

PURPOSE

To introduce female reproductive anatomy, and to help students understand that hormones are important to the healthy functioning of the reproductive system, for both males and females.

LEARNING OBJECTIVES

By the end of the lesson students will be able to:

1. Identify the anatomical parts of the female reproductive system.
2. Understand that hormones are vital to the healthy functioning of the reproductive system.

MATERIALS & RESOURCES

- [Lesson 3 teenMEN powerpoint](#)
- [Male Reproductive System Relay + Answer Key](#)
- [Worksheet: Female Reproductive Anatomy Quiz + Answer Key](#)

VOCABULARY

- **Human Reproduction:** When a woman and a man together produce a new human life. This requires a cell from both a man (sperm) and a woman (egg or ovum).
- **Reproductive System:** The group of organs in the lower abdomen/pelvis that work together, with different results in men and women: in men, the reproductive system works to produce sperm (male cell of reproduction); in women, the reproductive system works to mature an egg (female cell of reproduction) and develop a growing baby.
- **Ovary:** Two small organs on either side of the uterus that contain a woman's eggs. The ovary is responsible for developing and releasing an egg, approximately once every month.
- **Ovulation:** The release of an egg from the ovary.
- **Fallopian Tube:** Two tubes, connected to either side of the uterus, where the egg travels after ovulation.

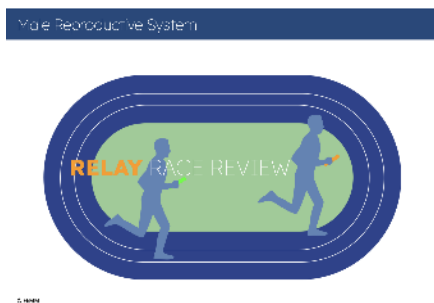
- **Uterus:** Also called the womb. A hollow organ that expands during pregnancy as the baby grows.
- **Endometrium:** The lining of the uterus which thickens in preparation to provide support and nutrition for a developing baby.
- **Cervix:** A narrow canal at the base of the uterus that opens into the vagina.
- **Vagina:** The canal that connects the uterus to the outside of the body. It's the entrance to the reproductive organs and exit for the delivery of a baby.
- **Urethra (female):** The tube that carries urine from the bladder to the outside of the body.

PREPARATION

- ☐ Print two copies of the **Male Reproductive System Relay**; one for each team. Cut along the dotted line to divide into three sections: one for each "leg" of the race.
- ☐ Print the **Male Reproductive System Relay Answer Key**
- ☐ Print the **Female Reproductive Anatomy Quiz** for each student. Answers can be found on the powerpoint slides or you may print the **Answer Key** for your use.

PROCEDURE

Step 1 (10 minutes): Male Reproductive System Relay

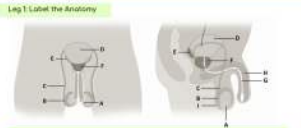


Divide students into two teams. Depending on class size, each team will need to consist of at least three students but can be three pairs, three small groups, etc. Have the questions for each team printed, cut and ready. Pen or pencils needed.

In this teenMEN Relay Race, each team will need to correctly complete three legs of the race to finish. To start, the first group from each team will come forward and receive their questions. Each group will complete their questions at the front of the class. When they have completed the questions (or as many as they can answer), they will submit their page to the teacher and return to tag the next group to come forward, etc. The first team to finish **with the most number of questions answered correctly**, wins!

Review the answers using the slides or with the **Answer Key** provided in the materials.

Answers | Male Reproductive Anatomy



Leg 1: Label the Anatomy

1. B. Scrotum	4. J. Seminal Vesicle	7. D. Epididymis
2. F. Testis	5. C. Vas Deferens	8. A. Testis
3. G. Urethra	6. E. Prostate	9. H. Penis

Answers | Fill in the Blanks

Leg 2: Fill in the Blanks

- Used for the passage of sperm or urine from the body (doesn't happen at the same time) **Urethra**
- Protective sac: **Scrotum**
- Coiled tube attached to each testicle: **Epididymis**
- Two long ducts that transport sperm: **Vas Deferens**
- Pair of organs that produce sperm and testosterone: **Testicles**

Answers | True or False

Leg 3: True or False?

- The scrotum is a large sac that contains the testes. **True** (T=20)
- The penis is part of the reproductive system and is used to release sperm. **True** (T=20)
- The testes are located inside the body, behind the scrotum. **True** (T=20)
- The vas deferens is a long tube that carries sperm from the testes to the urethra. **True** (T=20)
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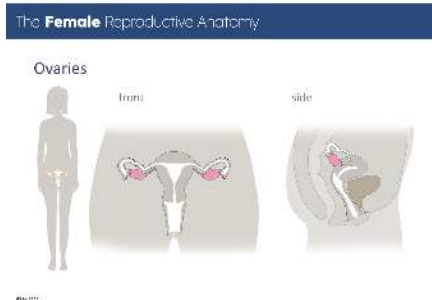
Step 2 (10 minutes): Introduce the Female Reproductive Anatomy

The Female Reproductive Anatomy



Female Reproductive Anatomy

Today we're going to learn about the female reproductive system. The female reproductive system is also located in the pelvic area and is vital to overall health and wellbeing.



