



**SNS COLLEGE OF ALLIED HEALTH SCIENCES**  
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**DEPARTMENT : PHYSICIAN ASSISTANT**

**COURSE NAME : ANATOMY**

**UNIT : REPRODUCTIVE SYSTEM**

**TOPICS : ANATOMY OF MALE AND FEMALE  
REPRODUCTIVE SYSTEM**



## REPRODUCTIVE SYSTEM



- In human reproduction, two kinds of sex cells or gametes are involved.
- Sperm, the male gamete, and a secondary oocyte (along with first polar body and corona radiata), the female gamete must meet in the female reproductive system to create a new individual.



- For reproduction to occur, both the female and male reproductive systems are essential.
- It is a common misnomer to refer to a woman's gametic cell as an egg or ovum, but this is impossible.
- A secondary oocyte must be fertilized by the male gamete before it becomes an "ovum" or "egg."



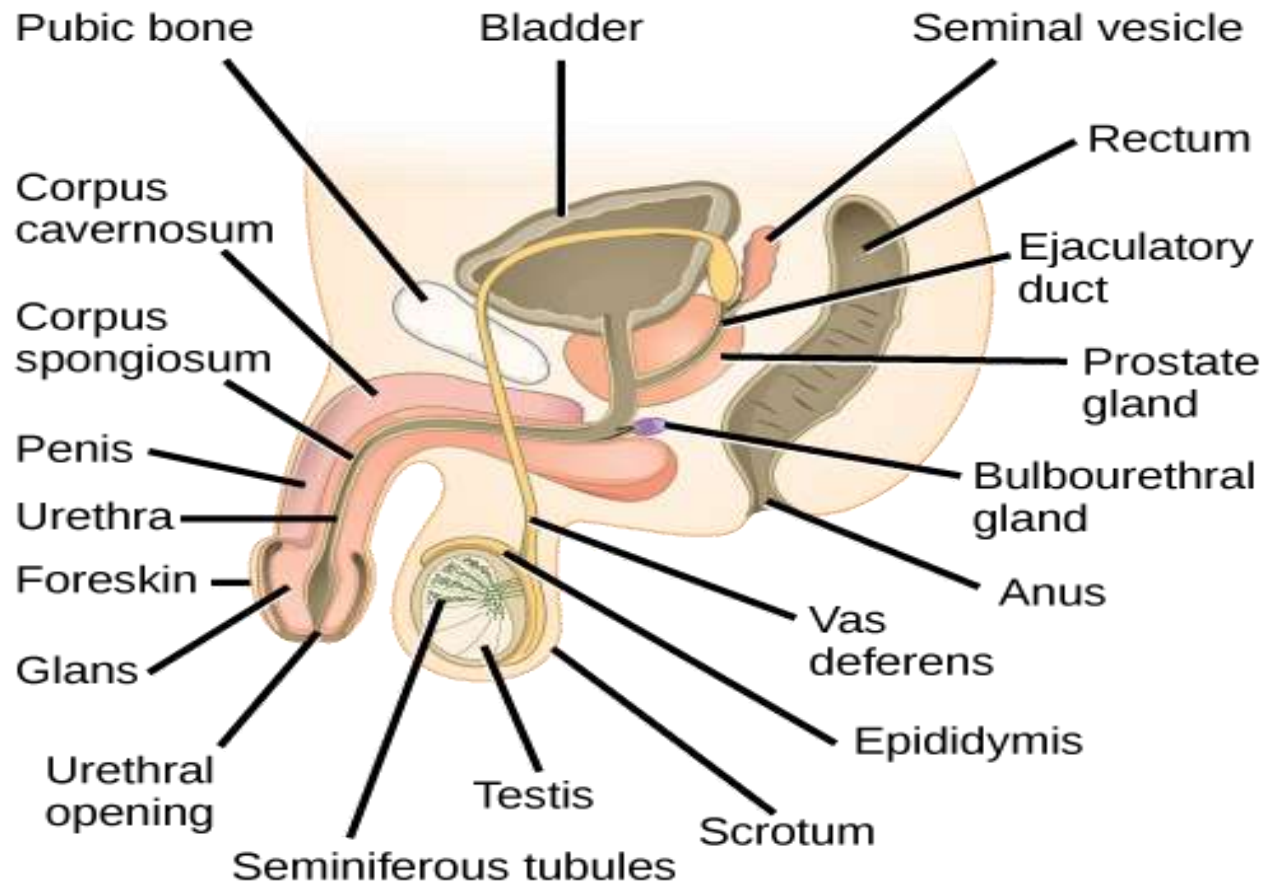
- Both the female and male reproductive systems are involved with producing, nourishing and transporting either the oocyte or sperm, they are different in shape and structure.
- The male has reproductive organs, or genitals, that are both inside and outside the pelvis, while the female has reproductive organs entirely within the pelvis.



