Primary Care Alberta

teaching sexual health.ca

Grade 7 Learning Activity

PowerPoint Slides

Learning Outcome: W – 7.3 Examine the human reproductive process, and recognize misunderstandings associated with sexual development.

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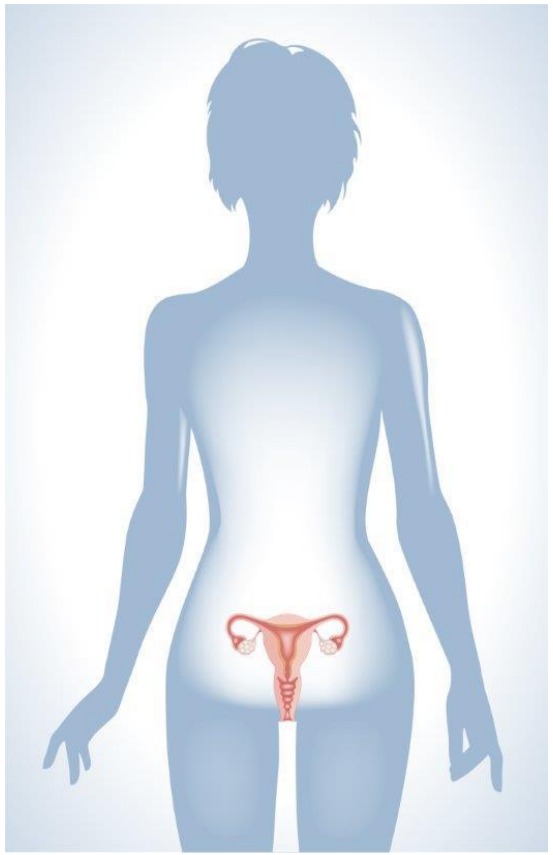
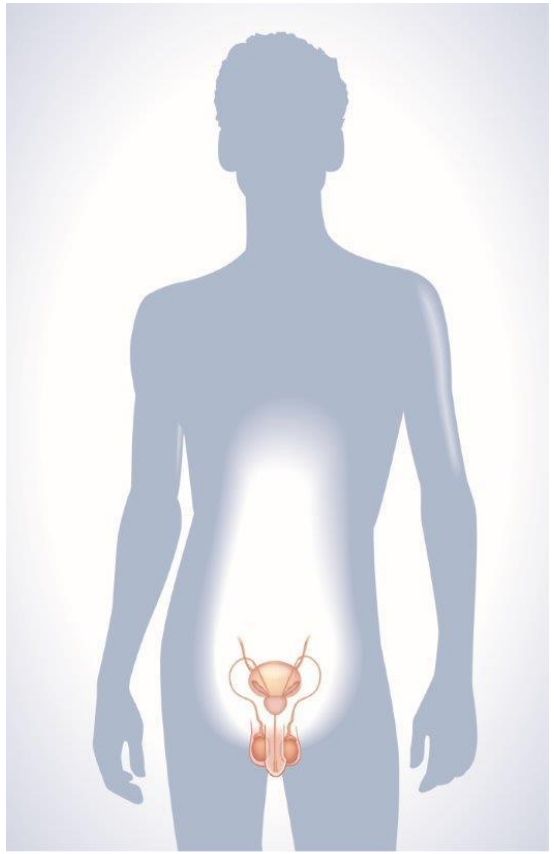
Reproductive Process

Reproductive Systems





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Journey of an Egg

The process of sexual reproduction begins with ovulation and sperm production.

Parts of the egg-producing reproductive system: External anatomy

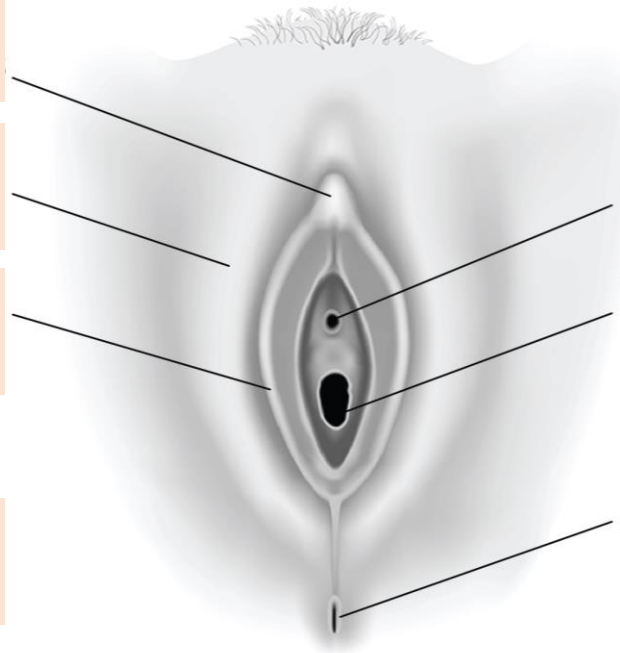
Vulva

Clitoris
- The sex organ that becomes larger and firmer during sexual arousal

Labia majora
- The outer folds of skin surrounding the vaginal opening

Labia minora
- The inner folds of skin surrounding the vaginal opening

Vulva
- The vulva includes the labia majora, labia minora, clitoris, and the opening of the vagina



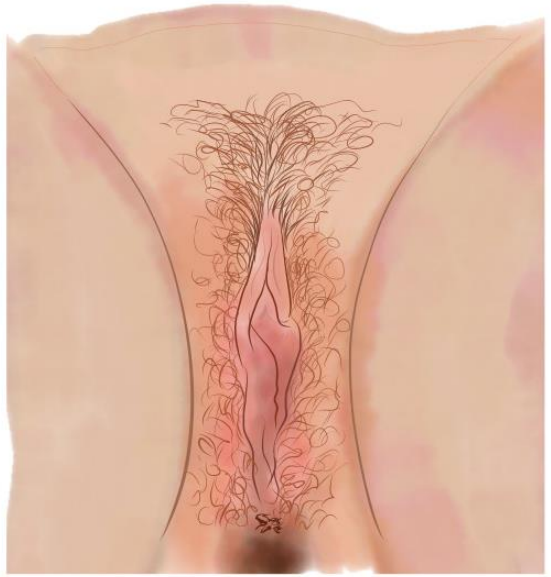
Urethra*
- The tube through which urine passes
- The urethra is part of the urinary system, not the reproductive system

Vaginal opening
- The gateway from the vagina to the outside of the body

Anus*
- The opening at the end of the digestive tract where feces or stool leave the body
- The anus is part of the digestive system, not the reproductive system

*Not part of the reproductive system

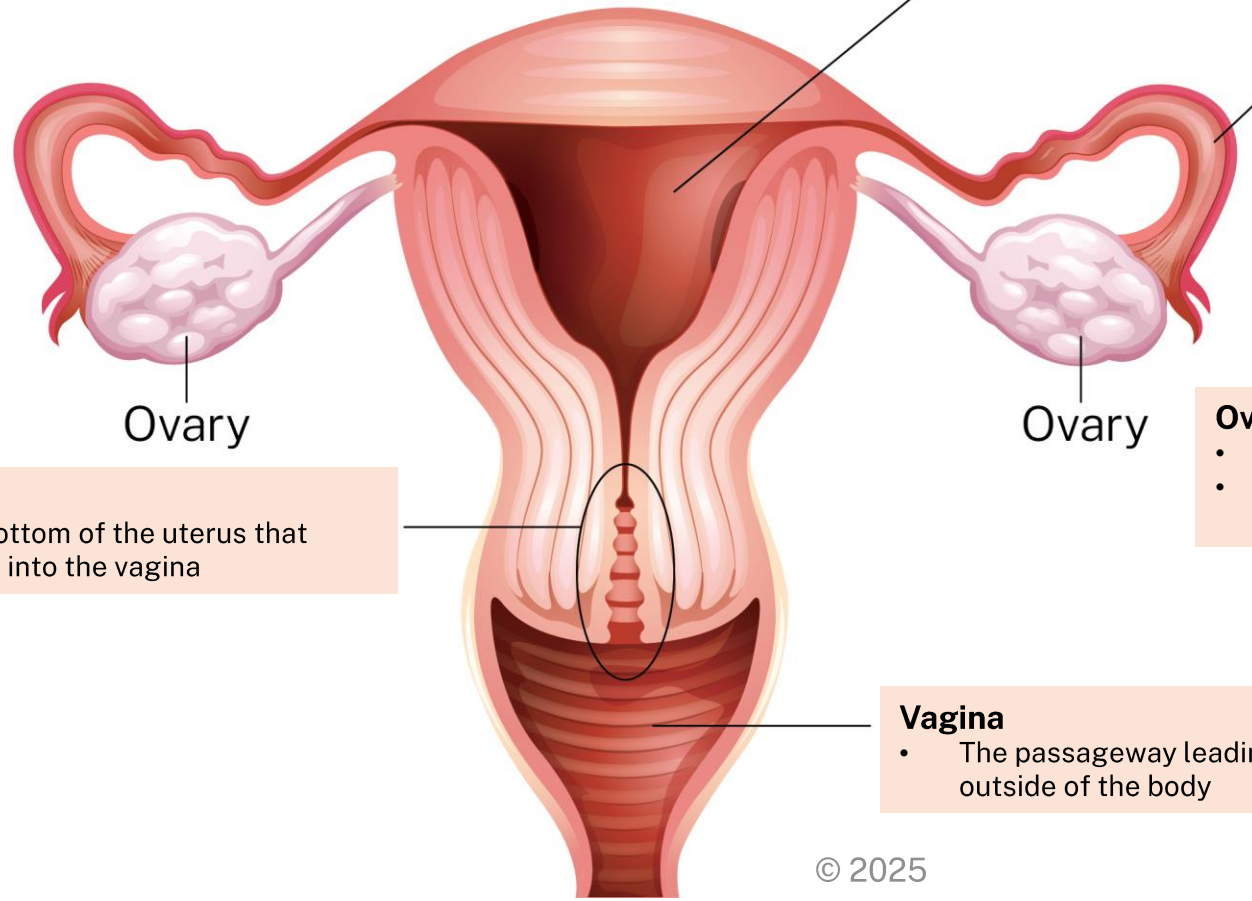
External anatomy looks different for everyone



Parts of the egg-producing reproductive system: Internal anatomy

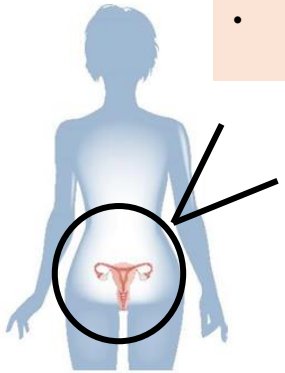
Uterus
- Fertilized egg implants in the lining of the uterus
- Where a developing fetus grows

Fallopian Tubes
- Narrow tubes that connect ovaries to the uterus
- The egg travels through one of the tubes after ovulation
- Fertilization occurs in the fallopian tubes



