

ADVANCED BIOLOGY
Chapter 19 REPRODUCTIVE SYSTEMS

- ** Summarize the major functions of each system (general)
- ** Make a chart or summary of the following organs within each system

MALE

Primary Sex Organs

- Testes

Internal Sex Organs

- Epididymis
- Vas deferens
- Seminal vesicle
- Prostate gland
- Bulbourethral glands

External Sex Organs

- Scrotum
- Penis

FEMALE

Female Primary Sex Organs

- Ovaries

Female Internal Sex Organs

- Uterine tubes (fallopian tubes or oviduct)
- Uterus
- Vagina

Female External Sex Organs

- Vulva (labia majora, labia minora, clitoris & vestibule)

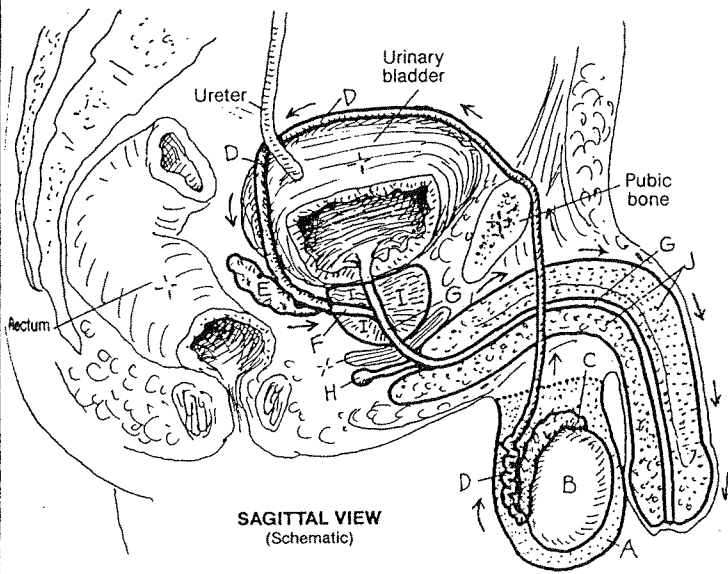
MALE REPRODUCTIVE SYSTEM

CN: Use red for L, blue for M, and very light colors for A, J, and K.
 (1) Color the upper views simultaneously. In the sagittal view, only the urethra is shown in the median plane. (2) The coverings of the spermatic cord in the illustration below actually consist of several layers (recall Plate 43). Color the parts of K and L seen deep to the pampiniform plexus (M).

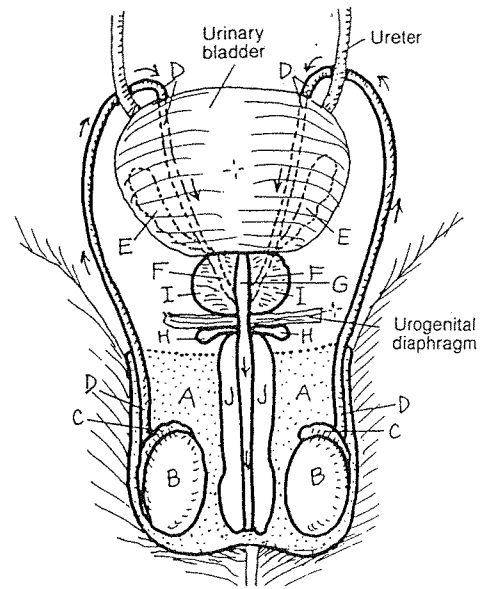
- SCROTUM ^A
- TESTIS ^B
- EPIDIDYMISS ^C
- DUCTUS DEFERENS ^D
- SEMINAL VESICLE ^E
- EJACULATORY DUCT ^F
- URETHRA ^G
- BULBOURETHRAL GLAND ^H
- PROSTATE GLAND ^I
- PENIS ^J

The male reproductive system consists of the primary organs, the *testes* (testicles), suspended within a sac of skin and thin fibromuscular tissue (the *scrotum*); a series of ducts; and a number of glands. Development of the male germinating cells (sperm) in the testes requires a slightly lower-than-body temperature (about 35° C or 95° F); this is achieved by their separation from the warmer body cavities. The temperature within the scrotum can be adjusted slightly by the contraction/relaxation of smooth muscle (dartos muscle) in the scrotal wall, tightening or loosening the tension of the wall about the testes. Mature sperm are stored in the *epididymis*; with stimulus, sperm cells are induced to move into and through the *ductus (vas) deferens* by rhythmic contractions of the smooth muscle in the ductal wall. Within the ductus deferens, the sperm pass through the abdominal wall (via the inguinal canal) and pelvic cavity to enter the prostatic *urethra* via the pencil-point shaped *ejaculatory duct*. Here the nutrient-rich secretions of the *prostate gland* and *seminal vesicles* are added to the population of sperm in the prostatic urethra, forming semen. Prior to the release of the semen (ejaculation), the *bulbourethral glands* add secretions to the urethra. The *penis* and *scrotum* constitute the external genital organs.

