The Language Of Medicine

10th edition

Davi-Ellen Chabner
Chapter 9
Male Reproductive System
Chapter Goals

• Name, locate, and describe the functions of the organs of the male reproductive system.
• Define abnormal conditions and infections that affect the male reproductive system.
• Differentiate among several types of sexually transmitted infections.
Chapter Goals (cont’d)

• Define combining forms used to describe the structures of this system.

• Describe various laboratory tests and clinical procedures that are pertinent to the disorders of the male reproductive system, and recognize related abbreviations.

• Apply your new knowledge to understanding medical terms in their contexts, such as medical reports and records.
Chapter 9
Lesson 9.1
Introduction

- The male sex cell is called a **spermatozoon**, or sperm cell.
- The sperm cell carries its nuclear hereditary material, or chromosomes, in its head region.
- The tail consists of a **flagellum**, which makes the sperm cell mobile.
Introduction (cont’d)

• Only one spermatozoon out of 300 million sperm cells released during ejaculation can fertilize a single female ovum.

• If more than one egg is present in the fallopian tubes during ejaculation, multiple fertilizations are possible.
Introduction (cont’d)

- Twins resulting from the fertilization of separate ova by separate sperm cells are called **fraternal twins**.

- Twins resulting from the fertilization of a single egg by a single sperm are called **identical twins**.

Fraternal twins. Notice the 6-week-old embryos in two separate amnionc sacs.
Introduction (cont’d)

• The organs of the male reproductive system are designed to produce and release billions of sperm cells throughout the man’s lifetime.

• The hormone called **testosterone** is responsible for the bodily characteristics of the male (such as beard, pubic hair, and deeper voice).
Anatomy (cont’d)
Anatomy (cont’d)

• Internal structure of the testis and the epididymis
Anatomy (cont’d)

• Label the passage of sperm from the seminiferous tubules to the outside of the body.

1. SEMINIFEROUS TUBULES
   Testes

2.

3. Seminal vesicles

4.

5. Prostate gland
   Cowper (bulbourethral) glands
   which passes through the

6. PENIS
   Sperm leave the body
Anatomy (cont’d)

- The passage of sperm from the seminiferous tubules to the outside of the body

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1. SEMINIFEROUS TUBULES
   Testes

2. EPIDIDYMIS

3. VAS DEFERENS

4. EJACULATORY DUCT

5. URETHRA
   which passes through the
   Prostate gland
   Cowper (bulbourethral) glands

6. PENIS
   Sperm leave the body
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Vocabulary

• bulbourethral glands

• ejaculation

• ejaculatory duct
Vocabulary (cont’d)

- bulbourethral glands: Pair of exocrine glands near male urethra; Cowper glands

- ejaculation: Ejection of sperm and fluid from male urethra

- ejaculatory duct: Tube through which semen enters the male urethra
Vocabulary (cont’d)

• epididymis (pl.: epididymides)

• erectile dysfunction

• flagellum
Vocabulary (cont’d)

• epididymis (*pl.:* epididymides) One of a pair of long, tightly coiled tubes above each testis that stores and carries sperm to the vas deferens

• erectile dysfunction Inability of an adult male to achieve an erection; impotence

• flagellum Hair-like projection on a sperm cell that makes it motile
Vocabulary (cont’d)

• fraternal twins

• glans penis

• identical twins
Vocabulary (cont’d)

- **fraternal twins**: Two infants resulting from fertilization of two separate ova by two separate sperm cells.

- **glans penis**: Sensitive tip of the penis; comparable to the clitoris in the female.