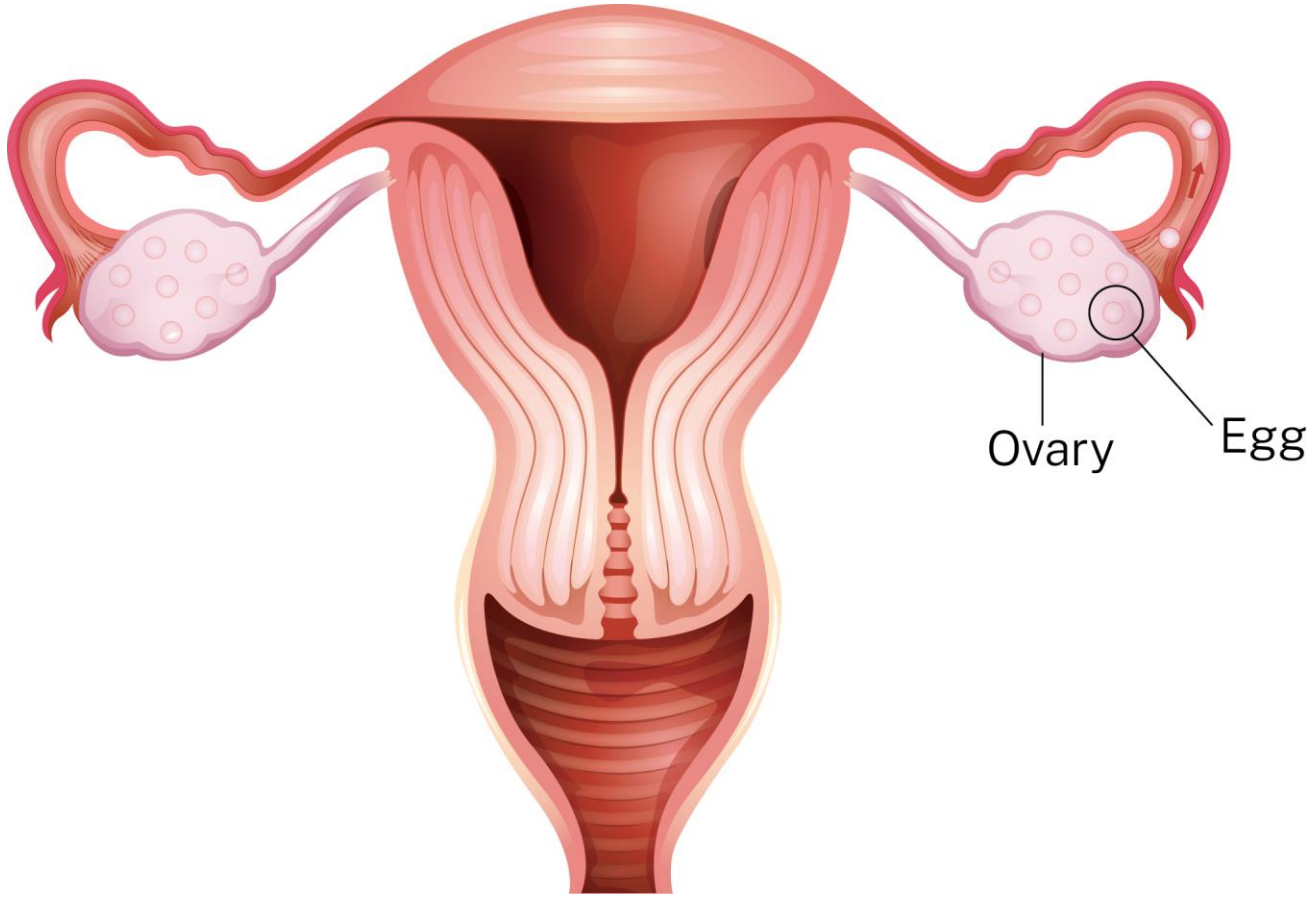
Ovaries
- Egg-producing glands
- Contain all the eggs from birth, and start releasing them after puberty begins

Cervix
- The bottom of the uterus that opens into the vagina



Vagina
- The passageway leading from the uterus to the outside of the body

Ovulation

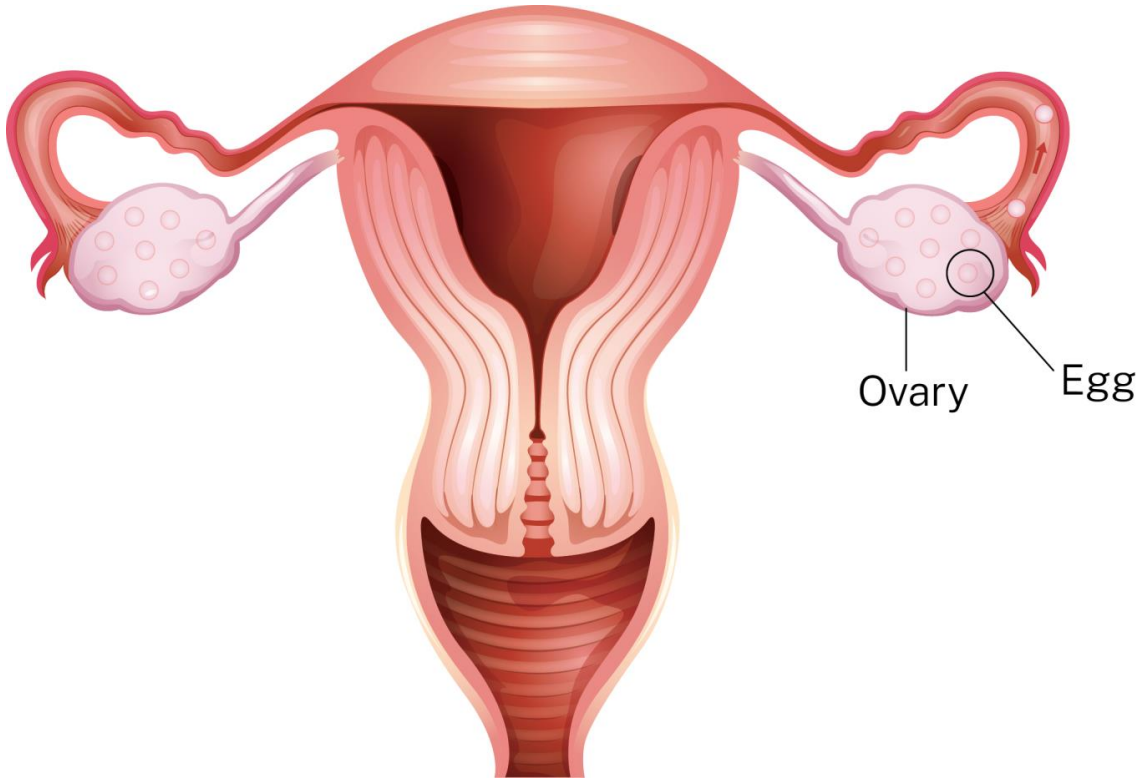


Once ovaries start producing hormones, messages are sent to the pituitary gland in the brain, which tell the ovaries to mature and release one egg, once per month from the ovary.

Ovulation usually alternates from one ovary to the other each month.

Ovulation

Eggs are stored and released from the ovaries. Each ovary contains about 250,000 eggs that are there since birth!



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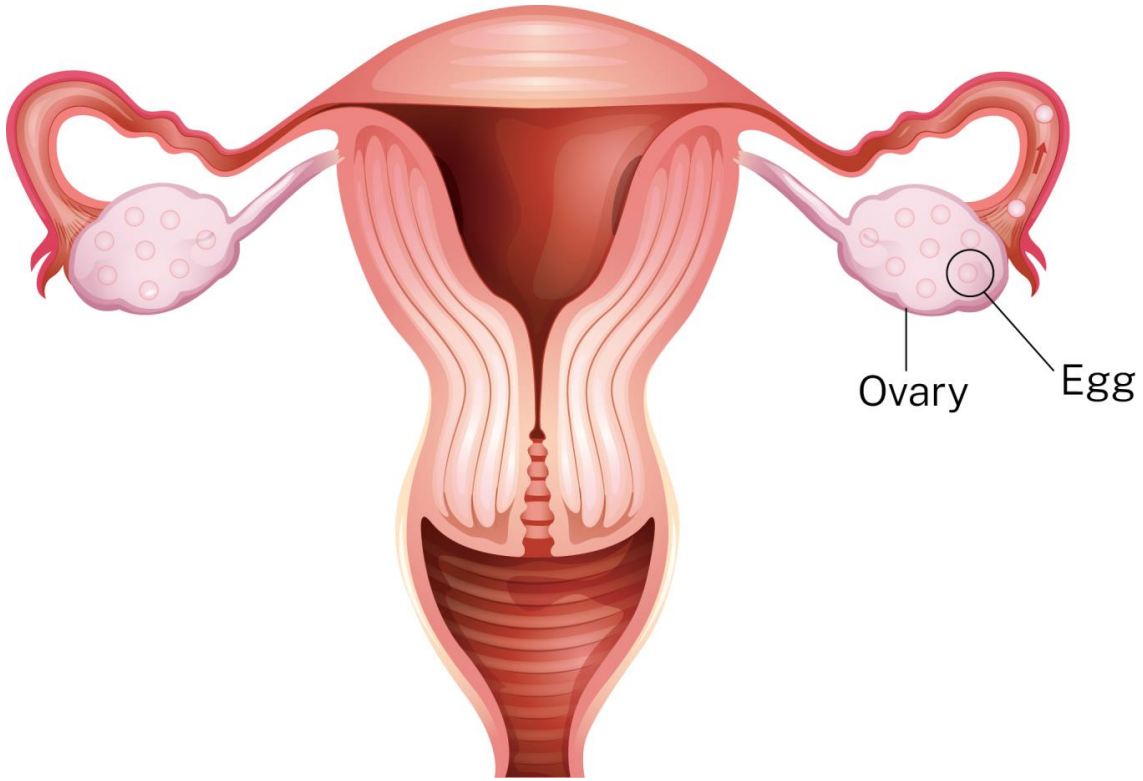
An egg is released once a month after puberty (ovulation). Occasionally, two or more eggs are released.



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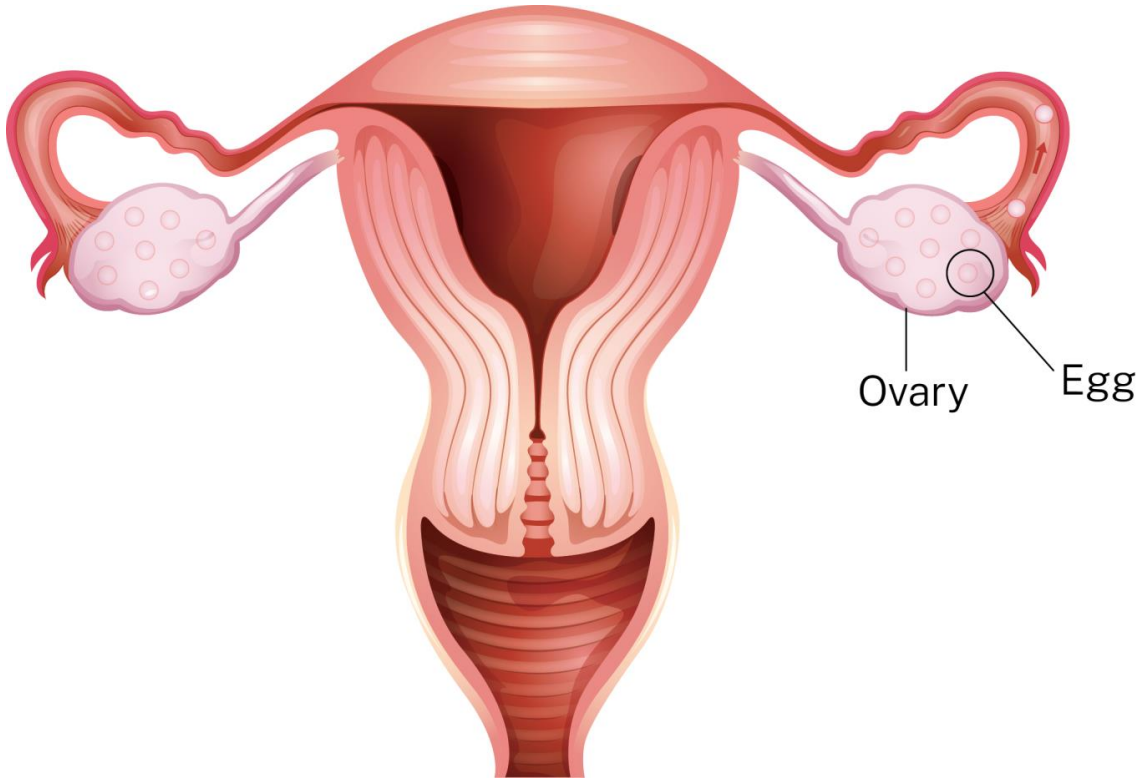
The egg travels down the fallopian tubes to either be fertilized by a sperm cell or to dissolve.



