# Female Internal Genital Organs

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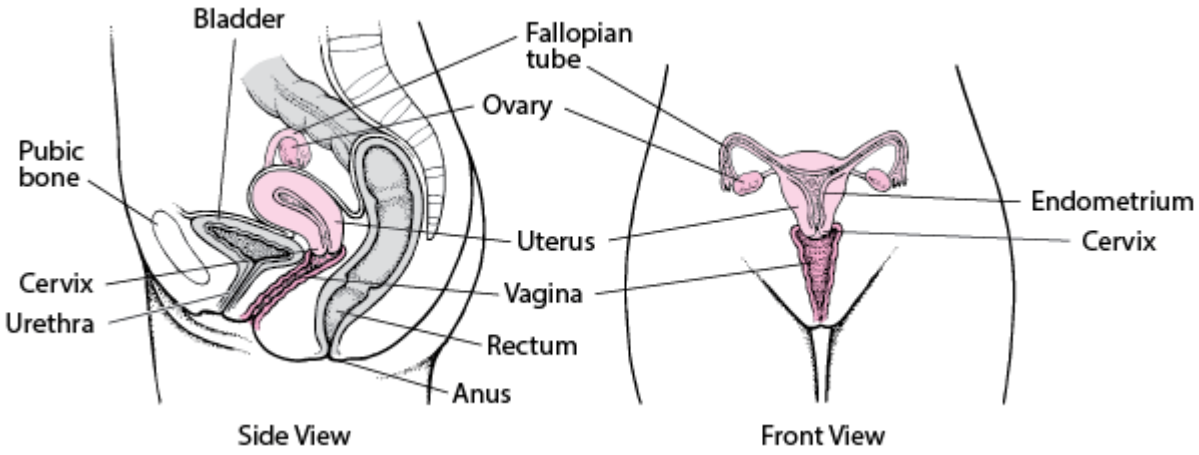
*Last full review/revision Apr 2019| Content last modified Apr 2019*

The internal genital organs form a pathway (the genital tract). This pathway consists of the following:

- Vagina (part of the birth canal), where sperm are deposited and from which a baby can emerge
- Uterus, where an embryo can develop into a fetus
- Fallopian tubes (oviducts), where a sperm can fertilize an egg
- Ovaries, which produce and release eggs

Sperm can travel up the tract, and eggs down the tract.

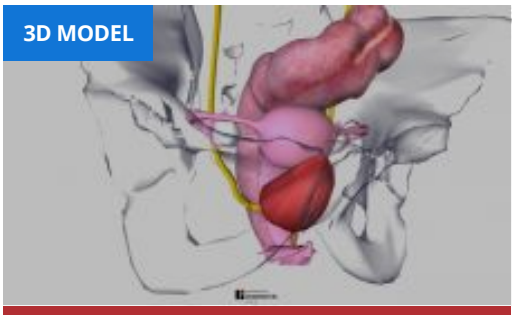
## Internal Female Genital Organs




The **hymen,** a mucous membrane, is located at the beginning of the genital tract, just inside the opening of the vagina (see figure External Female Genital Organs). In virgins, the hymen usually encircles the opening like a tight ring, but it may completely cover the opening. The hymen helps protect the genital tract but is not necessary for health. It may tear at the first attempt at sexual intercourse, or it may be so soft and pliable that no tearing occurs. The hymen may also be torn during exercise or insertion of a tampon or diaphragm. Tearing usually causes slight bleeding. In women who have had intercourse, the hymen may be unnoticeable or may form small tags of tissue around the vaginal opening.

### Contents of the Female Pelvis

3D MODEL

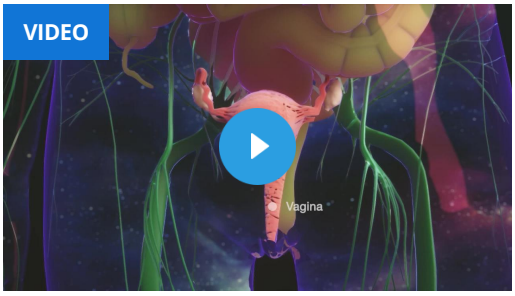


# Vagina

The vagina is a tubelike, muscular but elastic organ about 4 to 5 inches long in an adult woman. It connects the external genital organs to the uterus. The vagina is the organ of sexual intercourse in women. The penis is inserted into it. It is the passageway for sperm to the egg and for menstrual bleeding or a baby to the outside.

### The Vagina

VIDEO



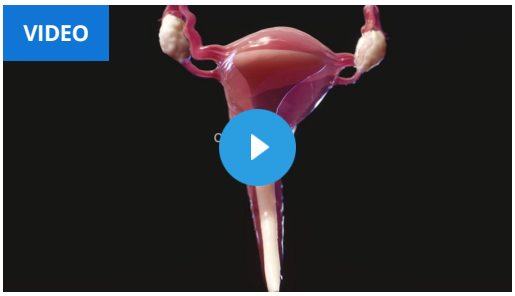

Usually, there is no space inside the vagina unless it is stretched open—for example, during an examination, sexual intercourse, or childbirth. The lower third of the vagina is surrounded by elastic muscles that control the diameter of its opening. These muscles contract rhythmically and involuntarily during orgasm.

