

Medical Terminology for Healthcare Professions

MEDICAL TERMINOLOGY FOR HEALTHCARE PROFESSIONS

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SECTION I

MAIN BODY

1.

Learning Objectives

- Identify the anatomy of the male reproductive system
- Describe the main functions of the male reproductive system
- Spell the male reproductive system medical terms and use correct abbreviations
- Identify the medical specialties associated with the male reproductive system
- Explore common diseases, disorders, and procedures related to the male reproductive system

Chapter Fifteen: Table of Contents

- General Terms

What Can Go Wrong? – Diseases, Disorders, and Conditions of the Male Reproductive System

- Male Breast
- Testes and Epididymis
- Prostate Gland
- Penis
- Sexually Transmitted Diseases – STDs (Not specific to males)

How Do We Fix it or Make it Better?

- Diagnostic Procedures
- Surgical Procedures

Who Can Help? – Careers

References, Attributions, and Image Descriptions

Reproductive System

Term	Word Breakdown	Description
prostrate gland		Produces a milky fluid that nourishes and protects sperm.
testis tE-steez		Male reproductive organs responsible for producing sperm and testosterone.
ep-uh-dId-uh-muhs ep-uh-dId-uh-muhs		A tubular structure on the testis where sperm matures. Read more
penis pEE-nuhs		External male reproductive organ involved in sexual intercourse and urination.
vas deferens vAs		Responsible for transporting sperm from the epididymis to the ejaculatory ducts. The sperm travels through the prostrate and empties into the urethra
sperm spUHRm		Male gametes necessary for fertilization.
semen sEE-muhn		The fluid that contains sperm and other seminal components.
spermatogenesis		The process of sperm production.
testes (testicles)		Testes (testicles). The testes are 2 small organs that are found inside the scrotum. The testes are responsible for making sperm and are also involved in producing a hormone called testosterone. Read more

Gametes are the reproductive cells that combine to form a fetus. Organs called **gonads** produce the gametes, along with the hormones that regulate human reproduction. The male gametes are called sperm. **Spermatogenesis** occurs within the **seminiferous tubules** that make up most of the testis. The **scrotum** is a sac that holds the testes outside of the body cavity.

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Male Reproductive System Word Parts

Click on prefixes, combining forms, and suffixes to reveal a list of word parts to memorize for the Male Reproductive System.



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<https://open.ocolearnok.org/medicalterminology/?p=84#h5p-32>

Watch this video:



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Media 9.1. Reproductive System, Part 2 – Male Reproductive System: Crash Course A&P 41 [Online video]. Copyright 2015 by CrashCourse.

Male Reproductive System Word Parts

Click on prefixes, combining forms, and suffixes to reveal a list of word parts to memorize for the Male Reproductive System.



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Male Reproductive Medical Terms



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Anatomy (Structures) of the Male Reproductive System

The structures of the male reproductive system include the **testes**, the epididymis, the penis, and the ducts and glands that produce and carry semen. Sperm exit the scrotum through the vas deferens. The spermatic cord is an enclosed sheath which includes the vas deferens, **arteries**, **veins** and **nerves**. The seminal vesicles and **prostate gland** add fluids to the **sperm** to create **semen** .