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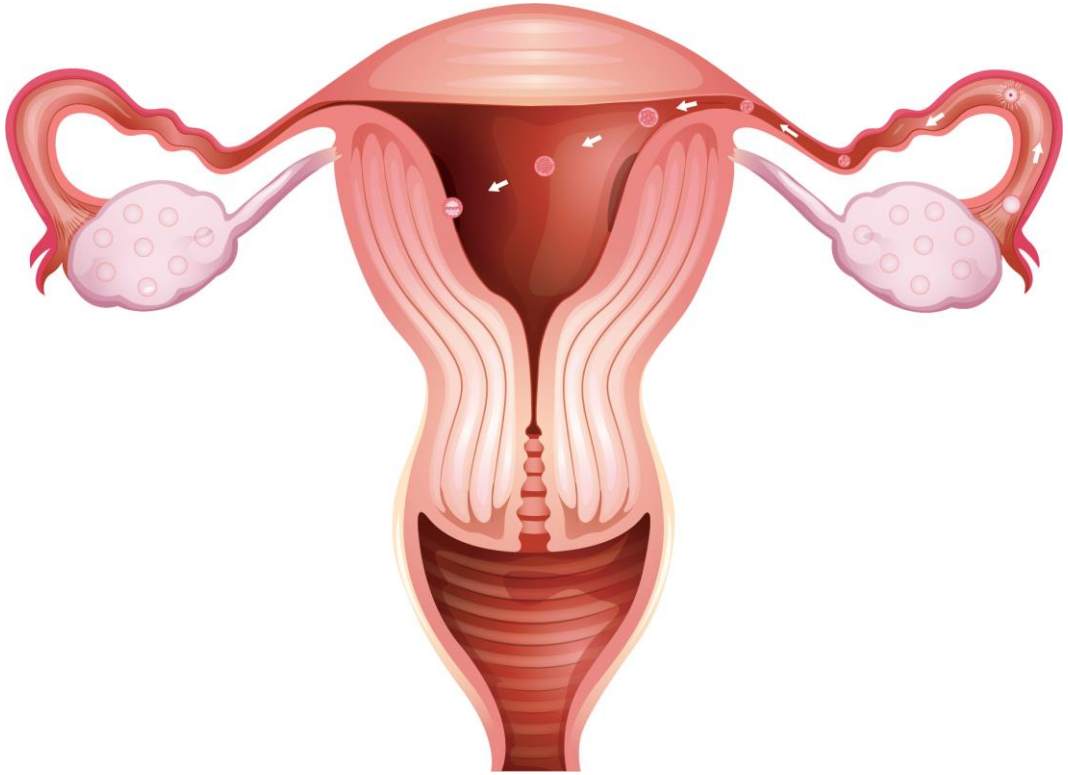

If the egg is fertilized, it will travel to the uterus and implant on the uterine lining.

Pregnancy

Ovulation

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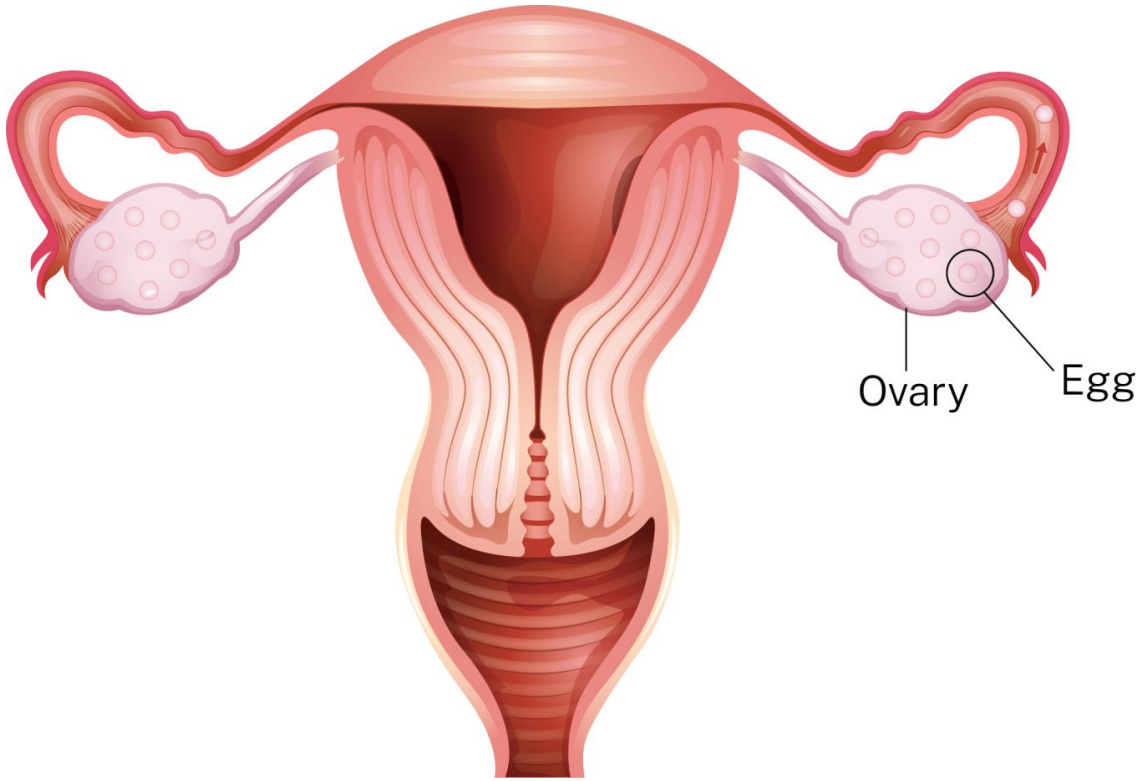


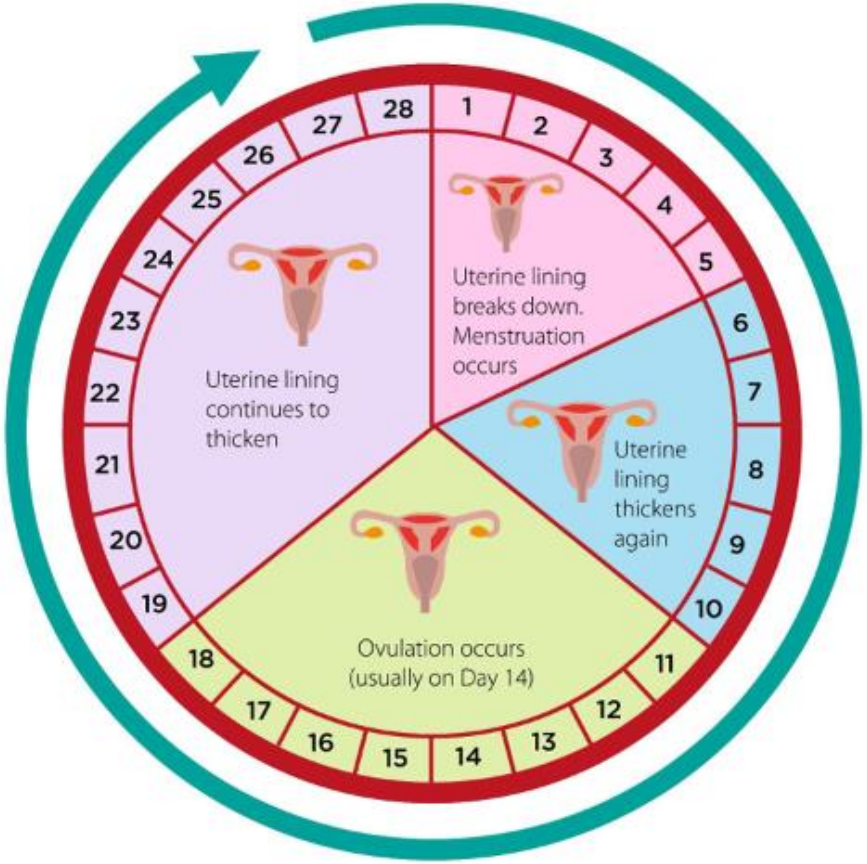
If the egg is not fertilized, it's dissolved in the fallopian tube.

Menstruation

Menstruation

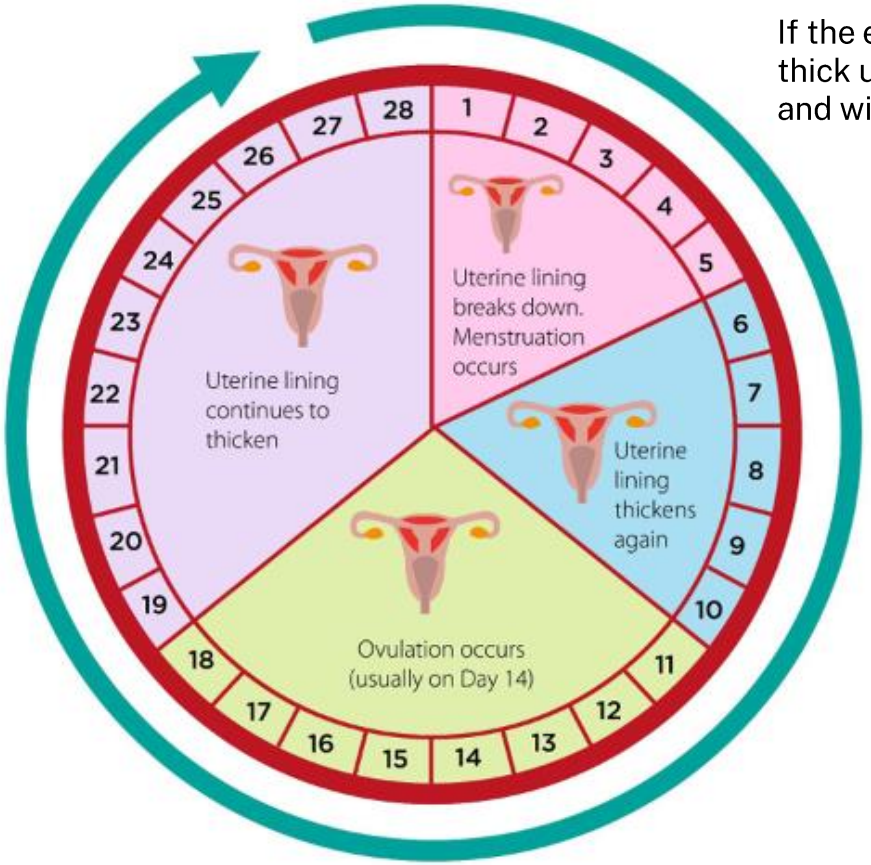
The uterus prepares for the growth of a fetus each month in case fertilization occurs.

Hormones from ovaries send a message to the uterus to grow a thick, soft lining.



This diagram shows an average menstrual cycle of 28 days. Cycles can vary in length from 21-35 days, or even 21-45 days in young people when they first start menstruating.

Menstruation



If the egg is not fertilized in the fallopian tube, the thick uterine lining is not needed to nourish a fetus and will be shed by the uterus.

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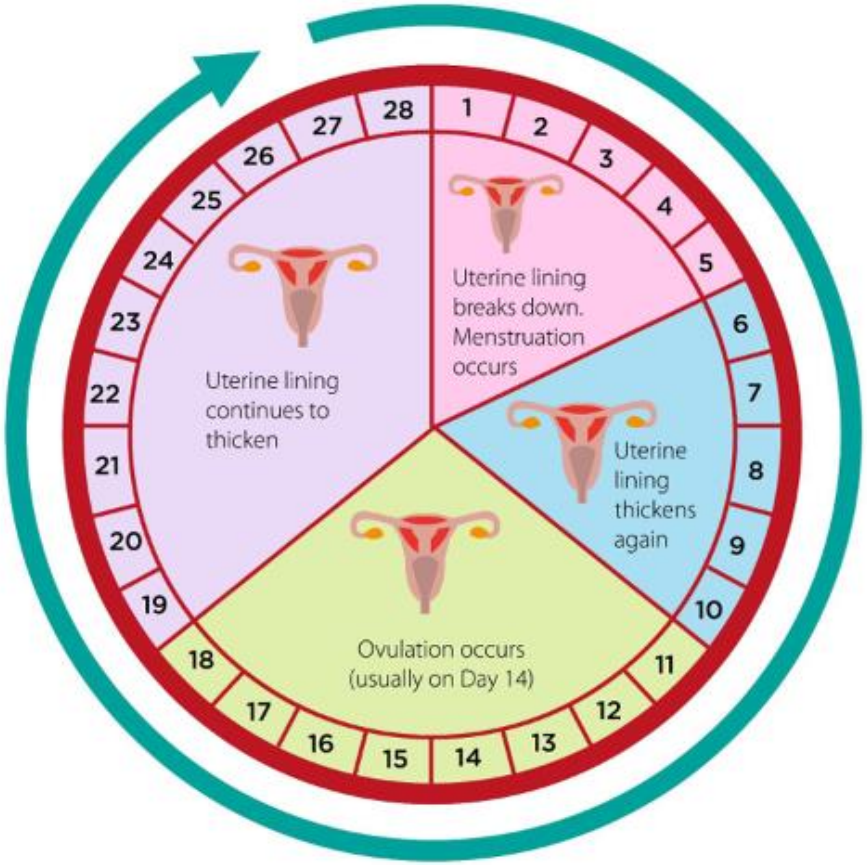

Once the lining is completely shed, a new lining begins to grow.