The vagina is lined with a mucous membrane, kept moist by fluids produced by cells on its surface and by secretions from glands in the cervix (the lower part of the uterus). A small amount of these fluids may pass to the outside as a clear or milky white vaginal discharge, which is normal. During a woman's reproductive years, the lining of the vagina has folds and wrinkles. Before puberty and after menopause, the lining is smooth.

# Uterus and cervix

The uterus is a thick-walled, muscular, pear-shaped organ located in the middle of the pelvis, behind the bladder, and in front of the rectum. The uterus is anchored in position by several ligaments. The main function of the uterus is to sustain a developing fetus.

## The Uterus, Cervix, and Cervical Canal




The uterus consists of the following:

- The cervix
- The main body (corpus)

The **cervix** is the lower part of the uterus, which protrudes into the upper part of the vagina. It can be seen during a pelvic examination. Like the vagina, the cervix is lined with a mucous membrane, but the mucous membrane of the cervix is smooth.

Sperm can enter and menstrual blood can exit the uterus through a channel in the cervix (cervical canal). The cervical canal is usually narrow, but during labor, the canal widens to let the baby through.

The cervix is usually a good barrier against bacteria, except around the time an egg is released by the ovaries (ovulation), during the menstrual period, or during labor. Bacteria that cause sexually transmitted diseases can enter the uterus through the cervix during sexual intercourse.

## Did You Know...

- Girls are born with over a million egg cells, but only about 400 are released during a lifetime of menstrual cycles.
- No new eggs develop after birth.

The channel through the cervix is lined with glands that secrete mucus. This mucus is thick and impenetrable to sperm until just before ovulation. At ovulation, the mucus becomes clear and elastic (because the level of the hormone estrogen increases). As a result, sperm can swim through the mucus into the uterus to the fallopian tubes, where fertilization can take place. At this time, the mucus-secreting glands of the cervix can store live sperm for up to about 5 days, but occasionally slightly longer. These sperm can later move up through the corpus and into the fallopian tubes to fertilize an egg. Almost all pregnancies result from intercourse that occurs during the 3 days before ovulation. However, pregnancies sometimes result from intercourse that occurs up to 6 days before ovulation or during the 3 days after ovulation. For some women, the time between a menstrual period and ovulation varies from month to month. Consequently, pregnancy can occur at different times during a menstrual cycle.

The **corpus** of the uterus, which is highly muscular, can stretch to accommodate a growing fetus. Its muscular walls contract during labor to push the baby out through the cervix and the vagina. During the reproductive years, the corpus is twice as long as the cervix. After menopause, the reverse is true.

As part of a woman's reproductive cycle (which usually lasts about a month), the lining of the corpus (endometrium) thickens. If the woman does not become pregnant during that cycle, most of the endometrium is shed and bleeding occurs, resulting in the menstrual period.

### How Many Eggs?

A baby girl is born with egg cells (oocytes) in her ovaries. Between 16 and 20 weeks of pregnancy, the ovaries of a female fetus contain 6 to 7 million oocytes. Most of the oocytes gradually waste away, leaving about 1 to 2 million present at birth. No oocytes develop after birth. At puberty, only about 300,000—more than enough for a lifetime of fertility—remain.

Only a small percentage of oocytes mature into eggs. The many thousands of oocytes that do not mature degenerate. Degeneration progresses more rapidly in the 10 to 15 years before menopause. All are gone by menopause.

Only about 400 eggs are released during a woman's reproductive life, usually one during each menstrual cycle. Until released, an egg remains dormant in its follicle—suspended in the middle of a cell division. Thus, the egg is one of the longest-lived cells in the body.

Because a dormant egg cannot repair itself as cells usually do, the opportunity for damage increases as a woman ages. A chromosomal or genetic abnormality is thus more likely when a woman conceives a baby later in life.

## Fallopian tubes

The two fallopian tubes, which are about 4 to 5 inches (about 10 to 13 centimeters) long, extend from the upper edges of the uterus toward the ovaries. The tubes do not directly connect with the ovaries. Instead, the end of each tube flares into a funnel shape with fingerlike extensions (fimbriae). When an egg is released from an ovary, the fimbriae guide the egg into the relatively large opening of a fallopian tube.

### The Fallopian Tubes, Ovaries, and Fertilization


The fallopian tubes are lined with tiny hairlike projections (cilia). The cilia and the muscles in the tube's wall propel an egg downward through the tube to the uterus. The fallopian tube is the usual site of fertilization of the egg by the sperm.

## Ovaries

The ovaries are usually pearl-colored, oblong, and about the size of a walnut. They are attached to the uterus by ligaments. In addition to producing female sex hormones ( estrogen and progesterone) and male sex hormones, the ovaries produce

and release eggs. The developing egg cells (oocytes) are contained in fluid-filled cavities (follicles) in the wall of the ovaries. Each follicle contains one oocyte.