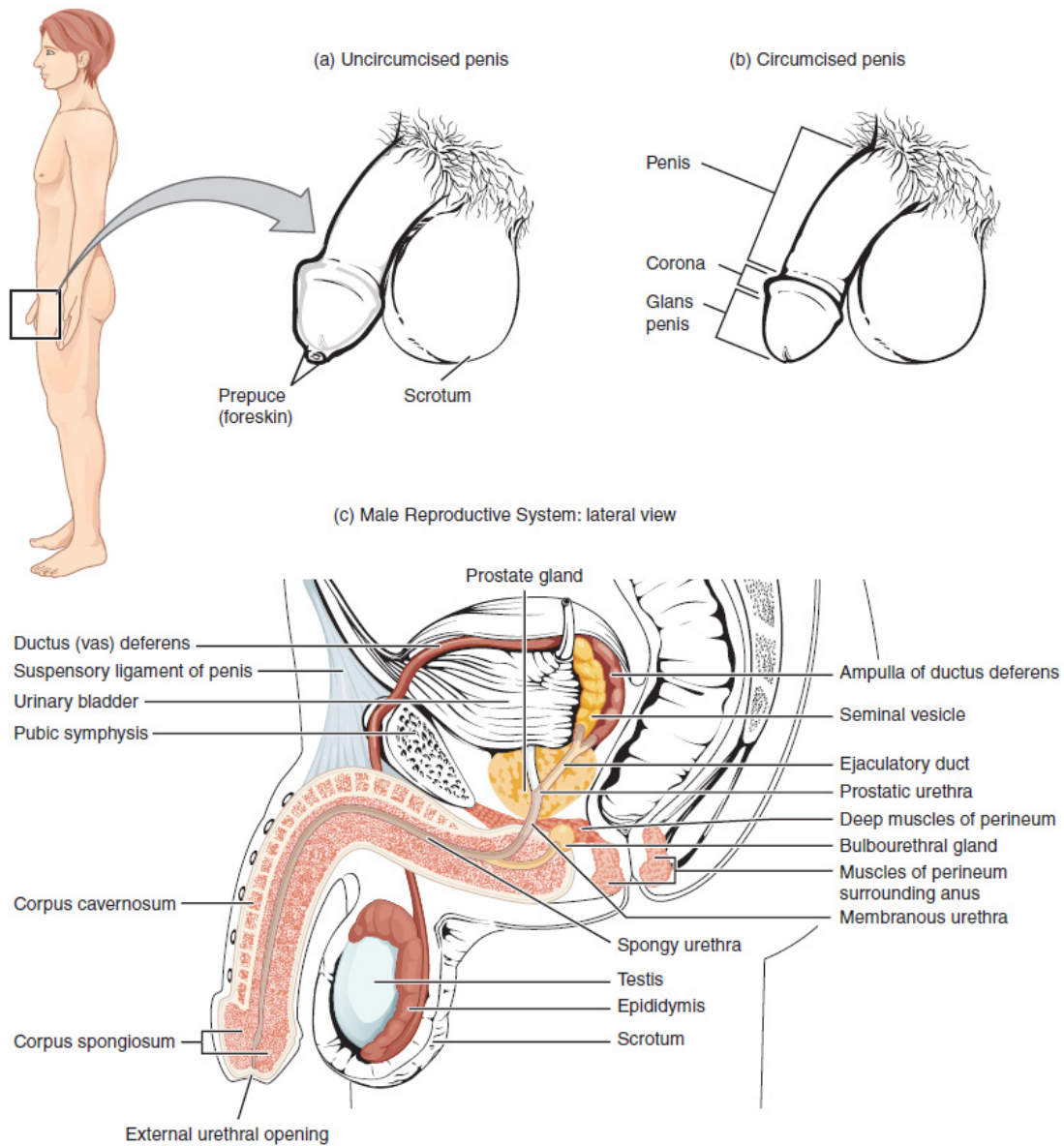


Figure 9.1. Male Reproductive System. From Betts, et al., 2013. Licensed under CC BY 4.0.
[Image description.]

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Physiology (Function) of the Male Reproductive System

Did You Know?

Sperm counts slowly decline after age 35, and some studies suggest that smoking can lower sperm counts irrespective of age.

Spermatogenesis

Spermatogenesis occurs in the **seminiferous tubules** that form the bulk of each testis. The process begins at puberty, after which time sperm are produced constantly throughout a man's life. One production cycle takes approximately 64 days. One production cycle is considered from **spermatogonia** through to formed sperm. A new cycle starts approximately every 16 days, although this timing is not synchronous across the **seminiferous tubules**.

Sperm

Sperm are smaller than most cells in the body; in fact, the volume of a sperm cell is 85,000 times less than that of the female gamete.

Approximately 100 to 300 million sperm are produced each day, whereas women typically ovulate only one **oocyte** per month as is true for most cells in the body, the structure of sperm cells speaks to their function. Sperm have a distinctive head, mid-piece, and tail region (see Figure 9.2).