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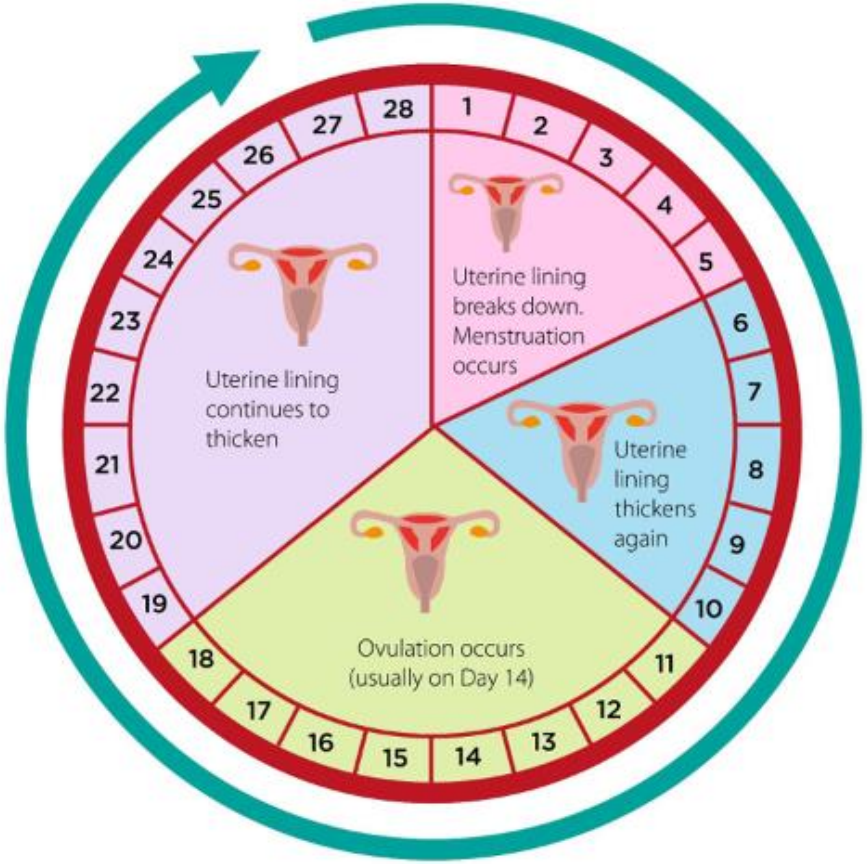

Soon, another egg is released. If fertilization does not occur, the egg dissolves and the lining is shed. This happens over and over again, which is why we call it the menstrual cycle.

This diagram shows an average menstrual cycle of 28 days. Cycles can vary in length from 21-35 days, or even 21-45 days in young people when they first start menstruating.

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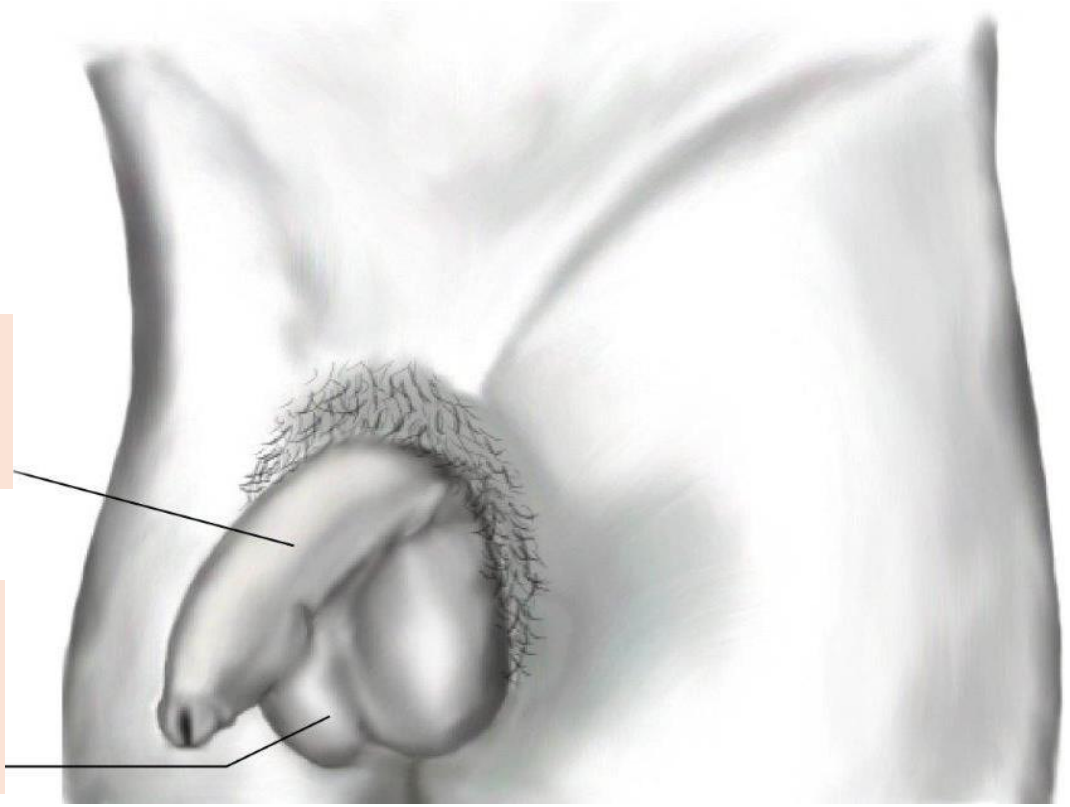
Journey of a Sperm

The process of sexual reproduction begins with ovulation and sperm production.

Parts of the sperm-producing reproductive system: External anatomy

Penis
- The external sex organ that releases semen and urine
- It is made up of spongy material that fills up with extra blood (becomes erect and gets hard) when sexually aroused

Scrotum
- External sac containing the testicles
- The testicles are kept just below body temperature in order to produce healthy sperm. The scrotum pulls the testicles closer to the body if it is cold and lowers them away from the body if it is hot.

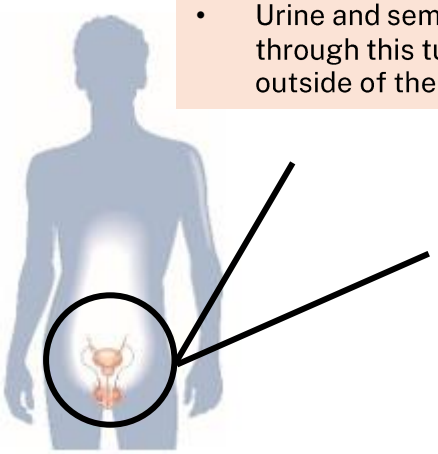


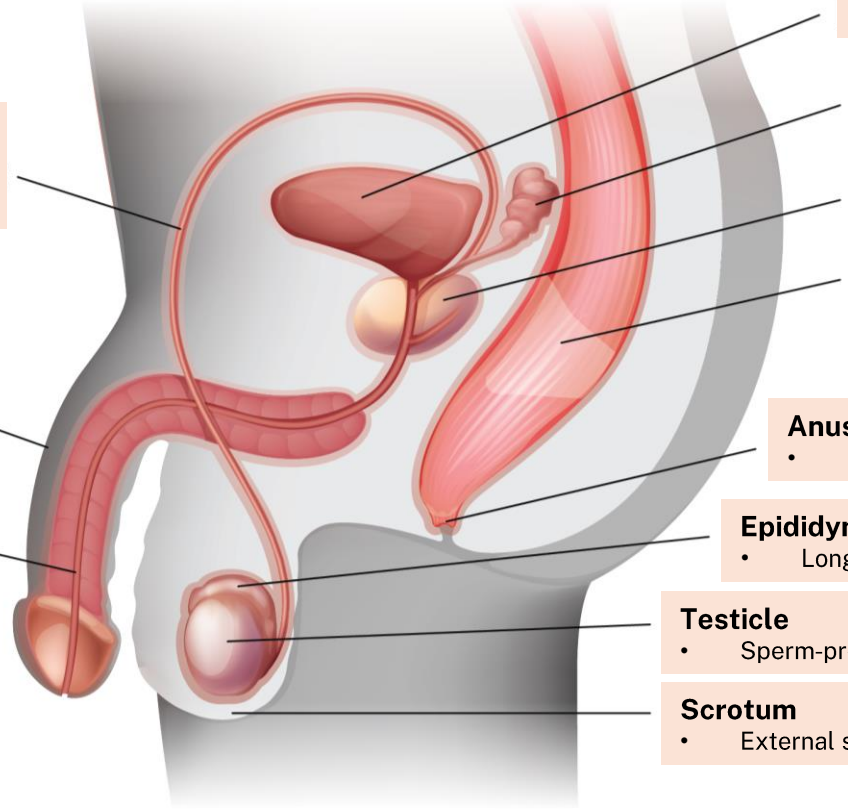
Parts of the sperm-producing reproductive system: Internal anatomy

Vas deferens
- Narrow tubes that carry the sperm from the testicles to the urethra

Penis
- The external sex organ that releases semen and urine

Urethra
- Urine and semen pass through this tube to the outside of the body





Bladder *
- The sac inside the body that holds urine

Seminal vesicle
- Where semen is produced and stored

Prostate gland
- Enlarges to block urine from leaving when sperm is ejaculated
- Adds fluid to semen, and its muscles help push semen through the urethra

Rectum *
- The last several inches of the large intestine leading to the anus

Anus *
- Opening at the end of the digestive tract where feces leave the body

Epididymis
- Long coiled tube that connects a testicle to the vas deferens.