Enlargement of the prostate is common (prostatic hypertrophy/hyperplasia) in men 50 years and older. The glands and connective tissues surrounding the urethra are subject to thickening and blocking urine flow (benign prostatic hypertrophy). Neoplastic growth (prostatic carcinoma) is less common (5-15% of men with prostatic hypertrophy) and occurs in the more peripheral tissues of the prostate.



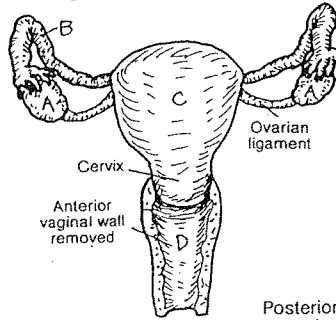
SAGITTAL VIEW
(Schematic)



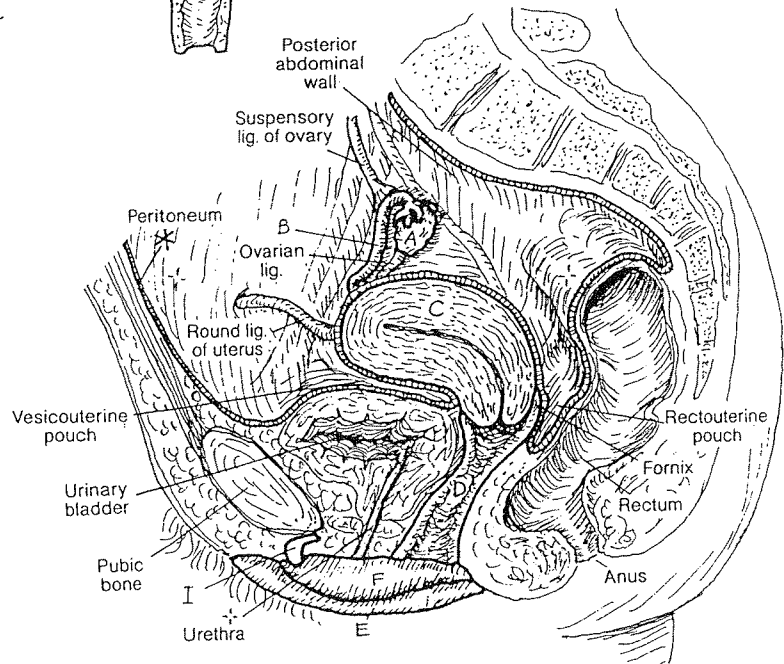
ANTERIOR VIEW
(Schematic)

FEMALE REPRODUCTIVE SYSTEM

CN: (1) Color the two (upper) views of the internal reproductive structures simultaneously. In the sagittal view, color the double line representing the peritoneum in gray. (2) In the lower drawings, color the vestibule (N) gray after coloring the other structures located in that area (L-P). (3) In the dissected view of the external structures, take note of the surrounding musculature, none of which is colored.



MEDIAL VIEW
(Right side, genitourinary structures)



INTERNAL STRUCTURES: *

OVARY^A
UTERINE (FALLOPIAN)
TUBE^B
UTERUS^C
VAGINA^D

The primary organ of the female reproductive system is the *ovary* which produces the female germ cells (ova) and secretes the hormones estrogen and progesterone. Each ovary, like the testis, arises on the posterior abdominal wall (adjacent to the kidneys) during early fetal development. It also descends along that wall, like the testis, but is interrupted early in its journey by a ligament and is retained in the pelvis. The *uterus* serves as a site for implantation and nourishment of the embryo/fetus. The *uterine tubes* provide a conduit for the freshly fertilized or unfertilized ovum enroute to the uterus. The *vagina*, a fibromuscular sheath, receives the semen from the penis and transmits it to the uterus and acts as a birth canal from the uterus to the outside for the newborn.