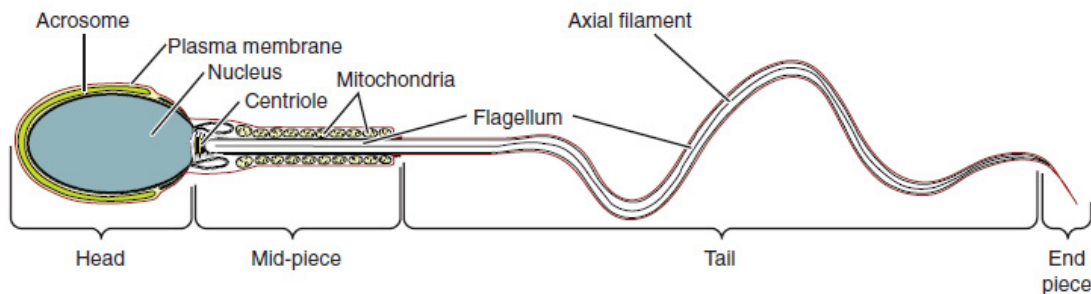


Figure 9.2. Structure of Sperm. Sperm cells are divided into a head, containing DNA; a mid-piece, containing mitochondria; and a tail, providing motility. The acrosome is oval and somewhat flattened. From Betts, et al., 2013. Licensed under CC BY 4.0. [Image description.]

Sperm Transport

To fertilize an egg, sperm must be moved from the **seminiferous tubules** in the testes, through the **epididymis**, and—later during ejaculation—along the length of the penis and out into the female reproductive tract. It takes an average of 12 days for sperm to move through the coils of the **epididymis**, with the shortest recorded transit time in humans being one day.

Epididymis

Sperm enter the head of the epididymis and are moved by the contraction of smooth muscles lining the **epididymal** tubes. As the sperm mature they acquire the ability to move under their own power. Once inside the female reproductive tract, they will use this ability to move independently toward the unfertilized egg. The more mature sperm are then stored in the tail of the epididymis until ejaculation occurs.

Ducts

During ejaculation, sperm exit the tail of the epididymis and are pushed by smooth muscle contraction to the **vas deferens** (also called the ductus deferens). The **vas deferens** is a thick, muscular tube that is bundled together inside the scrotum with connective tissue, blood vessels, and nerves into a structure called the **spermatic cord**. From each epididymis, each vas deferens extends through the inguinal canal in the abdominal wall and continues to a region called the ampulla. The sperm is mixed with fluid from the paired seminal vesicles and moves into its associated ejaculatory duct. The ejaculatory ducts transport the seminal fluid to the prostate gland.

Prostate Gland

The **prostate gland** secretes an alkaline, milky fluid to the passing seminal fluid (referred to as semen) to first coagulate and then decoagulate the semen following ejaculation. The temporary thickening of semen helps retain it within the female reproductive tract and once decoagulated the sperm can pass farther into the female reproductive tract.

Bulbourethral Glands

Bulbourethral glands release a thick, salty fluid that lubricates the end of the urethra and vagina, and helps to clean urine residues from the penile urethra.

Concept Check

- Write or draw out the components of the **pathway** that sperms takes from beginning until the end.
- Consider fertility challenges that may be experienced if a large number of defective sperm are produced.

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Anatomy Labeling Activity



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Male Reproductive Terms not Easily Broken into Word Parts



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Common Male Reproductive System Abbreviations



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Diseases, Disorders, and Conditions of the Male Reproductive System

Diseases, Disorders, and Conditions of the Male Breast

Term	Word Breakdown	Description
	-ia condition	
gynecomastia gie-nuh-koh-mAs-tee-uh	gynec/o woman; female	Enlargement of male breast tissue.
	mast/o breast	

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Diseases, Disorders, and Conditions of the Testes and Epididymis