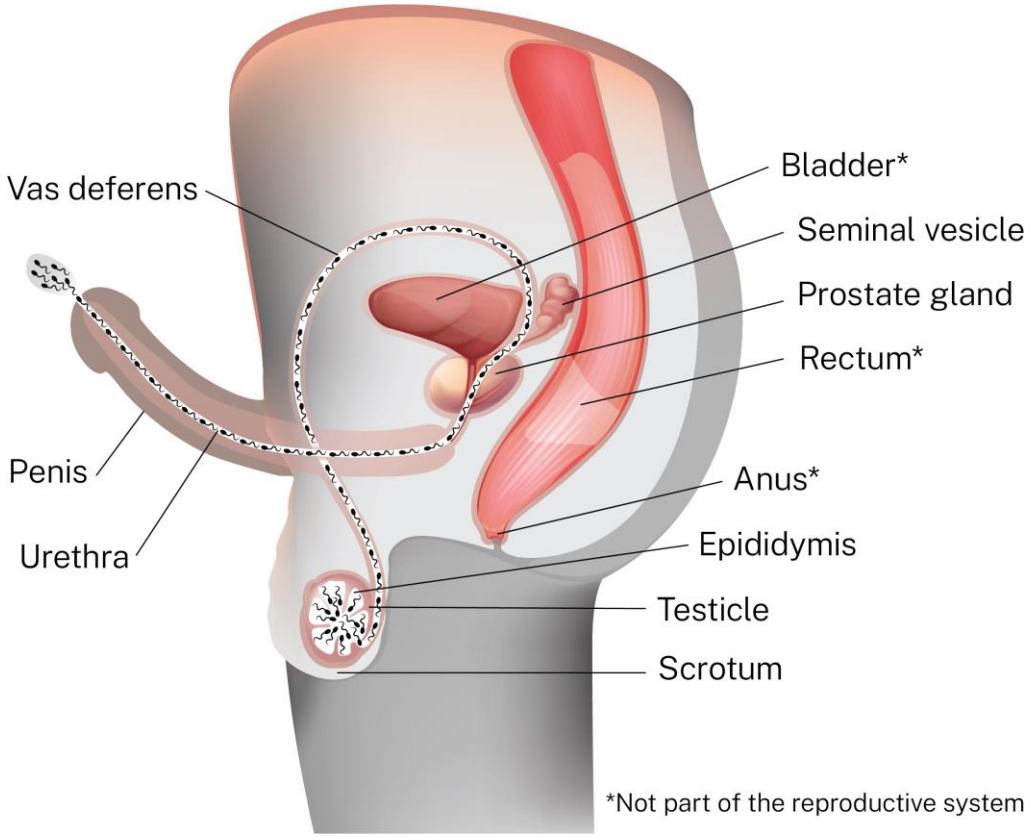
Testicle
- Sperm-producing glands

Scrotum
- External sac containing the testicles

*Not part of the reproductive system

External Anatomy Looks Different for Everyone

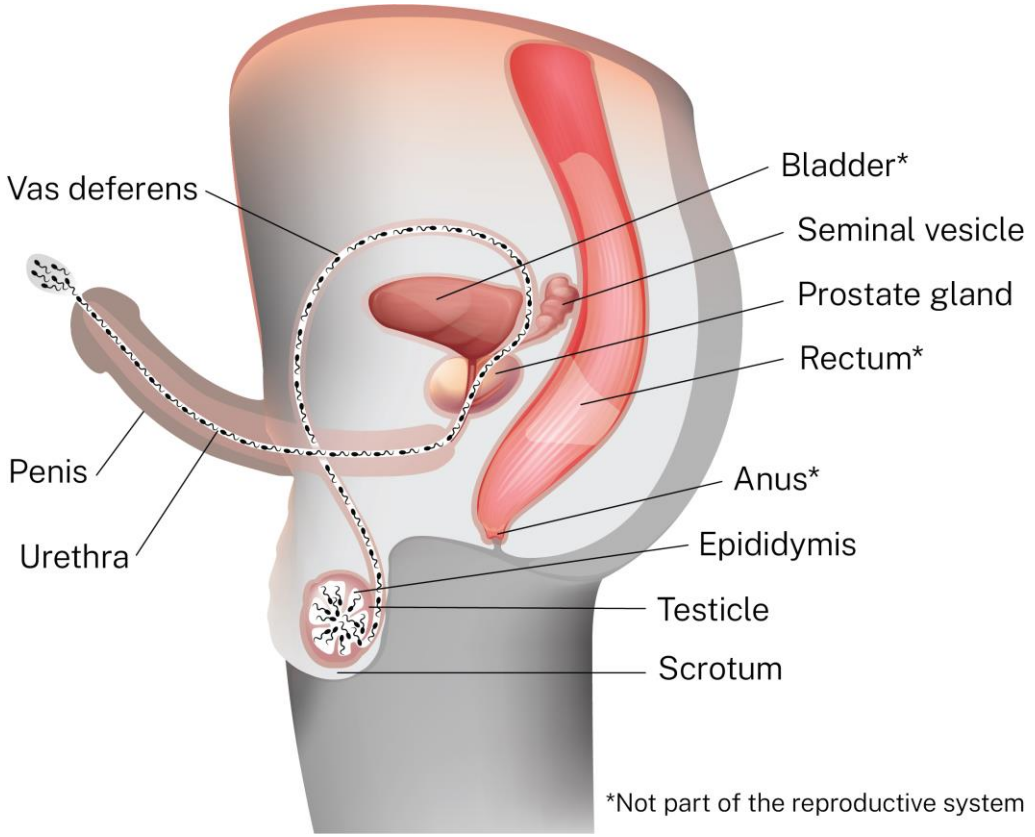
Sperm Production



Millions of sperm are made everyday.

Testicles are the sex glands that produce sperm and testosterone.

Sperm Production



Sperm travel through the epididymis, where they mature and are stored.

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Sperm Production

Each sperm is very small. There are over 300 million sperm in 5 ml of semen.

Sperm travel up the vas deferens and mix with fluid from seminal vesicle and prostate to create semen.

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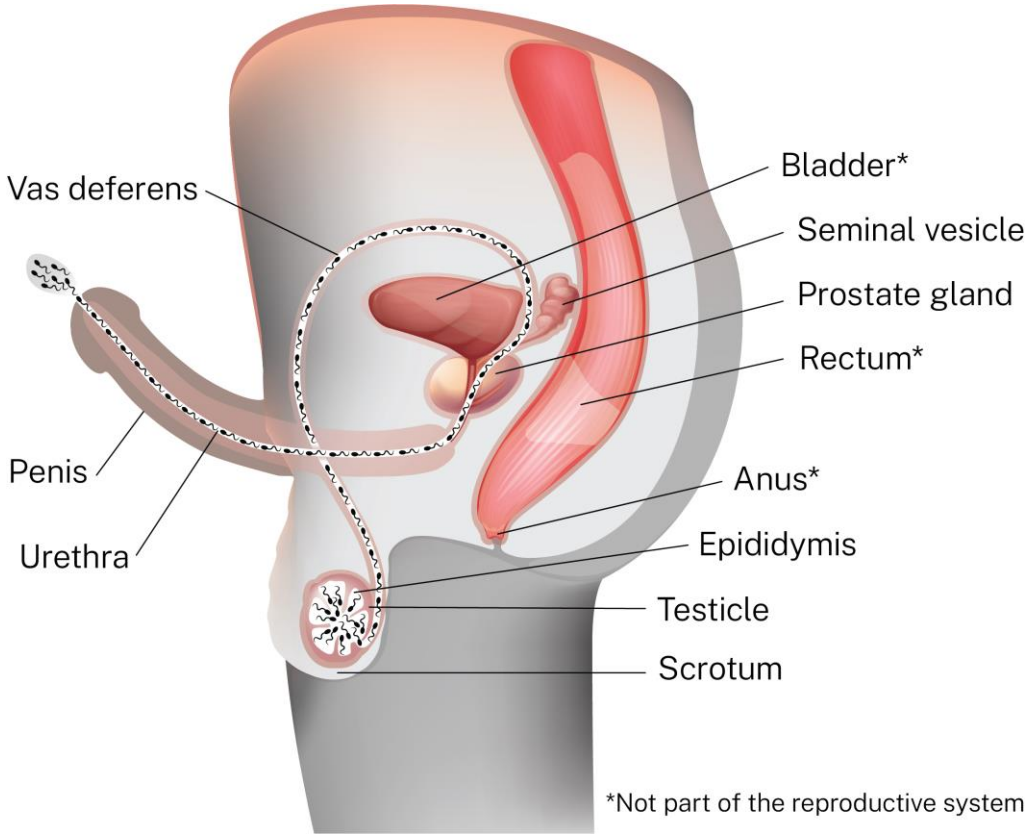

Sperm Production

Often, an erection is the result of hormone function, sexual touch or feeling. Usually, an erection precedes ejaculation.

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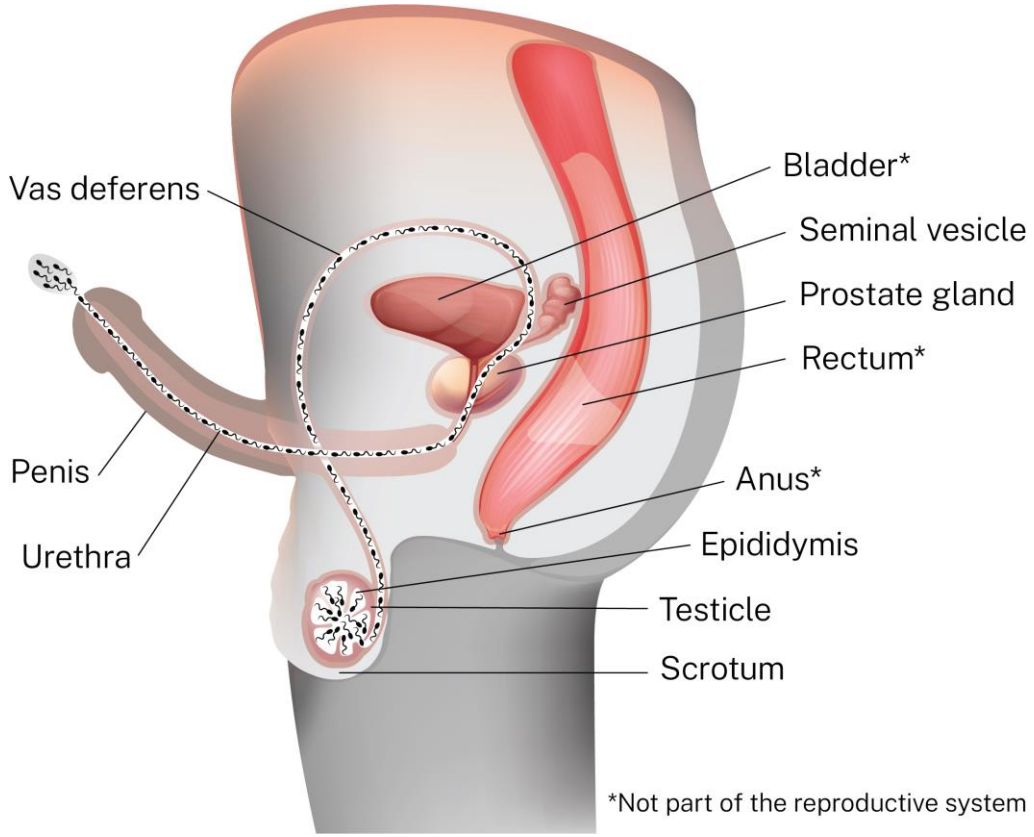

Sperm Production

Urine and semen cannot come out at the same time.

Semen travels to the penis via the urethra.

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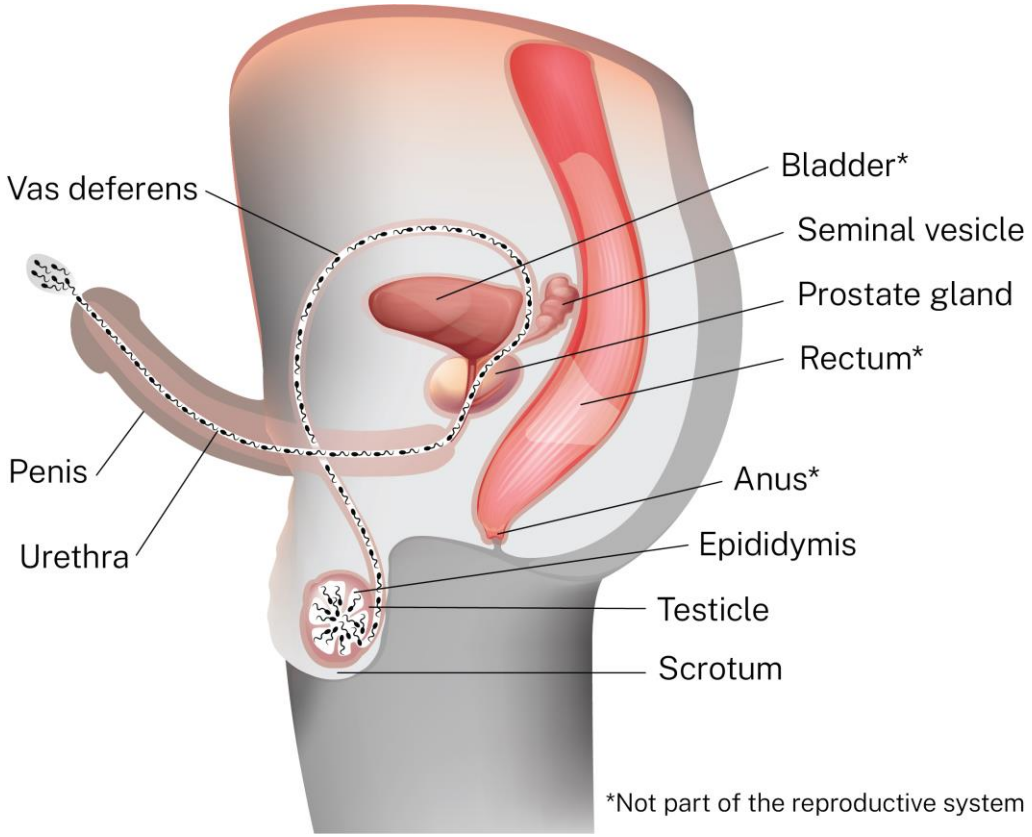

Sperm Production

The volume of semen ejaculated is usually 2-5ml.

