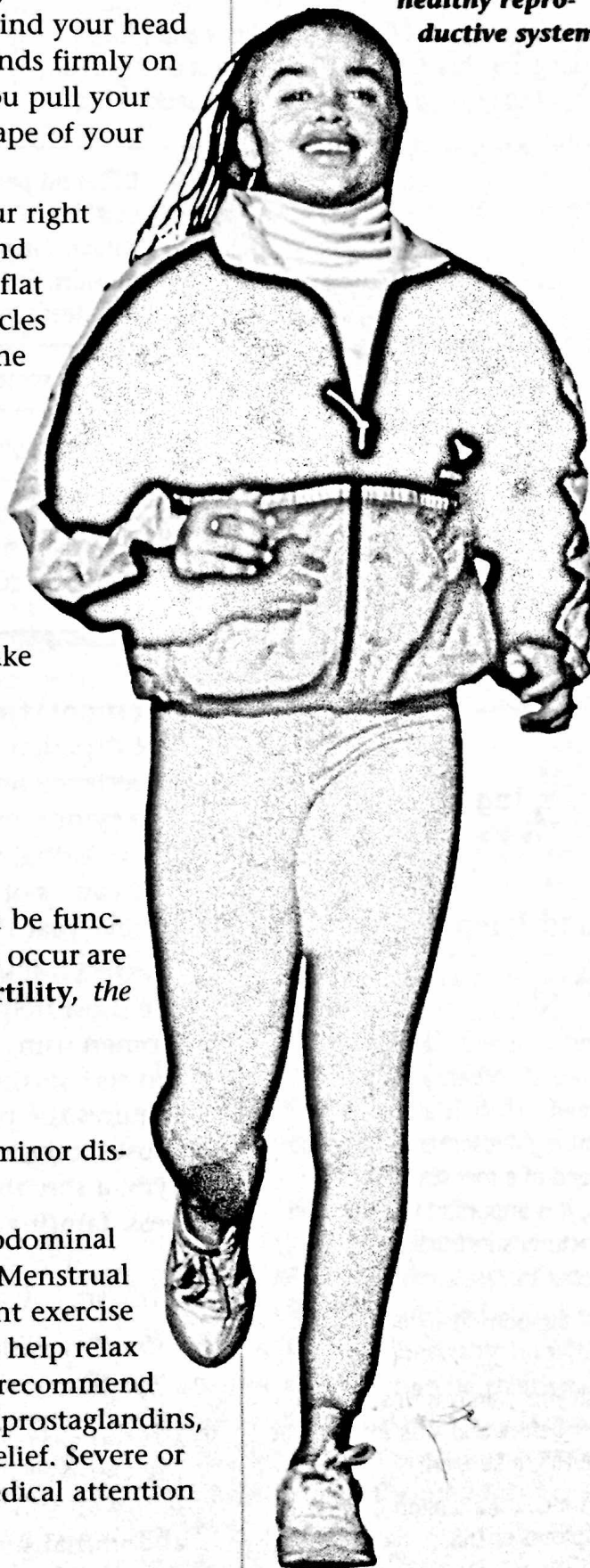
Breast self-examination (BSE) is an important habit for females to develop. It is one way that they can take charge of their bodies and maintain good health. BSE should be done once a month, about a week after the start of their menstrual period, when the breasts are usually not tender or swollen.



There are three ways to examine the breasts: in the shower, in front of a mirror, and lying down. In all cases, a thorough BSE includes the following steps:

- Inspect both breasts for anything unusual, such as any discharge from the nipples or puckering, dimpling, or scaling of the skin. If standing in front of a mirror, clasp your hands behind your head and press your hands forward. Then, press your hands firmly on your hips and bow slightly toward the mirror as you pull your shoulders and elbows forward. Get to know the shape of your breasts and note any changes.
- Raise your left arm. Use three or four fingers of your right hand to explore your left breast firmly, carefully, and thoroughly. Beginning at the outer edge, press the flat part of your fingers in small circles, moving the circles slowly around the breast. Gradually work toward the nipple. Finally, squeeze the nipple gently. Look for any discharge.
- Pay special attention to the area between the breast and the armpit, including the armpit itself. Feel for any unusual lump or mass under the skin. Using the left hand, repeat the process for the right breast. If you find anything unusual, contact your doctor at once. Only a doctor can make a diagnosis.

▼ **Physical activity, good nutrition, and regular check-ups can contribute to a healthy reproductive system.**



## Problems of the Female Reproductive System

Problems with the female reproductive system can be functional or structural. Some of the problems that can occur are related to menstruation. Others are related to **infertility**, *the inability of a woman to become pregnant*.