Term	Word Breakdown	Description
	-ism condition	
cryptorchism krip-tOR-kiz-uhm	crypt/o hidden; obscured	A condition where one or both testicles fail to descend into the scrotum
	orch/o testicle	
	-itis inflammation	
epididymitis ep-uh-did-uh-mIE-tuhs	epi- upon; outside of	Inflammation of the epididymis. The epididymis Serves as a site for sperm maturation and storage Read more
	didym/o testis	
	-ia condition	
oligospermia	oligo- few; little	Condition of low sperm count
	spermat/o spermatozoa	
	-itis inflammation	
orchitis	orch/o testicle	Pain and swelling of a testes National Library of Medicine
	-oma tumor; mass; fluid collection	
seminoma	semin/o sperm	A type of testicular cancer.
	-cele bulge; hernia	
varicocele vAr-uh-koh-seel	varic/o swollen vein	Condition characterized by enlarged and twisted veins in the scrotum

Testicular cancer begins in the **testicle** or testis. It is most often found in men age 15 to 44 years, although it can be diagnosed at any age (Canadian Cancer Society, 2020). Testicular cancer is rare and treatable when diagnosed early. Common symptoms are a painless lump in the testicle, swelling, a heavy feeling in the **scrotum**

or abdomen, amongst others. Sometimes, testicular cancer is found during infertility testing. An **orchiectomy** is the most common procedure for diagnosing and treating testicular cancer (Canadian Cancer Society, 2020). To learn more about testicular cancer, diagnosis and treatments please go to the Canadian Cancer Society's web page on testicular cancer.

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Diseases, Disorders, and Conditions of the Prostrate Gland

Term	Word Breakdown	Description
benign prostatic hypertrophy (BPH) bi-nIEEn prah-stAt-ikhie-pUHR-truh-fee	prostat/o prostrate -trophy growth hyper- above; beyond; excessive	A condition in which the prostate gland is enlarged and not cancerous. Benign prostatic hyperplasia is also called benign prostatic hypertrophy or benign prostatic obstruction. It can pinch the urethra making it difficult to empty the bladder resulting in the need to urinate frequently, especially at night. National Institutes of Health National Institutes of Health
prostatitis prah-stuh-tIE-tuhs	-itis inflammation prostat/o prostrate	Inflammation of the prostate National Institutes of Health

Prostate Cancer

According to the Centers for Disease Control and Prevention (CDC), prostate cancer is the second most common cancer occurring in men. However, some forms of prostate cancer grow very slowly and may not require treatment. Aggressive forms of prostate cancer, in contrast, involve **metastasis** to organs like the lungs and brain. There is no link between Benign Prostatic Hyperplasia and prostate cancer, but the symptoms are similar. Prostate cancer is detected by medical history, a blood test, and a digital rectal exam that allows physicians to palpate the prostate and check for unusual masses. If a mass is detected, the cancer diagnosis is confirmed by biopsy of the cells (Betts, et al., 2013).

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Diseases, Disorders, and Conditions of the Penis

Term	Word Breakdown	Description
balanitis	-itis inflammation balan/o glans penis	Inability to retract the foreskin of the penis
dyspareunia	-ia condition dys- difficult, abnormal bad: painful pareun/o sexual intercourse	Difficult or painful sexual intercourse
phimosis	-osis condition	A condition characterized by the narrowing of the opening of the foreskin.
priapism prīE-uh-piz-uhm	-ism condition	an abnormal often painful persistent erection of the penis

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Erectile Dysfunction Disorder (EDD)

Erectile dysfunction (ED) is a condition in which a male has difficulty either initiating or maintaining an erection. The combined prevalence of minimal, moderate, and complete ED is approximately 40% in men at age 40 and reaches nearly 70% by 70 years of age. In addition to aging, ED is associated with diabetes, vascular disease, psychiatric disorders, prostate disorders, the use of some drugs such as certain antidepressants, and problems with the testes resulting in low testosterone concentrations. These physical and emotional conditions can lead to disruptions in the vasodilation pathway and result in an inability to achieve an erection (Betts, et al., 2013).