Ejaculation occurs.

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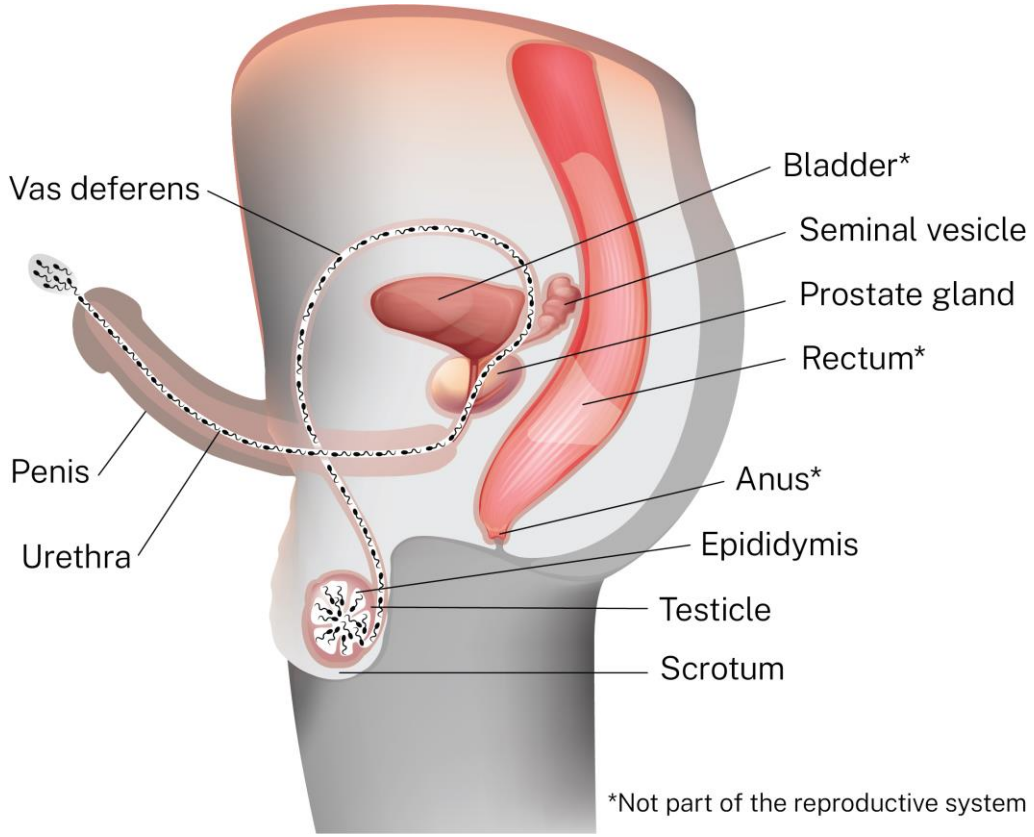

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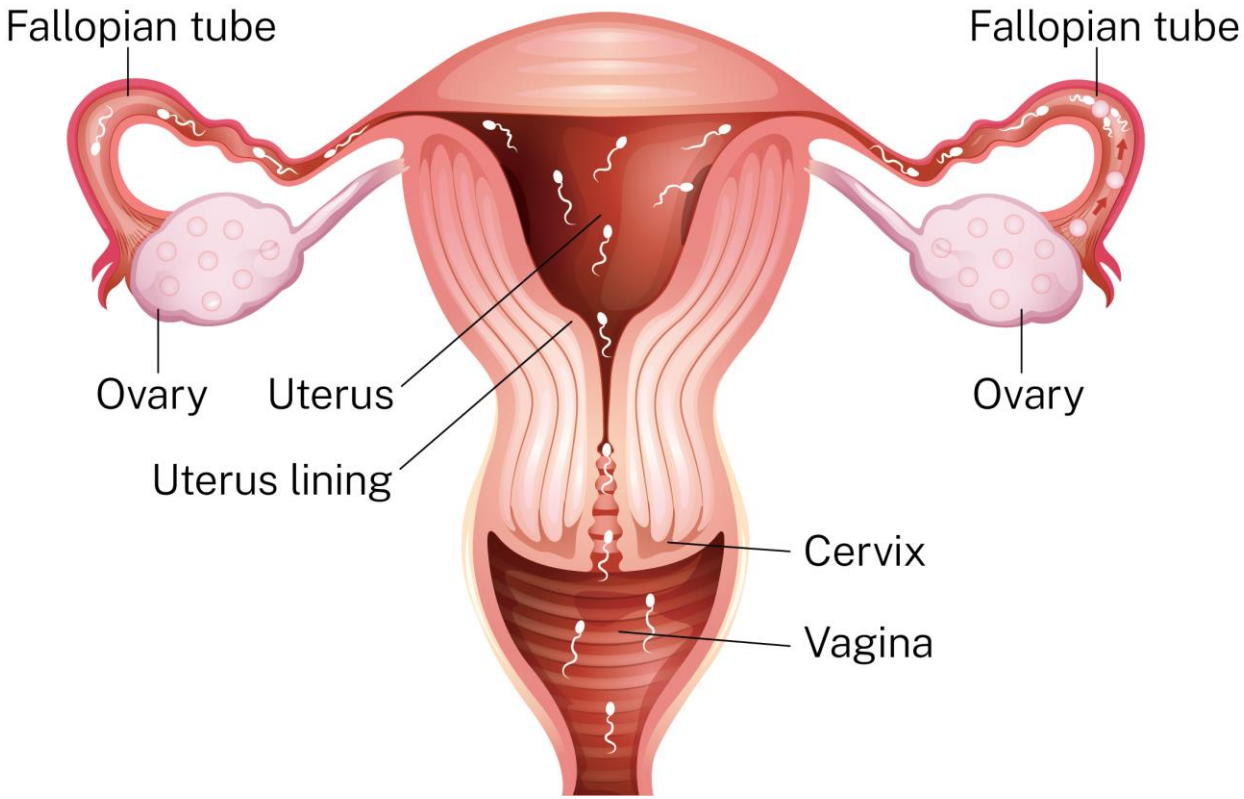
Human Reproduction

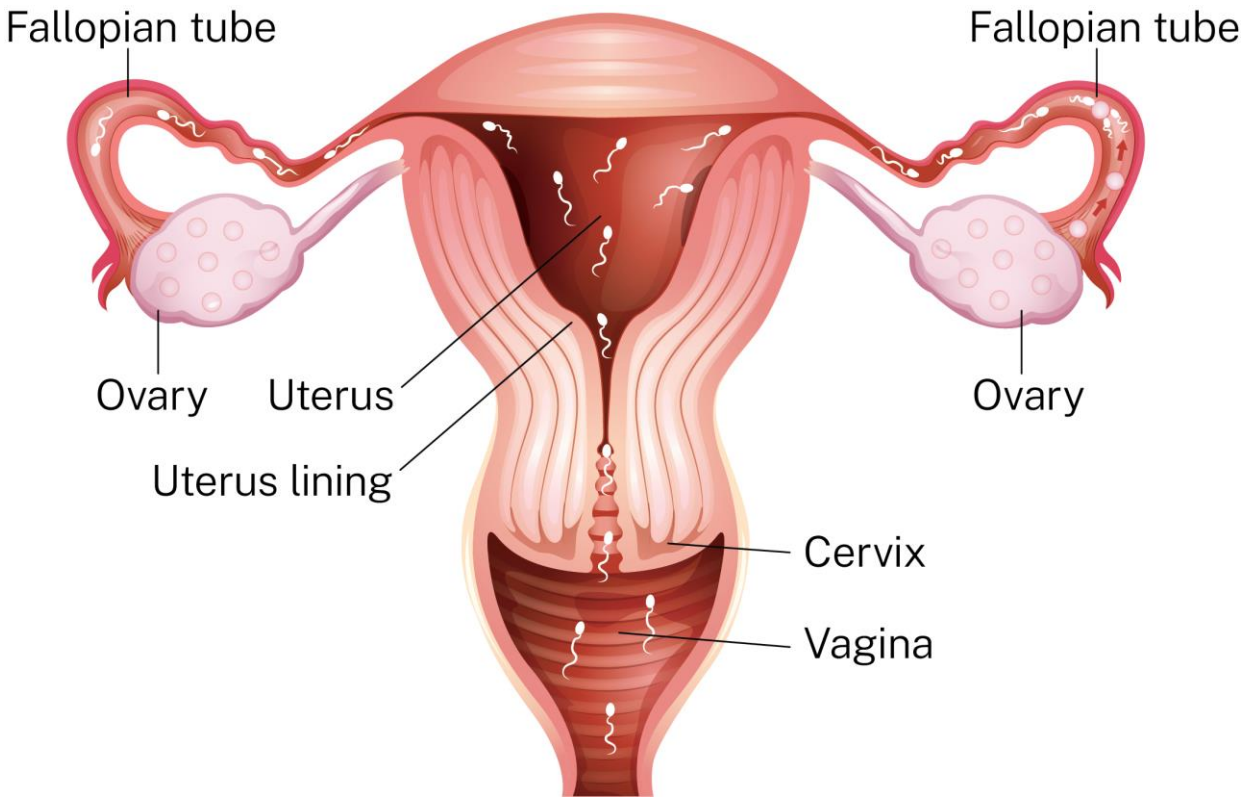
Reproduction occurs when a sperm cell and an egg cell join together (fertilization) and implant in the uterus (implantation).

Fertilization



During sex, the erect penis is inserted into the vagina.

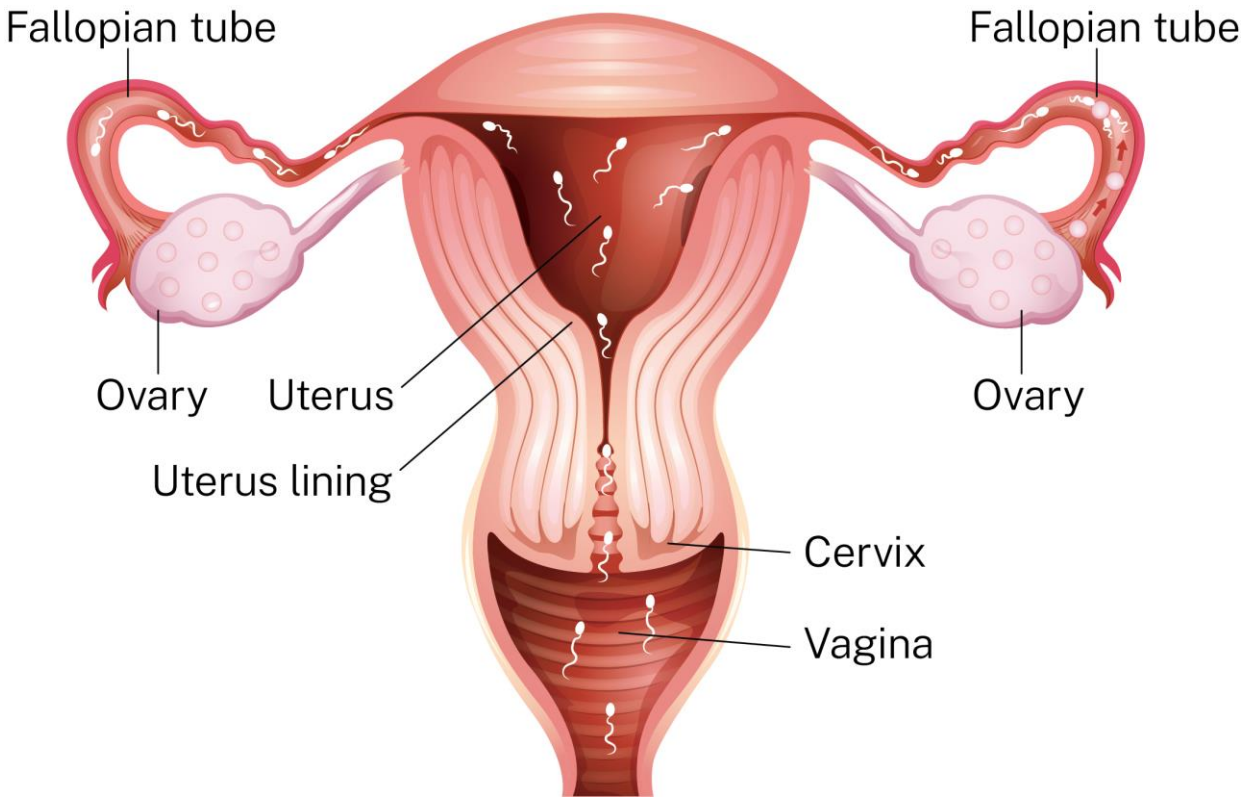
Fertilization



During sex, the erect penis is inserted into the vagina.