The **ovaries** are the two small organs that sit on either side of the uterus, highlighted in pink on the slide. The job of the ovaries is to:

1. Develop and mature an egg, the female cell of reproduction.
2. Produce the two main female hormones, estrogen and progesterone.

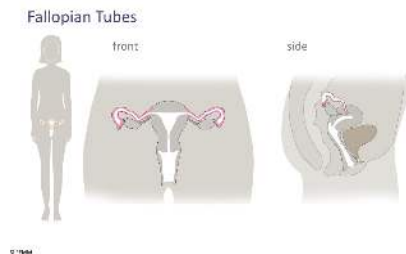
The female body starts making eggs at nine weeks in the womb! Inside the ovary, eggs are contained in small sacs, called follicles. As of puberty, inside the ovary each month, an egg matures (to about the size of a pinhead or a grain of sand) and bursts from its follicle in a process called **ovulation**. For girls, ovulation is a sign of health, not for reproduction but because it indicates that all of her hormones are rising to the right levels for this process to occur.

Compare: The testes are the two male organs of reproduction. The job of the testicles is to:

1. Produce sperm, the male cell of reproduction.
2. Produce the main male hormone, testosterone.

Just as sperm production is a vital sign of hormonal health in men, ovulation is a vital sign of hormonal health for women.

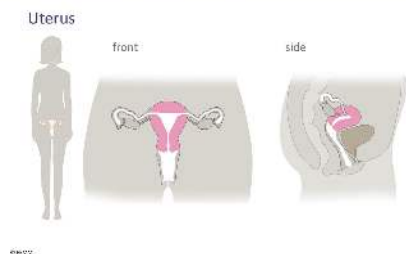
The Female Reproductive Anatomy



The **fallopian tubes** are the long thin tubes that are connected to either side of the ovary. They are about the width of a spaghetti noodle. When the egg is released from the ovary (called ovulation), it travels to the fallopian tube. On its own, the egg will simply dissolve in the fallopian tube in about 24-48 hours.

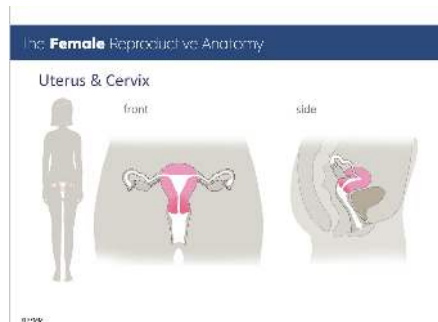
Compare: The Vas Deferens are two tubes that transport sperm, the male cell of reproduction, from the testicles. They are also about the width of a spaghetti noodle.

The Female Reproductive Anatomy

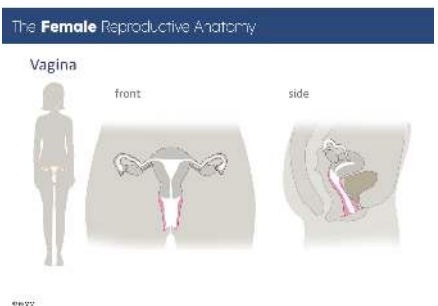


In the front view on the slide, you see the **uterus** in the center. Without the uterus, none of us would be here! The uterus is a hollow, pear shaped organ where a baby grows and develops. It is sometimes called the womb. Get this: the uterus is the strongest muscle per square inch in the human body, with the propulsion force/size ratio of a crossbow!

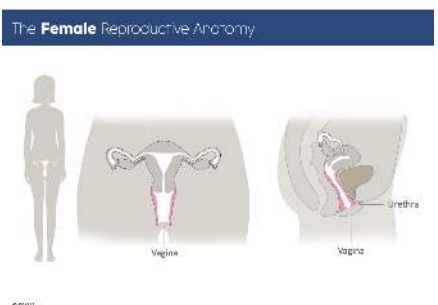
The lining of the uterus is called the **endometrium**. This lining responds to hormones each month, thickening and then shedding in menstruation. This process is the body's preparation for a possible pregnancy someday, as the fertilized egg implants in the uterine lining wall to receive the nourishment it needs to grow for 9 months.



The **cervix** is the canal or opening at the base of the uterus that connects to the vagina.



The **vagina** is the canal that connects the uterus to the outside of the body. It is the entrance to the reproductive organs and the exit for the delivery of a baby. It is the exit for menstrual bleeding each month.



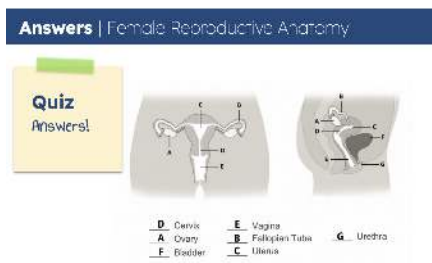
The **urethra** is a separate opening from the vagina and carries urine from the bladder to the outside of the body. The urethra is not part of the female reproductive system; it is part of the urinary system but it is shown due to its proximity to the reproductive system.