Sexually Transmitted Diseases

Term	Word Breakdown	Description
chlamydia kluh-mId-ee-uh		A sexually transmitted bacterial infection that has relatively few symptoms which is why it is known as the "silent infection." Even though the symptoms maybe absent or mild, it can lead to reproductive problems in females. If symptoms are present thy include discharge from the vagina or penis, and a burning sensation when urinating. CDC Chlamydia.
genital herpes jEn-uh-tl hUHR-peeZ		A sexually transmitted disease caused by the herpes simplex virus. Causes small blisters on or around the genitals, rectum, or mouth. It can be managed, but not cured. CDC Genital Herpes
genital warts (HPV) jEn-uh-tl wORts		Genital warts caused by the Human Papilloma virus. If left untreated, the warts are associated with cervical cancer.CDC- Human Papillomavirus (HPV)
gonorrhea gah-nuhr-rEE-uh		A sexually transmitted disease (STD) caused by a bacterial infection. Gonorrhea infects the mucous membranes of the reproductive tract, including the cervix, uterus, and fallopian tubes in women, and the urethra in women and men. It can cause a greenish-yellow discharge from the urethra or vagina. The disease is treatble.CDC - Gonorrhea
syphilis sIf-uh-luhs		Sexually transmitted bacterial infection that causes chancre (SHANG - kur) which is a small sore. If it is not treated the disease progresses and can become life threatening, CDC - Syphilis
trichomoniasis trik-uh-muh-nIE-uh-suhs		Common STD that comes from a parasite. The symptoms are itching and discomfort during urination. and in females, a fishy smell. It is treatable. Trichomoniasis – CDC Basic Fact Sheet

The terms for sexually transmitted infections (STI) and sexuality transmitted diseases (STD) are often used interchangeably. Sexuality transmitted disease (STD) implies the disease was acquired through sexual transmission. A disease is a disorder of structure or function in a human, which produces specific signs or symptoms. A disease must be managed, as with the case of human immunodeficiency virus (which can also be acquired through the transmission of other bodily fluids; thus not solely sexual transmission). The treatment may include **antiretrovirals** or **anti-virals** (Urology Care Foundation, 2019).

Chlamydia (CT)

Chlamydia is one of the most common sexually transmitted infections (STIs) caused by bacteria that infect the cervix, urethra and other reproductive organs. Chlamydia is easy to treat and can be cured. Many people with chlamydia do not have any symptoms and unknowingly pass the infection to their sexual partner(s). If symptoms develop, they usually appear two to six weeks after sexual contact with an infected person. Males may have penial discharge and itching around the urethra. The urethra is the opening in the penis. Males may

also experience **dysuria** , **polyuria** , urethral pain and **urethritis** (Ontario Agency for Health Protection and Promotion , 2019; Region of Peel, 2007).

Chlamydia spreads through unprotected oral, anal or vaginal sex with an infected person. Chlamydia can be spread to the eyes via the hands with direct contact of infected fluids. Until a patient finishes their treatment, they continue to have the infection and can continue to pass it to others. Chlamydia is treated with antibiotic pills. If the patient has **epididymitis**, they may need to be hospitalized and be treated with intravenous (IV) antibiotics. All sexual partners within the past 60 days should be examined, treated, and informed that having no symptoms does not mean there is no infection (Ontario Agency for Health Protection and Promotion, 2019; Region of Peel, 2007).

Gonorrhea (Gonococcus) – (GC)

Gonorrhea is a sexually transmitted infection (STI) caused by bacteria that infects the cervix, urethra and other reproductive organs. Infections can also infect the throat and anus. Gonorrhea can be treated and cured. Many people infected with gonorrhea have no symptoms and can unknowingly pass the infection on to their sexual partner(s). If symptoms develop, they may appear two to seven days after sexual contact with an infected person. Symptoms vary depending on which part of the body is infected. Males may have yellowish-white discharge from the penis. They may also have **dysuria** , **polyuria** , testicular pain and **testitis** . Gonorrhea infection from oral sex may lead to sore throat and swollen glands. Gonorrhea infection from anal sex may cause itchiness and discharge from the anus. Gonorrhea is spread through unprotected oral, vaginal or anal sex with an infected person. Until the patient finishes their treatment, they continue to have the infection and can pass it to others (Ontario Agency for Health Protection and Promotion, 2019a; Region of Peel, 2007).

Gonorrhea is treated with oral **antibiotics** in combination with an **intramuscular** (IM) injection. It is important that one completes the treatment and abstain from unprotected sexual activity for at least seven days following treatment. If the patient develops **epididymitis**, the patient may need to go to a hospital and be treated with intravenous antibiotics.