Sperm are ejaculated into the vagina and swim past the cervix, through the uterus and into the fallopian tubes.

Fertilization



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The first sperm will enter the fallopian tube minutes after ejaculation and can live in the fallopian tubes and/or uterus for up to 5 days.

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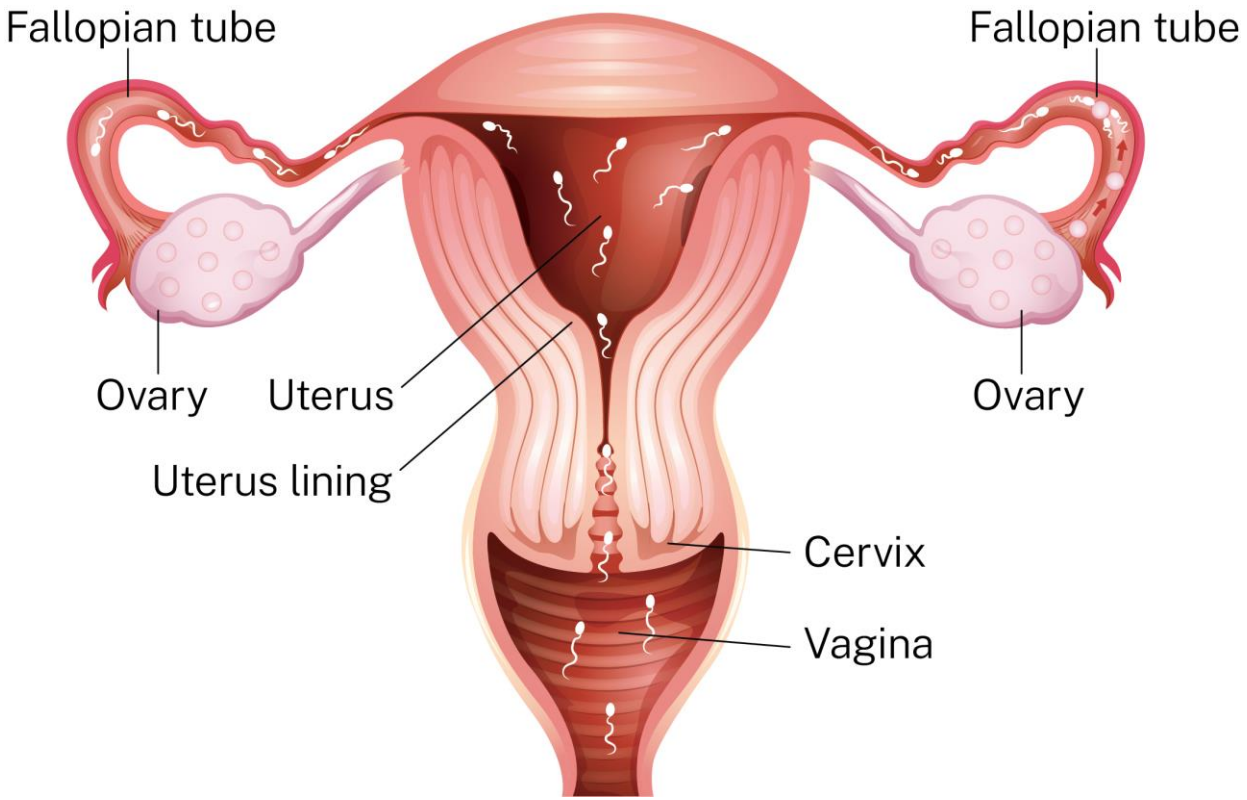

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The sperm will swim up to the egg, and one sperm will penetrate the egg. This is called fertilization.

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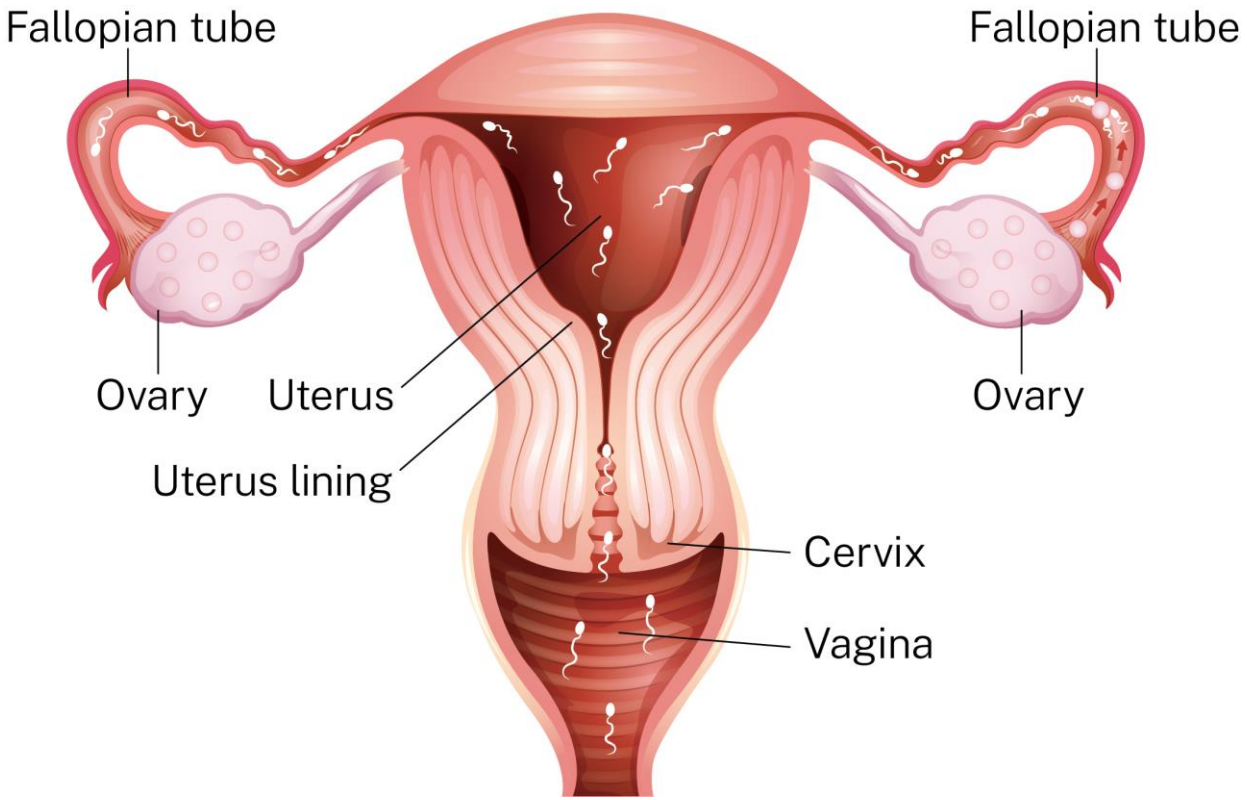

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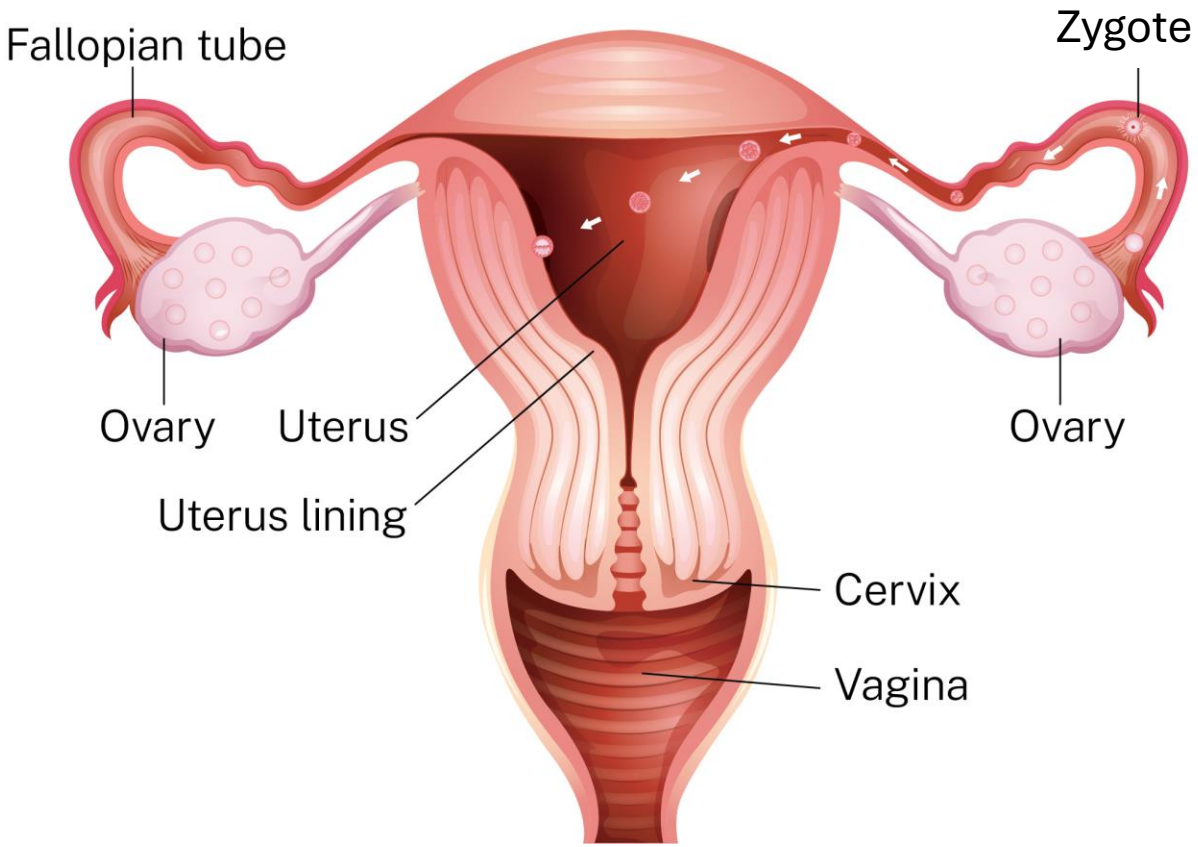
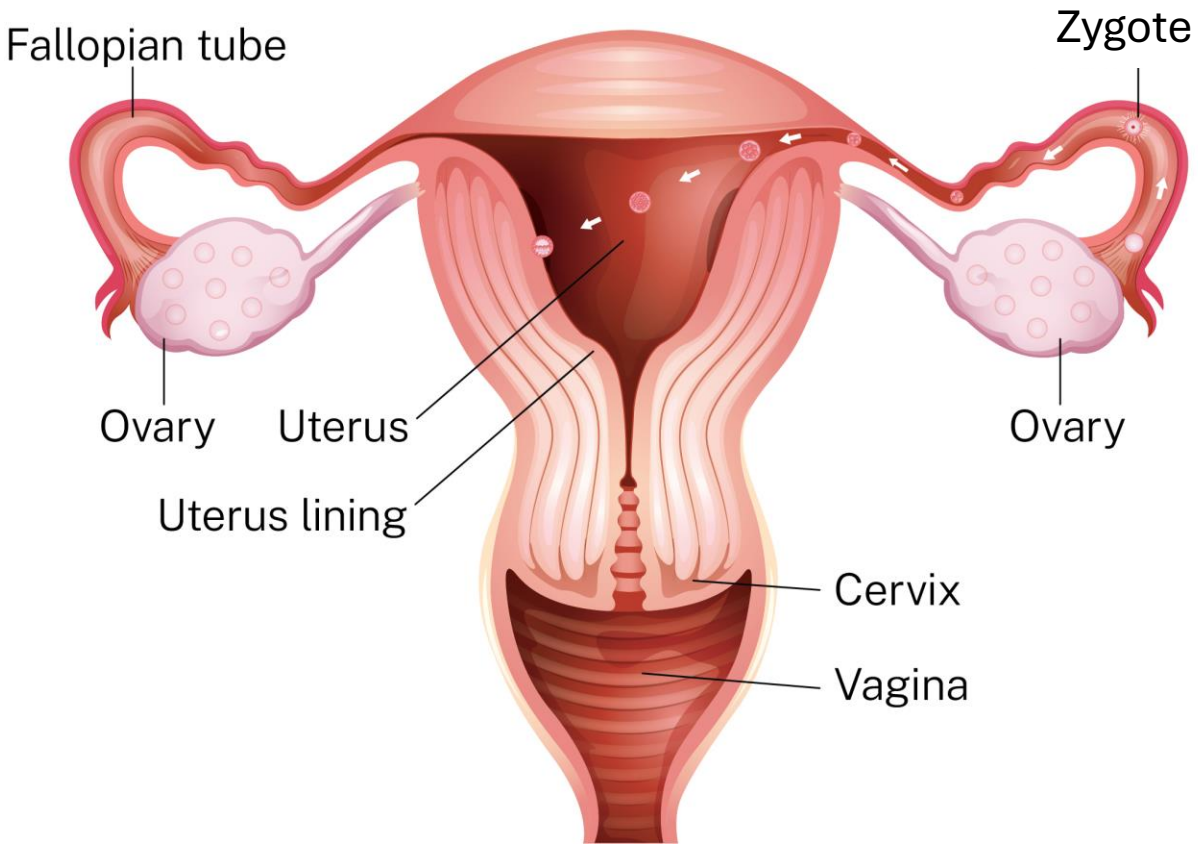
Once one sperm has penetrated the egg, the outer membrane of the egg changes and prevents fertilization by any other sperm.