Step 3 (5 minutes): Female Reproductive Anatomy Quiz

Provide students with the worksheet: **Female Reproductive Anatomy Quiz.**

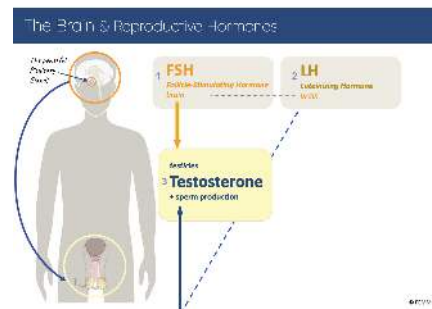


Give students a few minutes to complete the worksheet. Then, review answers using the following slide or the **Answer Key** provided in the lesson materials.



Step 4 (8 minutes): The Brain & Reproductive Hormones

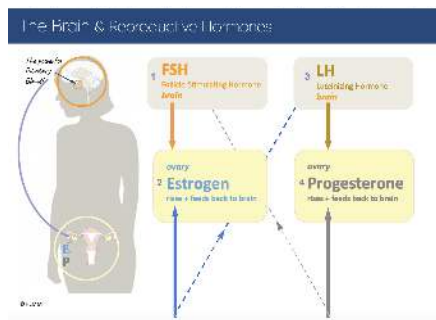
The healthy function of the reproductive system and its hormones is controlled by the brain. This is why reproductive health has a big impact on our mental and physical health.



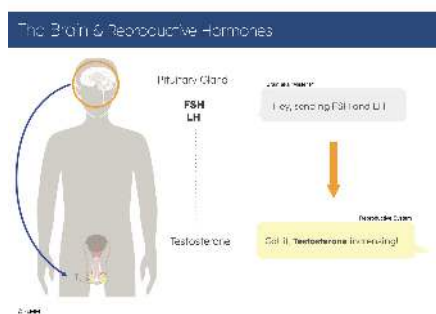
In the brain is the Pituitary Gland (circled in orange). *Fun fact:* the pituitary gland weighs

only about as much as a raisin and is about the size of a kidney bean! However, the pituitary gland is called the “master gland” as it controls the secretion of most hormones in the body.

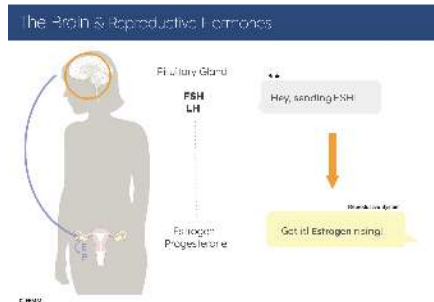
Last lesson, we learned that the pituitary gland in the brain produces Follicle Stimulating Hormone (FSH) and Luteinizing Hormone (LH). In men, **FSH** and **LH** drive the production of **sperm and testosterone**. When testosterone levels increase, the pituitary gland inhibits the release of FSH and LH. The brain is constantly sending hormonal messages back and forth with the reproductive system to control this process.



In women, **FSH** (Follicle Stimulating Hormone) starts the maturation of the egg and follicle in the ovary. As the egg and follicle grows, this produces **estrogen**. Once the egg is mature, this feeds back to the brain to release a surge of **LH** (Luteinizing Hormone) triggering ovulation. After ovulation, the empty follicle produces **progesterone**.



For both men and women, the brain is the control center, sending hormones, like text messages, throughout the body for it to mature and function at its best.



The healthy function of every body system, including the reproductive system, is important to physical and emotional health. The growing and changing that is happening as a result of hormones during puberty is a sign that the brain and the reproductive system are communicating well.

CONCLUSION: (2 minutes)

Review

- ☐ The **male reproductive system** is responsible for developing the male cell of reproduction: sperm and the hormone testosterone.
- ☐ The **female reproductive system** is responsible for developing the female cell of reproduction: the egg and the hormones estrogen and progesterone.
- ☐ The development of the cells of reproduction indicate that hormone levels are healthy; this is important for men and women!
- ☐ We grow in maturity by making healthy choices for our bodies and always treating others with the respect they deserve.

Now that we have looked at both the male and female reproductive anatomy, we can see that the male and female reproductive systems have distinct differences. The reproductive system is essential for bringing new life into the world, but what we don't often hear is how essential it is as a marker of basic health and hormones. As you can see, hormones are extremely fascinating and complex! There is a lot going on inside of teens during puberty. Part of growing in maturity is learning to make healthy choices for our bodies and always treating others with the respect they deserve.

REFERENCES

Betts, J. G., Young, K. A., Wise, J. A., Johnson, E., Poe, B., Kruse, D. H., Korol, O., Johnson, J. E., Womble, M., & DeSaix, P. (2022). *Anatomy and physiology*. OpenStax.
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FEMM Teacher Training Course, Sessions 1 & 2

Vigil, P., Lyon, C., Flores, B., Rioseco, H. & Serrano, F. (2017). Ovulation, a sign of health. *The Linacre Quarterly*, 84, 1-13. <https://10.1080/00243639.2017.1394053>