

## MALE REPRODUCTIVE SYSTEM

The “opposite sex” is not opposite at all, for not only do both sexes develop from very similar structures a pair of sex glands and two genital tubes, but both men and women manufacture the hormones of the other sex. Hormones of one sex are often used to treat illness in the other sex. Men with certain heart ailments are mediated with the female hormone estrogen.

### **EXTERNAL MALE REPRODUCTIVE ORGANS**

External male reproductive organs include the penis and scrotum.

**Penis:** the male organ for sexual intercourse, reproduction, and urination. The reproductive purpose of the penis is to deposit semen in the vagina during sexual intercourse. The head of the penis or glans contains many nerve endings. At birth the glans is covered by a loosely fitting skin called the foreskin. Many adolescent males often wonder if their penis is too small or too large. When the penis is flaccid it is 3-4” long and just under 1 inch in diameter. When the penis is erect it is 5-7 inches long and 1 ½ inch in diameter. There is no relationship between the size of the penis and sexual functioning. It is common for many male teenagers to experience erections at different times. An erection occurs when the sponge-like chambers in the penis fill with blood. This may happen when a male is sexually aroused or at other times for no apparent reason. Sometimes a male may awaken in the morning with an erect penis and not feel sexually aroused. This may result from a full bladder, which stimulates nerves associated with the penis.

**Scrotum:** a sac-like pouch located behind the penis that holds each testes and helps regulate temperature for sperm production.

**Testicles or Testes:** the two testes are small organs about the size of a peach pit that lie in the scrotum and produce sperm and male hormone testosterone. The testicles are the male sex gland. One may hang slightly lower than the other because of the varying length of blood vessels. The testicles are outside the body because the male sperm that is manufactured in the testes need cooler than body temperature for normal growth and development. They are the counterpart to the female ovary. Each testicle is a complete sex gland. Loss of one does not impair the function of the other. Within each testicles there are many winding and tightly coiled tubules in which sperm are produced. If all the tubules in the man’s testicle were laid end to end, they would reach for a half-mile. Four to five billion sperm cells are produced each month. Each testicle contains 300-600 tightly coiled tubules in which sperm are produced.

### **INTERNAL MALE REPRODUCTIVE ORGANS**

Male internal reproductive organs include the epididymus, seminal vesicles, prostate gland, and the Cowper’s gland. Like the female eggs, cells mature when the females reach puberty; so does sperm production in the male begin when he reaches puberty. It takes about 64 days from the time sperm are first produced until they reach maturity.

**Testosterone:** the male reproductive hormone made by the testicles which causes the changes of puberty. (Counterpart to female estrogen and progesterone). This hormone causes secondary sex characteristics, production of sperm, sexual urge. It is produced in the testicles and enters the bloodstream at a fairly constant rate.

**Sperm:** the microscopic cells produced by the male's testicles which can fertilize the female's ovum. They are tiny, living cells 100 times smaller than a pencil dot. Enough sperm would fit on the head of a pin to re-populate the earth if each sperm fertilized an egg. Sperm is the male reproductive cell or seed (counterpart to female ovum). It is the smallest cell in the male body (while ovum is the largest cell in the female body). Each sperm carries half of the genetic material to produce a new human. It is destroyed by warm body temperature, acid environment, and is built to self-destruct in the female body within five days. Any sperm not ejaculated are passed in the urine.

**Epididymus:** the structure that forms a mass over the back and upper part of each testes. Contractions of the tubes inside the testes move the sperm into the epididymus. Sperm may be held for as long as six weeks while they ripen to maturity. Epididymitis is a painful condition caused by wearing pants too tight.

**Vas Deferens:** two long, thin tubes that serve as a passageway for sperm and a place for sperm storage. The vas deferens are lined with cilia. The contraction of the vas deferens along with the action of the cilia help transport the sperm through the vas deferens.

**Seminal Vesicles:** two small glands that secrete a fluid that nourishes and enables the sperm to move.

**Prostate Gland:** surround the urethra beneath the bladder. The gland secretes an alkaline fluid that neutralizes the acid found in the male urethra and the female reproductive tract. Without the action of the secretions of the prostate gland, many sperm would die and fertilization of an ovum would be impossible.

**Cowper's Gland:** two small pea-sized glands located beneath the prostate gland on both sides of the base of the penis. They secrete a clear, sticky fluid that is alkaline to help neutralize the acidity of the urethra.

**Urethra:** a dual purpose tube that both semen and urine pass through to leave the body. Semen and urine never mix. Special muscles or sphincters surround the urethra. During urination, one sphincter will relax so that the pressure from the bladder will push urine out from the body. During ejaculation, another sphincter will relax so that semen can flow through the urethra to the outside of the body.

## **OTHER RELATED CONCERNS**

**Circumcision:** a process that surgically removes the flap of skin that covers the glans of the penis. This is usually done a few hours or days after birth. It is commonly done for religious reasons or to make it easier to keep clean. It is not done to all males. Uncircumcised and circumcised penises look a little different, but function the same way.

**Ejaculation:** the passage of sperm from the penis, a result of a series of muscular contractions.

**Semen:** a combination of fluid that is produced in the seminal vesicles, prostate gland, and Cowper's gland. This fluid nourishes and helps sperm move through the urethra.

**Nocturnal Emission (wet dream):** a normal, involuntary ejaculation of semen while a male is asleep.

**Impotence:** the failure to get or maintain an erection. The reasons for impotence may be emotional or physical.

**Vasectomy:** surgical procedure for sterilization of the male. The vas deferens are severed or a portion is cut out to prevent sperm from entering the semen.

**Time Line:**

Infancy

Ages 11-14

Ages 13-16

Late teens

Throughout life

Erections begin

Secondary sex characteristics appear

Sperm produced in adult amounts (puberty)

Peak sexual urges for boys

If good health is present, there is the sex urge and ability to father children.

## TEACHER INFORMATION

**MALE REPRODUCTION VOCABULARY WORDS**

**Circumcision:** A process that surgically removes the flap of skin that covers the glans of the penis.

**Cowper's Glands:** behind the base of the penis which secretes fluid to make semen and neutralize acid during sexual excitement.

**Ejaculation:** when semen carrying sperm spurts out of penis

**Ejaculatory duct:** a short straight tube that passes into the prostate gland and opens into the urethra.

**Epididymis:** the structure that forms a mass over the back and upper part of each testes.

**Impotence:** the failure to get or maintain an erection

**Nocturnal Emissions:** normal, involuntary ejaculation of semen and sperm while a male is asleep.

**Penis:** the organ of transfer of sperm to female.

**Prostate Gland:** a man's gland that helps make semen.

**Scrotum:** pouch-like sac holding both testicles in a separate compartment that hang underneath the penis.

**Semen:** the thick, sticky fluid which contains sperm ejaculated by the male from the penis during orgasm (climax).

**Seminal Vesicles:** two pouch-like structures which serve to store mature sperm until ejaculated.

**Sperm:** the microscopic cells produced by the male's testicles which can fertilize the female's ovum.

**Testicles – Testes Gland:** two glands in the male, located in the scrotum, which produce male hormones (testosterone).

**Testosterone:** the male reproductive hormone made by the testicles which causes the changes of puberty.

**Vas Deferentia (plural), Vas Deferens (singular):** two tubes leading from the epididymis to the seminal vesicles.

**Urethra:** a tube that connects with the vas deferentia to carry sperm cells out of the body.

**Vasectomy:** surgical procedure for sterilization of the male.