## THE MALE REPRODUCTIVE SYSTEM



- The male reproductive system consists of the testes and a series of ducts and glands. Sperm are produced in the testes and are transported through the reproductive ducts.
- These ducts include the epididymis, vas deferens, ejaculatory duct and urethra. The reproductive glands produce secretions that become part of semen, the fluid that is ejaculated from the urethra.
- These glands include the seminal vesicles, prostate gland, and bulbourethral glands.





## **Bulbourethral glands**

Pea sized organs posterior to the prostate on either side of the urethra.

## **Epididymis**

Tightly coiled duct lying just outside each testis connecting efferent ducts to vas deferens. A series of small tubes attached to the back of each testicle. The epididymis collects and stores sperm.



## **Penis**

Three columns of erectile tissue: two corpora cavernosa and one corpus spongiosum. Urethra passes through penis. Contains tissue that fills with blood during sexual arousal, making the penis erect (or 'hard'). Semen is a mixture of sperm and fluid from the male reproductive organs. It exits the penis, through the urethra, during ejaculation.

## **Prostate gland**

Surrounds the urethra just below the urinary bladder and can be felt during a rectal exam.





## **Seminal Vesicles**

Convolutd structure attached to vas deferens near the base of the urinary bladder.

## **Testes**

Inside scrotum, outside of body. Oval sex glands located in a skin sack called the scrotum. Sperm and sex hormones are made by the testicles. Keeping the testicles outside of the body means they have a lower temperature than the rest of the body, which is important for sperm production.



## Urethra

Connects bladder to outside body, about 8 inches long.

## Vas Deferens

Muscular tubes connecting the left and right epididymis to the ejaculatory ducts to move sperm. Each tube is about 30 cm long. The epididymis eventually becomes the vas deferens, a larger tube that transports sperm to the urethra (the urinary passage from the bladder).



## MALE REPRODUCTIVE HORMONES



- Hormones are chemical messengers made by glands in the body. Androgens are the hormones that make men 'male'.
- Androgens are responsible for sexual functioning, fertility and secondary sexual characteristics such as muscle mass, height, deep voice and body hair (including the beard). The most important androgen is testosterone, which is manufactured in the testicles.



## THE SPERM



- The sperm is the male reproductive cell. Its role is to fertilise an egg. It contains the man's genetic material.
- A sperm is tadpole-shaped and around 60 microns in length (one micron is a millionth of a metre). It has a lashing tail, which helps it to 'swim' towards a waiting egg. Sperm production continues throughout a man's life, from puberty into old age but the quality of a man's sperm declines from about age 45.