All sexual partners within the past 60 days should be examined, treated and informed that having no symptoms does not mean there is no infection (Ontario Agency for Health Protection and Promotion, 2019a; Region of Peel, 2007).

Reportable Diseases

Both chlamydia and gonorrhea are reportable diseases to the Ministry of Health and Long Term Care. Therefore, the local health department will be calling the doctor's office or patient to ensure correct treatment was received and sexual partners have been followed up with testing and treatment (Ontario Agency for

Health Protection and Promotion, 2019a; Region of Peel, 2007). To learn more about STIs and STDs such as chlamydia and gonorrhea please go to the Public Health Ontario website.

Human Papillomavirus- HPV

HPV is another common sexually transmitted infection (STI). Both males and females can be infected with HPV. Around three quarters of sexually active individuals have been exposed to HPV during their lifetime. There are over 100 strains of HPV and some strains of HPV can cause visible genital warts. The warts are usually painless but may be itchy, uncomfortable and hard to treat. Some strains of HPV cause genital, anal, throat and cervical cancers. HPV spreads through sexual activity and skin-to-skin contact in the genital area with an infected person. Since some people are **asymptomatic** they don't know they have the virus and consequently pass the virus to their sexual partners. Treatments are available for genital warts but there is no cure for HPV (York Region Health Connect, n.d.). To learn more about HPV symptoms, treatments, and prognosis visit the York Region Fact Sheet (PDF file) on HPV.

HPV Vaccine

A vaccine called Gardasil® 9 is available for 9 HPV strains. This vaccine assists the immune system in protecting the body against infections and diseases caused by HPV (York Region Health Connection, n.d.). To learn more about Gardasil® 9 treatments, please visit the Gardasil® 9 website.

Herpes Simplex Virus (HSV)

Genital herpes is a sexually transmitted infection (STI) that is caused by a virus called herpes simplex virus (HSV). There are two types of herpes simplex viruses:

- Type 1- oral herpes or cold sores (HSV-1)
- Type 2- genital herpes (HSV-2).

These viruses are very similar and either type can cause genital herpes or cold sores. Symptoms might include **dysuria**, enlarged glands, **myalgia**, **arthralgia** and fever. Once a patient is infected with HSV, the virus remains in their body even after the symptoms are gone and can cause recurring outbreaks. When the virus becomes active again, the symptoms return but are usually less painful and heal faster. Recurring outbreaks vary from person-to-person, however they can be triggered by emotional or physical stress, exposure to sunlight, hormonal changes, poor nutrition, sexual intercourse, lack of sleep or a low immune system.

Herpes is spread through direct contact with the sores or blisters of an infected person. Contact (and transfer of the virus) can occur from genitals-to-genitals, mouth-to-genitals or mouth-to-mouth. Herpes can also be passed to the anal area. Herpes spreads easily during sexual contact while symptoms are present, or just before

an outbreak of symptoms. An infected person may spread herpes even when they have *no* symptoms; this is called **asymptomatic** shedding. One can spread the herpes virus to other parts of their body after touching the sores; **autoinoculation**. The fingers, eyes and other body areas can accidentally become infected in this way. Hand washing after touching sores and blisters is recommended to prevent spreading the virus.

There is no cure for herpes. Antiviral pills help to reduce symptoms and speed the healing of blisters or sores and are prescribed by a doctor. Treatment of symptoms may be managed with medication for pain, bath salts, cold compresses and urinating in water may help to relieve discomfort. Keep the infected area clean and dry, wear cotton underwear and loose clothing to reduce discomfort. All sexual partner(s) should be informed. The only way to reduce the risk of transmission of herpes is to avoid direct contact with the sores and to use condoms. Condoms will reduce but not eliminate risk as the virus can be present and shed from the skin in the genital area (Ontario Ministry of Health and Long-Term Care, 2015).

To learn more about the symptoms, complications, treatments and prognosis of HSV please visit the Ontario Ministry of Health and Long-Term Care's Sexually Transmitted Diseases : Genital Herpes website or Public Health Ontario's Testing Index.

