

# *Male Infertility*



**SAFETY**

**HEALTH**

**SATISFACTION**

*The pillars defining our quality care*

*We Care Together!*



*St. Maarten Medical Center*

## What is Male Infertility?

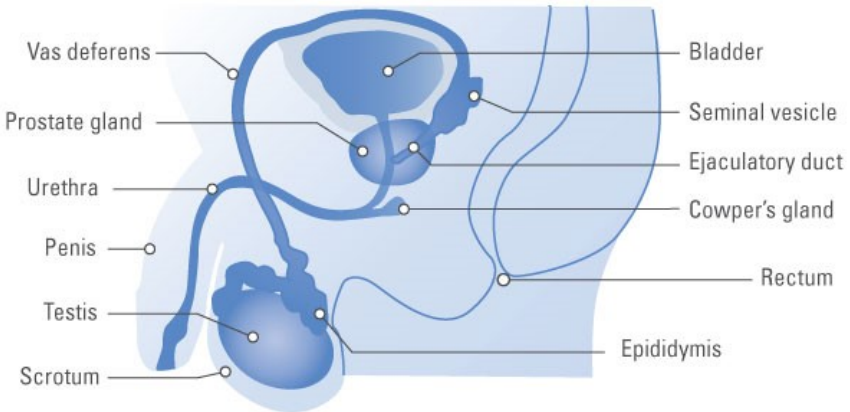
Male infertility is any health issue in a man that lowers the chances of his female partner getting pregnant.

About 13 out of 100 couples can't get pregnant with unprotected sex. There are many causes for infertility in men and women. In over a third of infertility cases, the problem is with the man. This is most often due to problems with his sperm production or with sperm delivery.

### What Happens Under Normal Conditions?

The man's body makes tiny cells called sperm. During sex, ejaculation normally delivers the sperm into the woman's body.

The male reproductive system makes, stores, and transports sperm. Chemicals in your body called hormones control this. Sperm and male sex hormone (testosterone) are made in the 2 testicles. The testicles are in the scrotum, a sac of skin below the penis. When the sperm leave the testicles, they go into a tube behind each testicle. This tube is called the epididymis.



Just before ejaculation, the sperm go from the epididymis into another set of tubes. These tubes are called the vas deferens. Each vas deferens leads from the epididymis to behind your bladder in the pelvis. There each vas deferens joins the ejaculatory duct from the seminal vesicle. When you ejaculate, the sperm mix with fluid from the prostate and seminal vesicles. This forms semen. Semen then travels through the urethra and out of the penis.

Male fertility depends on your body making normal sperm and delivering them. The sperm go into the female partner's vagina. The sperm travel through her cervix into her uterus to her fallopian tubes. There, if a sperm and egg meet, fertilization happens.

The system only works when genes, hormone levels and environmental conditions are right.

## What are the causes of Male Infertility?

Making mature, healthy sperm that can travel depends on many things. Problems can stop cells from growing into sperm. Problems can keep the sperm from reaching the egg. Even the temperature of the scrotum may affect fertility. These are the main causes of male infertility:

### Sperm Disorders

The most common problems are with making and growing sperm. Sperm may:

- not grow fully
- be oddly shaped
- not move the right way
- be made in very low numbers (oligospermia)
- not be made at all (azoospermia)

Sperm problems can be from traits you're born with. Lifestyle choices can lower sperm numbers. Smoking, drinking alcohol, and taking certain medications can lower sperm numbers. Other causes of low sperm numbers include long-term sickness (such as kidney failure), childhood infections (such as mumps), and chromosome or hormone problems (such as low testosterone). Damage to the reproductive system can cause low or no sperm. About 4 out of every 10 men with total lack of sperm (azoospermia) have an obstruction (blockage). A birth defect or a problem such as an infection can cause a blockage.

### Varicoceles

Varicoceles are swollen veins in the scrotum. They're found in 16 out of 100 of all men. They are more common in infertile men (40 out of 100). They

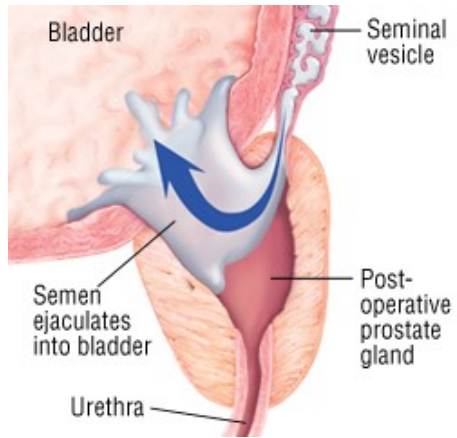
harm sperm growth by blocking proper blood drainage. It may be that varicoceles cause blood to flow back into your scrotum from your belly. The testicles are then too warm for making sperm. This can cause low sperm numbers.

### Retrograde Ejaculation

Retrograde ejaculation is when semen goes backwards in the body. They go into your bladder instead of out the penis. This happens when nerves and muscles in your bladder don't close during orgasm (climax).

Semen may have normal sperm, but the semen cannot reach the vagina.

Retrograde ejaculation can be caused by surgery, medications or health problems of the nervous system. Signs are cloudy urine after ejaculation and less fluid or "dry" ejaculation.



### Immunologic Infertility

Sometimes a man's body makes antibodies that attack his own sperm. Antibodies are most often made because of injury, surgery or infection. They keep sperm from moving and working normally. We don't know yet exactly how antibodies lower fertility. We do know they can make it hard for sperm to swim to the fallopian tube and enter an egg.