- **identical twins**: Two infants resulting from division of one fertilized egg into two distinct embryos; conjoined (“Siamese”) twins are incompletely separated identical twins.
Vocabulary (cont’d)

• interstitial cells
  of the testes

• parenchymal
  tissue

• penis
Vocabulary (cont’d)

• interstitial cells of the testes
  Specialized cells adjacent to the seminiferous tubules in the testes; produce testosterone; also called Leydig cells

• parenchymal tissue
  Essential distinctive cells of an organ

• penis
  Male external organ of reproduction
Vocabulary (cont’d)

• perineum

• prepuce

• prostate gland

• scrotum
Vocabulary (cont’d)

- **perineum**  
  External region between the anus and scrotum in the male

- **prepuce**  
  Foreskin; fold of skin covering tip of penis

- **prostate gland**  
  Exocrine gland at base of male urinary bladder; secretes fluid part of semen into urethra during ejaculation

- **scrotum**  
  External sac that contains the testes
Vocabulary (cont’d)

• semen

• seminal vesicles

• seminiferous tubules
Vocabulary (cont’d)

• semen  Spermatozoa and seminal fluid discharged from the urethra during ejaculation

• seminal vesicles  Paired sac-like exocrine glands that secrete fluid into the vas deferens

• seminiferous tubules  Narrow, coiled tubules that produce sperm in the testes
Vocabulary (cont’d)

• spermatozoon
  \((\textit{pl.}: \text{permatozoa})\)

• sterilization

• stromal tissue
Vocabulary (cont’d)

• spermatozoon  
  *Sperm cell*  
  (*pl.:* permatozoa)

• sterilization  
  *Procedure that removes a person’s ability to produce or release reproductive cells through removal of testicles, vasectomy, or oophorectomy*

• stromal tissue  
  *Supportive, connective tissue or an organ; stroma*
Vocabulary (cont’d)

• testis
  (plural: testes)

• testosterone

• vas deferens
Vocabulary (cont’d)

• testis
  (plural: testes) Male gonad (testicle) that produces spermatozoa and testosterone

• testosterone Hormone secreted by interstitial tissue of the testes; responsible for male sex characteristics

• vas deferens Narrow tube carrying sperm from the epididymis toward the urethra; ductus deferens
QUICK QUIZ:

1. Which term refers to the skin covering the tip of the penis?

   A. Stroma
   B. Vas deferens
   C. Prepuce
   D. Seminal vesicle
## Terminology

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## Terminology (cont’d)

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Chapter 9
Lesson 9.2
Pathologic Conditions

- **Spermatic cord**
- **Blood vessels**
- **Vas deferens**
- **Epididymis**
- **Testis**

**HYDROCELE**
(sac of fluid in the scrotum)

**TESTICULAR TORSION**
(twisted spermatic cord)

**VARICOCELE**
(dilated spermatic veins)
Pathologic Conditions (cont’d)
Pathologic Conditions (cont’d)

Hypospadias

• Surgical repair involves excising a portion of the prepuce, wrapping it around a catheter, suturing it to the distal part of the urethra, bringing it to the end of the penis
Sexually Transmitted Diseases

STDs

- Chlamydia
- Gonorrhea
- Herpes genitalis
- Human papilloma virus (HPV)
- Syphilis
Laboratory Tests and Clinical Procedures

• Laboratory tests
  ➢ PSA test
  ➢ Semen analysis
QUICK QUIZ:

2. What does the PSA test for?

A. Levels of infection
B. Sperm mobility
C. Sperm motility
D. Levels of an antigen
Clinical procedures

- Transurethral resection of the prostate—TURP
Laboratory Tests and Clinical Procedures (cont’d)

Clinical procedures

- Vasectomy
QUICK QUIZ:

3. Which term means removal of the prostate?

A. Orchiectomy
B. Prostatectomy
C. Vasectomy
D. Prostatitis
Abbreviations

BPH  benign prostatic hyperplasia
DRE  digital rectal examination
ED   erectile dysfunction
GU   genitourinary
HPV  human papilloma virus
HSV  herpes simplex virus
PID  pelvic inflammatory disease
PIN  prostatic intraepithelial neoplasia
PSA  prostate-specific antigen
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QUICK QUIZ:

4. Which term means “no sperm or semen are produced”?

A. Aspermia
B. Oligospermia
C. Anorchism
D. Spermolytic