STD/STI Medical Abbreviations



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Medical Terms in Context



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Male Reproductive System: Laboratory and Diagnostic Procedures

Term	Word Breakdown	Description
Blood Test prostate specific antigen (PSA)	-ia condition	Screening for prostate cancer. A High PSA can be associated with prostate cancer as well as other prostate problems. High PSA counts may indicate a need for biopsy.
Semen Analysis azoospermia	a- without lacking zo/o animal life	Semen that contains no sperm
Semen Analysis morphology mor-fAH-luh-jee	-ology study of morph/o shape; form	The study of size and shape of the sperm. Medline Plus Semen Analysis
Semen Analysis motility moh-tII-uh-tee		The study of the movement of the sperm Medline Plus Semen Analysis
digital rectal examination – (DRE)		A digital rectal exam is an exam of the lower rectum. The health care provider uses a gloved, lubricated finger to check for any abnormal findings. In men, the test can be used to check the size of the prostate and to look for abnormal bumps or other changes of the prostate gland. A digital rectal exam may also be done to collect stool for testing for fecal occult (hidden) blood as part of screening for cancer of the rectum or colon. Medline Plus Digital rectal exam
testicular self-examination (TSE)		A testicular self-exam (TSE) is an easy way for males to check their own testicles to make sure there aren't any unusual lumps or bumps - which can be the first sign of testicular cancer. Read More

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Male Reproductive System: Surgical Procedures

Term	Word Breakdown	Description
circumcision sUHR-km-sizh-uhn	-ion process circum- around	Procedure that involves the surgical removal of the foreskin from the penis
orchiectomy or-kee-Ek-tuh-mee	-ectomy cut out; surgical removal orchi/o testis	The surgical removal of one or both testicles
orchiopexy	-pexy surgical fixation orchi/o testis	A surgical procedure to move undescended testicles into the scrotum
prostatectomy prah-stuh-tEk-tuh-mee	-ectomy cut out; surgical removal prostat/o prostrate	The surgical removal of the prostate gland
vasectomy vuh-sEk-tuh-mee	-ectomy cut out; surgical removal vas/o vessel; duct; vas deferens	Surgical procedure in which the vas deferens, the tube that carries sperm from the testicles to the urethra, is cut or blocked. This procedure is considered a permanent form of male contraception and prevents the release of sperm during ejaculation
vasovasostomy	-ostomy the surgical creation of new opening (to form a mouth) vas/o vessel; duct; vas deferens	Reversal of a vasectomy. The vas deferens is reopened after a vasectomy

Vasectomy

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[Watch the Animated Dissection of Anatomy for Medicine's \(A.D.A.M.\) video](#) to learn about a vasectomy. As described in this video, a vasectomy is a procedure in which a small section of the ductus (vas) deferens is removed from the scrotum. This cuts off the path taken by sperm through the ductus deferens. (as cited in Betts, et al., 2013).

No-Scalpel Vasectomy (NSV)

An alternative to a traditional vasectomy is the no-scalpel vasectomy (NSV). This is a minimally invasive procedure and an added benefit is that the recovery time is shorter. All vasectomies are completed by a urologist (Gentle Procedures Clinic, n.d.). To learn more about the NSV procedure, visit No-Scalpel Vasectomy Procedure Info by the Gentle Procedures Clinic in Toronto, Ontario.

Medical Specialties

Urology

Urology is a surgical sub specialty in which the surgeon has additional training in the treatments of diseases and disorders of the male and female urogenital systems (Canadian Medical Association, 2018). To learn more about urology and the training involved to become a urologist visit the Canadian Medical Association's Urology Profile.

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Image Descriptions

Figure 9.1 image description: This figure shows the different organs in the male reproductive system. The top panel shows the side view of a man and an uncircumcised and a circumcised penis. The bottom panel shows the lateral view of the male reproductive system and the major parts are labeled. [Return to Figure 9.1].

Figure 9.2 image description: This diagram shows the structure of sperm; the major parts are labeled (from left to right): head section (acrosome, plasma membrane, nucleus), mid-piece (centriole, mitochondria, flagellum), tail (flagellum, axial filament), end piece (end piece). [Return to Figure 9.2].

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SECTION II

STUDENT COMPANION

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