### Problems Related to Menstruation

Problems related to menstruation can range from minor discomfort to life-threatening illness. Problems include:

- **Menstrual Cramps.** A female may experience abdominal cramps at the beginning of the menstrual period. Menstrual cramps are usually mild, lasting several hours. Light exercise can help relieve cramps. A heating pad might also help relax the muscles. If cramps are severe, the doctor may recommend an over-the-counter medication that contains antiprostaglandins, or the doctor may prescribe medication for pain relief. Severe or persistent cramping may be an indication that medical attention is necessary.

# Building Health Skills

## Expressing Concerns About Sexual Maturity

THE CHANGES THAT OCCUR to your body and your emotions during the teen years can be exciting. Yet, they can also be a source of concern. Fortunately, there are people who can put some of your worries to rest. In seeking help, remember:



1. **Different people possess different strengths and skills.** Choose a “consultant” based on your needs. If your concerns are of a physical or medical nature, you might speak with the school nurse or your family’s health care provider. For problems of a general nature, remember that parents were once teens themselves and often have good answers.
2. **Choose someone who will listen.** This can be a parent, teacher, counselor, or even a mature older brother or sister. The only qualification is that the person should have time to give you his or her undivided attention.
3. **Make sure the information you get is reliable.** Discussing your concerns with a peer might only deepen them. The same is true of “popular” print materials, such as supermarket tabloids, which often contain misinformation.



### TSS and Tampons

TSS risk increases with tampon absorbency. If you use tampons, it is important to use the products with the lowest absorbency that meets your needs. There is usually less need for high-absorbency tampons at the end of a menstrual period.

Also, it is important to follow the manufacturer’s instructions.

Remember to:

- Store tampons in a clean, dry place.
- Wash your hands with soap and water before and after inserting or removing a tampon.
- Seek medical attention if you have symptoms of TSS.

■ **Premenstrual Syndrome (PMS).** Although many females do not experience PMS, others may have a variety of symptoms they experience several days to two weeks before the menstrual period. The symptoms of PMS include nervous tension, anxiety, irritability, bloating, weight gain, depression, mood swings, and fatigue. The causes of PMS are not completely understood. Some doctors believe that PMS is related to a hormonal imbalance.

■ **Toxic Shock Syndrome (TSS).** Young women ages 15–19 are the most frequent victims of TSS, but there is a risk of TSS to all women using tampons during their menstrual period. TSS is a rare but serious disease that may be fatal. Scientists believe that TSS requires the presence of the bacterium *Staphylococcus aureus* that causes infection. Signs of TSS include aching muscles, bloodshot eyes, a sore throat, a sudden high fever, vomiting, diarrhea, dizziness, fainting, and a rash that looks like a sunburn.

### Problems that Can Cause Infertility

Infertility can affect as many as 8 percent of women of childbearing age. Some of the more common causes are:

■ **Blocked Fallopian Tube.** A blocked fallopian tube is the leading cause of female infertility. Some of the causes of a blocked fallopian tube include pelvic inflammatory disease (PID) or abdominal surgery.

- **Endometriosis.** Endometriosis is the second leading cause of infertility. In this disease, uterine tissue grows outside the uterus, often appearing on the ovaries, fallopian tubes, and in the abdominal cavity.
- **Pelvic Inflammatory Disease (PID).** Pelvic inflammatory disease is an infection of the fallopian tubes, ovaries, and surrounding areas in a woman's pelvis. It can damage the reproductive organs and is usually caused by sexually transmitted diseases.

## Other Reproductive Disorders

Other reproductive disorders include ovarian cysts and cancers of the reproductive system. An ovarian cyst is a fluid-filled sac on the ovary. Small, noncancerous cysts can develop often but usually dissolve on their own. Large cysts may have to be surgically removed.

About one out of eight females develop cancer at some time. Most breast lumps are found during breast self-examination. About 80 percent of these lumps are not cancerous, but should be checked.

The cervix, uterus, and ovaries are common sites of cancer in females. Cervical cancer is detected through a Pap test, a test in which samples of cells are taken from the cervix by a doctor and viewed under a microscope. Early detection contributes to successful treatment. Early sexual activity, as well as a family history of cervical cancer and other factors, is related to an increased incidence of cervical cancer. A Pap test should be done every one or two years after a woman has reached 18 years of age or has become sexually active.



## Why Have a Pelvic Exam?

A pelvic exam is one in which a gynecologist checks a female's pelvic area, first with an instrument called a speculum and then by hand. The American College of Obstetricians and Gynecologists (ACOG) recommends that young females have pelvic exams by the time they are 18. The following are reasons having a pelvic exam is important:

- During a pelvic exam, the doctor can check the shape, size, and position of pelvic organs.
- The doctor can check for any tumors or cysts.
- If a female has unusual vaginal discharge, the doctor can check to find the possible cause.