## APPLIED ANATOMY



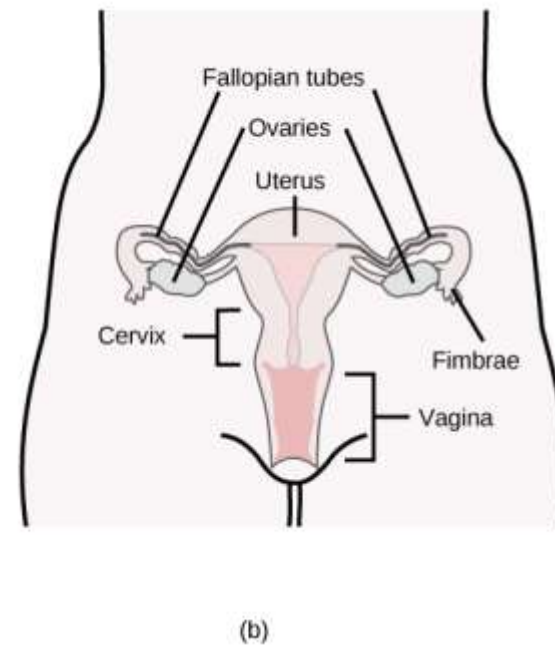
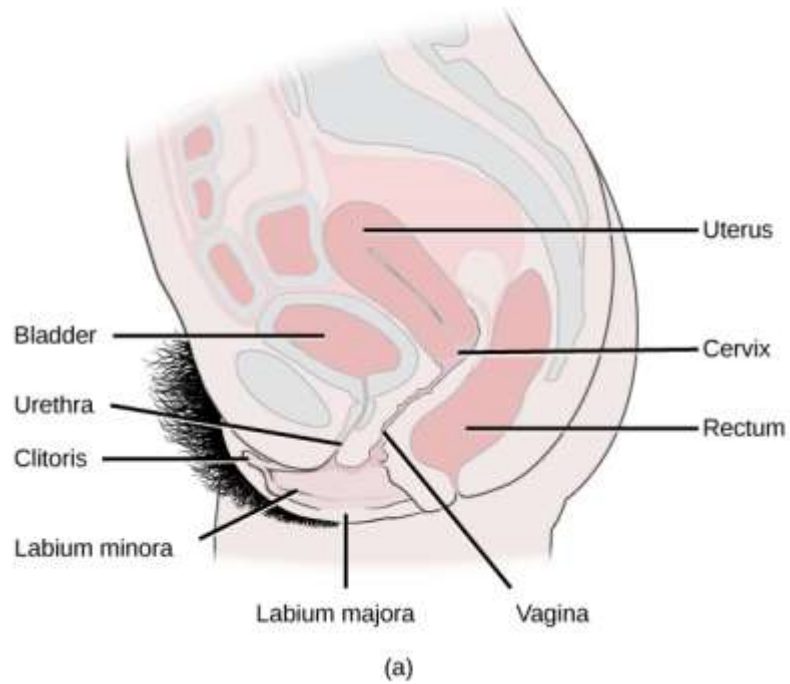
- Impotence – a problem with getting or keeping an erection
- Infertility – the inability to achieve a pregnancy due to low sperm production, blockages or other factors
- Prostate disease – benign prostate enlargement and prostate cancer
- Sexually transmissible infections (STIs) – bacterial or viral infections acquired through sexual contact.



# THE FEMALE REPRODUCTIVE SYSTEM



- Reproduction can be defined as the process by which an organism continues its species.
- In the human reproductive process, two kinds of gametes are involved: the male gamete (sperm) and the female gamete (egg or ovum). These two gametes meet within the female's uterine tubes located one on each side of the upper pelvic cavity, and begin to create a new individual.
- The female needs a male to fertilize her egg; she then carries offspring through pregnancy and childbirth.





- Produces eggs (ova)
- Secretes sex hormones
- Receives the male spermatozoa during
- Protects and nourishes the fertilized egg until it is fully developed
- Delivers fetus through birth canal
- Provides nourishment to the baby through milk secreted by mammary glands in the breast





## **Ovaries**

Ovoid structures on either side of the uterus in the pelvic cavity. two small almond-shaped glands that contain ova. Sex hormones are also made by the ovaries.

## **Fallopian (uterine) tubes**

Extend from lateral areas of the uterus to near the ovaries. These tubes extend from the womb, one on each side. They both open near an ovary. These tubes carry the egg (ovum) from the ovary to the womb.



## **Uterus (womb)**

Pear shaped structure divided into the fundus and the cervix. A muscular organ, shaped like an upside down pear. Its lining is called the endometrium. The neck or entrance to the womb is the cervix, which has a small hole in its centre called the os.

## **Vagina**

Located between rectum and urethra; smooth muscle lined with an epithelial mucous membrane. A muscular canal around 7.5 cm long that extends from the neck of the womb to the genitals, or vulva.



## **Vulva**

Externally located: labia majora and minora, mons pubis, clitoris, vestibule, greater and lesser vestibular glands

## **Perineum**

Area between vagina and anus



## THE EGG (OVUM)



- A woman's entire egg supply is developed when she is still an unborn baby. At the start of puberty, the eggs are ripened inside the ovary and one is released every month.
- Each egg contains genetic material. At menopause, the ovaries stop making hormones and eggs are no longer ripened or released.



## APPLIED ANATOMY



- Endometriosis – the presence and growth of functioning endometrial tissue in places other than the uterus
- Polycystic ovarian syndrome (PCOS)
- Fibroids – non-malignant tumours of the womb
- Infertility – inability to become pregnant
- Painful periods
- Premenstrual tension
- Sexually transmissible infections (STIs) – bacterial or viral infections acquired through sexual contact, some of which can cause cancer or infertility.



## ASSESSMENT



- What is Vas Deferens ?
- What is Ovum ?