Implantation



Once the sperm and egg unite, the fertilized egg is now called a zygote.

Implantation



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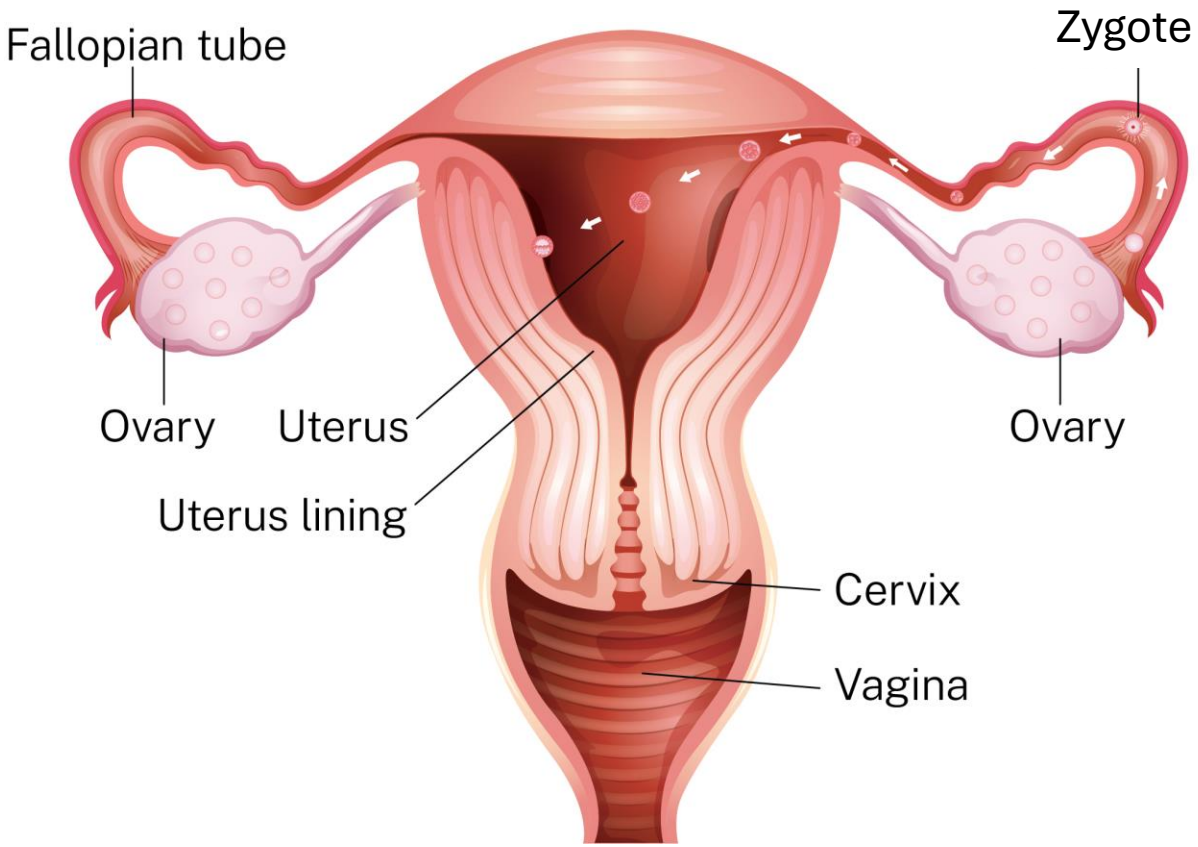
The zygote travels down the rest of the fallopian tube and into the uterus.

Implantation

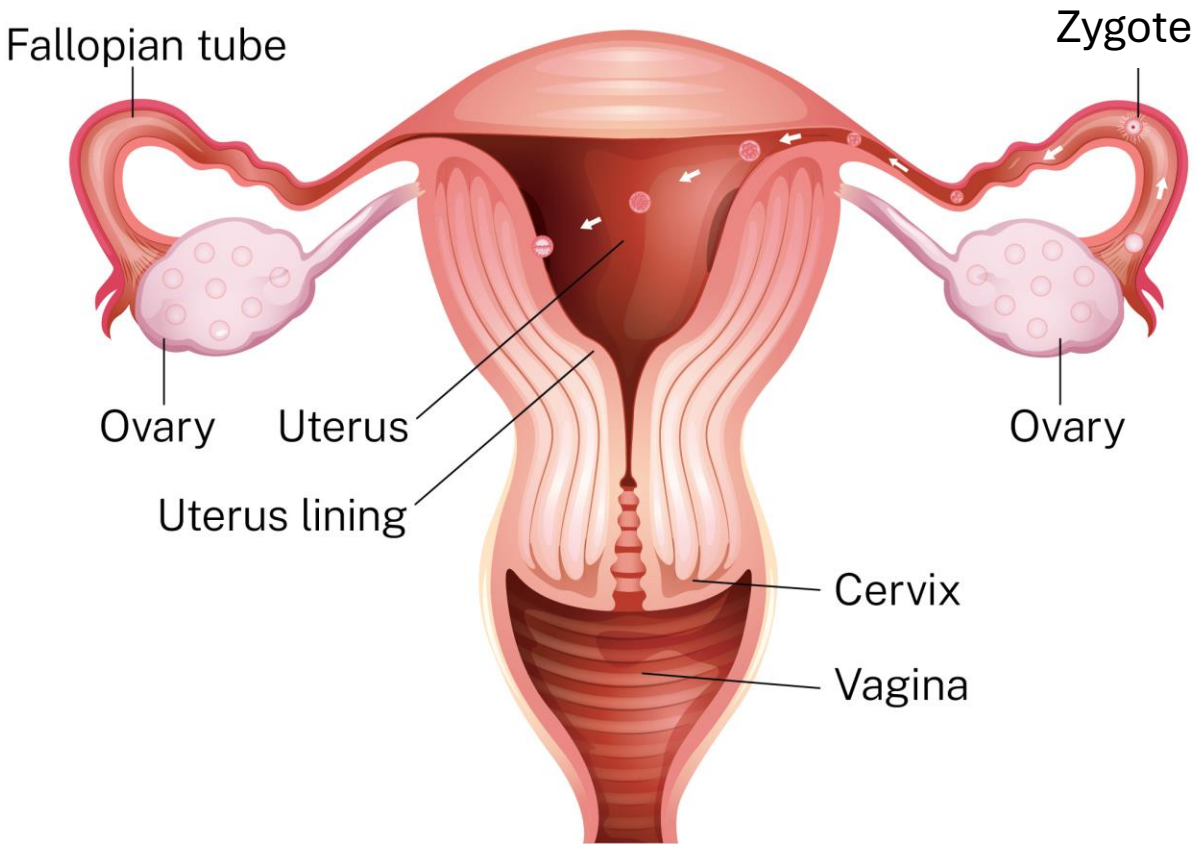


Once the sperm and egg unite, the fertilized egg is now called a zygote.

The zygote travels down the rest of the fallopian tube and into the uterus.

The zygote begins dividing, so that the single fertilized cell becomes two cells, then four, etc.

Implantation



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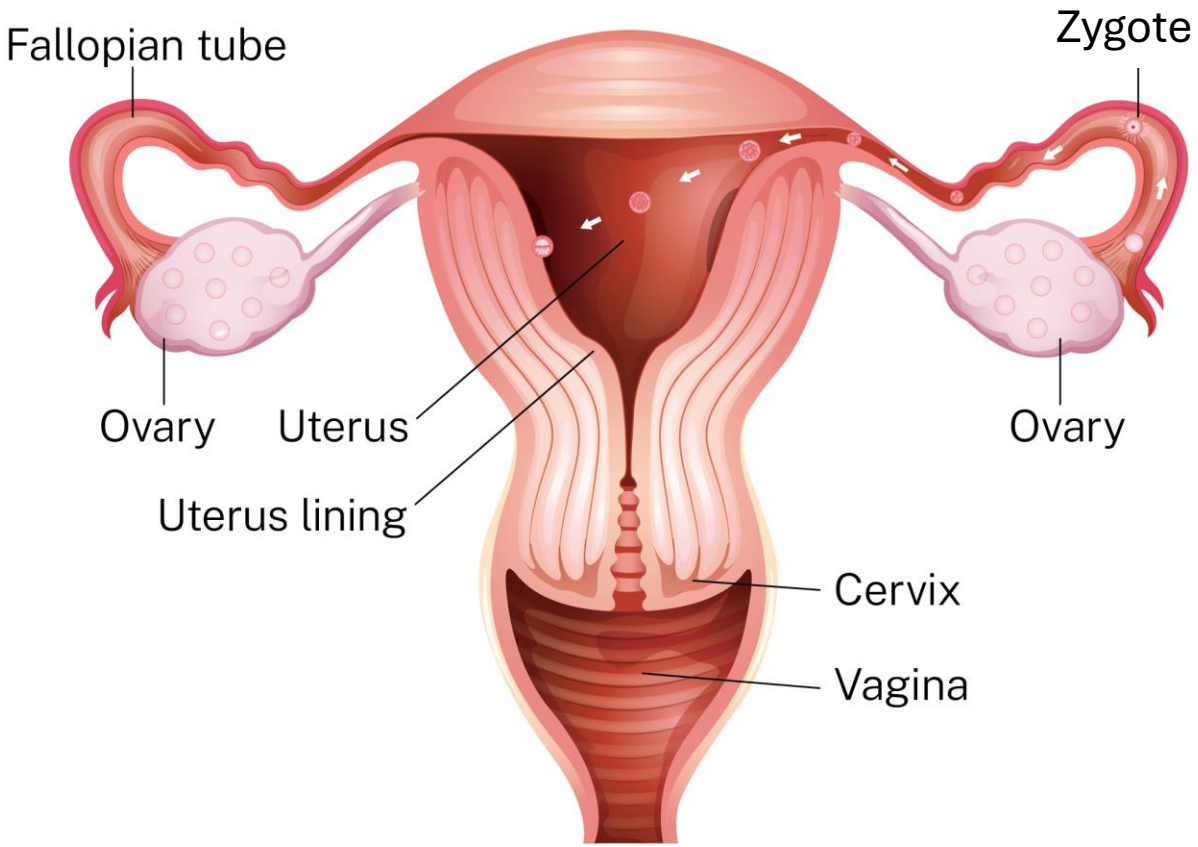
The zygote begins dividing, so that the single fertilized cell becomes two cells, then four, etc.

About 5-7 days after fertilization, the zygote implants into the lining of the uterus creating a pregnancy. The cells are now called an embryo.

Implantation



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If the zygote divides into two at this stage - this can result in identical twins. If more than one egg is released at the same time, each egg can be fertilized by a different sperm - this can result in fraternal twins.