### Obstruction

Sometimes sperm can be blocked. Repeated infections, surgery (such as vasectomy), swelling or developmental defects can cause blockage. Any part of the male reproductive tract can be blocked. With a blockage, sperm from the testicles can't leave the body during ejaculation.

### Hormones

Hormones made by the pituitary gland tell the testicles to make sperm. Very low hormone levels cause poor sperm growth.

### Chromosomes

Sperm carry half of the DNA to the egg. Changes in the number and structure of chromosomes can affect fertility. For example, the male Y chromosome may be missing parts.

### Medication

Certain medications can change sperm production, function and delivery. These medications are most often given to treat health problems like:

- arthritis
- depression
- digestive problems
- infections
- high blood pressure
- cancer

## How is Male Infertility diagnosed?

Causes of male fertility can be hard to diagnose. The problems are most often with sperm production or delivery. Diagnosis starts with a full history and physical exam. Your health care provider may also want to do blood work and semen tests.

### History and Physical Exam

Your Urologist will take your health and surgical histories. Your provider will want to know about anything that might lower your fertility. These might include defects in your reproductive system, low hormone levels, sickness or accidents.

Your Urologist will ask about childhood illnesses, current health problems, or medications that might harm sperm production. Such things as mumps, diabetes and steroids may affect fertility. He or she will also ask about your use of alcohol, tobacco, marijuana and other recreational drugs. He or she will ask if you've been exposed to ionizing radiation, heavy metals or pesticides. Heavy metals are an exposure issue (e.g. mercury, lead arsenic). All of these can affect fertility.

Your Urologist will learn how your body works during sex. He or she will want to know about you and your partner's efforts to get pregnant. For

example, your Urologist may ask if you've had trouble with erections.

The physical exam will look for problems in your penis, epididymis, vas deferens, and testicles. Your doctor will look for varicoceles. They can be found easily with a physical exam.

### **Semen Analysis**

Semen analysis is a routine lab test. It helps show the cause of male infertility. Semen is collected by having you masturbate into a sterile cup. The semen sample is studied. It can be checked for things that help or hurt conception (fertilization).

Your Urologist will study your sperm volume, count, concentration, movement ("motility"), and structure. The quality of your sperm tells much about your ability to conceive (start a pregnancy).

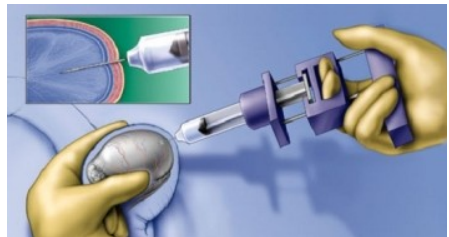
Even if the semen test shows low sperm numbers or no sperm, it may not mean you are permanently infertile. It may just show there's a problem with the growth or delivery of sperm. More test may be needed.

### **Transrectal Ultrasound**

Your health care provider may order a transrectal ultrasound. Ultrasound uses sound waves bouncing off an organ to get a picture of the organ. A probe is placed in the rectum. It beams sound waves to the nearby ejaculatory ducts. The health care provider can see if structures such as the ejaculatory duct or seminal vesicles are poorly formed or blocked.

### **Testicular Biopsy**

If a semen test shows a very low number of sperm or no sperm you may need a testicular biopsy. This test can be done in an operating room with general or local anesthesia. A small cut is made in the scrotum. It can also be done in a clinic using, a needle through the numbed scrotal skin. In either case, a small piece of tissue from each testicle is removed and studied under a



microscope. The biopsy serves 2 purposes. It helps find the cause of infertility. And it can collect sperm for use in assisted reproduction.

## **Hormonal Profile**

The health care provider may check your hormones. This is to learn how well your testicles make sperm. It can also rule out major health problems. For example, follicle-stimulating hormone (FSH) is the pituitary hormone that tells the testicles to make sperm. High levels may mean your pituitary gland is trying to get the testicles to make sperm, but they won't.

## **What are the treatment options for Male Infertility?**

Treatment depends on what's causing infertility. Many problems can be fixed with drugs or surgery. This would allow conception through normal sex. Treatments for male infertility include:

### **Surgery**

A varicocele, for example, can often be surgically corrected or an obstructed vas deferens repaired. Prior vasectomies can be reversed. In cases where no sperm are present in the ejaculate, sperm can often be retrieved directly from the testicles or epididymis using sperm-retrieval techniques.

### **Treating infections**

Antibiotic treatment might cure an infection of the reproductive tract, but doesn't always restore fertility.

Treatments for sexual intercourse problems. Medication or counseling can help improve fertility in conditions such as erectile dysfunction or premature ejaculation.

### **Hormone treatments and medications**

Your doctor might recommend hormone replacement or medications in cases where infertility is caused by high or low levels of certain hormones or problems with the way the body uses hormones.

### **Assisted reproductive technology (ART)**

ART treatments involve obtaining sperm through normal ejaculation, surgical extraction or from donor individuals, depending on your specific case and wishes. The sperm are then inserted into the female genital tract, or used to perform in vitro fertilization or intracytoplasmic sperm injection.

## Contact information

### St. Maarten Medical Center

#### Urology

Welgelegen Road 30

Cay Hill

St. Maarten

Tel: +1 (721) 543-1111 ext 1300, 1310

Fax: +1 (721) 543-0116

Email: [info@smmc.sx](mailto:info@smmc.sx)

Web: [www.smmc.sx](http://www.smmc.sx)

A publication of SMMC - February 2019