

# Male and Female Reproductive Anatomy

## **Male Reproductive Anatomy**

- Millions of sperm are produced in the testes each day.
- **Testes** are held at 3°F cooler than the rest of the body for optimal sperm development.
- The **scrotum** contains the testes.
  - Sperm are produced at about 3 degrees below body temperature, so the scrotum can vary in size by wrinkling up (brings testes closer to be warmer) or stretching out (to keep testes cooler).
- **Epididymis**: One of these coiled ducts (about 20 ft stretched out!) is attached to each testis. Newly formed sperm take about 3 weeks to travel through the epididymis, but by the time they get to the end, they are mature and able to swim.
- **Ductus deferens** (vas deferens): Long duct that travels from the epididymis through the inguinal canal into the torso (this “hole” in the body wall causes hernias to be more common in males) and loops over the bladder. It finally meets up with the **ejaculatory duct**, which eventually joins with the urethra.
- **Glands that produce contents of semen**:
  - Seminal vesicles and the prostate gland (prostate surrounds urethra so if it enlarges it makes urination difficult)
  - Semen: 2-5mL/ejaculation; includes sperm and alkaline sugary mixture
    - ~200 million sperm in one ejaculate
- **Urethra**
  - Passageway for urine and semen. During sexual arousal, the bladder sphincters tighten so that urine does not mix with semen.
- **Penis**
  - Foreskin normally covers the head of the penis; circumcision removes it
  - Contains connective tissue that can be filled with blood to cause erection.

## **Female Reproductive Anatomy**

- **Ovaries**: contain ~2 million eggs at birth but they rapidly die off; about 250,000 remain at puberty. Each month one (or several) eggs are ovulated.
- **Uterine (Fallopian) Tubes**: Each about 4 inches long; deliver egg to the uterus for possible implantation. The uterine tubes have fimbriae (finger-like projections) that surround the ovary and wave the egg inside of it. The inside of the uterine tubes have cilia that wave the egg along. Fertilization occurs within the uterine tube.
  - **Pelvic Inflammatory Disease (PID)**: Some STDs, such as gonorrhea, can also move into the abdominopelvic cavity from the reproductive structures. This infection is very serious, and can lead to infertility by scarring and narrowing of the uterine tubes.
- **Uterus**: hollow organ (pear-sized) that can grow tremendously in size during pregnancy.
  - **Endometrium**: Inner layer (mucosa) that receives the embryo in a process called implantation. The embryo literally burrows into the uterine lining.
  - **Myometrium (smooth muscle layers)**: 1) allow stretch and growth of uterus during pregnancy; 2) provide contractions to push baby out during labor
  - **Cervix**: Narrow, usually tightly closed, outlet from the uterus. When labor begins, it thins (effaces) and opens (dilates).
- **Vagina**: Also called the birth canal.
- **Clitoris**: Most anterior of the external genitalia; homologous to the penis. Engorges with blood during sexual arousal