

GUIDING YOU TOWARDS SUCCESSFUL FATHERHOOD- Modern Malady of Male Infertility Is on The Rise

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 intercourse. There are many causes for infertility in men and women. In one third of infertility cases, the problem is with the man, due to low sperm production, abnormal function or blockages that prevent the delivery of sperm. Illnesses, injuries, chronic health problems, lifestyle choices and other factors can play a role in causing male infertility.

SYMPTOMS

There may be no obvious signs or symptoms. In some cases, however, an underlying problem such as an inherited disorder, a hormonal imbalance, dilated veins around the testicle or a condition that blocks the passage of sperm causes signs and symptoms.



Although most men with male infertility do not notice symptoms other than the inability to conceive a child. Signs and symptoms associated with male infertility include:

- Problems with sexual function — like difficulty with ejaculation or small volumes of fluid ejaculated, reduced sexual desire, or difficulty maintaining an erection (erectile dysfunction)
- Pain, swelling or a lump in the testicle area
- Groin, testicle, penis or scrotum surgery
- Recurrent respiratory infections
- Inability to smell
- Abnormal breast growth (gynecomastia)
- Decreased facial or body hair
- A lower than normal sperm count (fewer than 15 million/ mL of semen or a total sperm count of less than 39 million per ejaculate)

WHEN TO SEE A DOCTOR

See a doctor if you have been unable to conceive a child after a year of regular, unprotected intercourse or sooner if you have any of the above problems

TO GET YOUR PARTNER PREGNANT, THE FOLLOWING MUST OCCUR:

You must produce healthy sperm. Initially, this involves the growth and formation of the male reproductive organs during puberty. At least one of your testicles must be functioning correctly, and your body must produce testosterone and other hormones to trigger and maintain sperm production.

Sperm have to be carried into the semen. Once sperms are produced in the testicles, delicate tubes transport them until they mix with semen and are ejaculated out of the penis.

There needs to be enough sperm in the semen. If the number of sperms in your semen (sperm count) is low, it decreases the odds that one of your sperm will fertilize your partner's egg. A low sperm count is fewer than 15million/ml of semen or fewer than 39million per ejaculate.

Sperm must be functional and able to move. If the movement or function of your sperm is abnormal, it may not be able to reach or penetrate your partner's egg.

MEDICAL CAUSES

Varicocele

A varicocele is a swelling of the veins that drain the testicle. It's the most common reversible cause of male infertility. Varicoceles cause infertility due to abnormal testicular temperature. Varicoceles result in reduced quality of the sperm.

Treating them can improve sperm numbers and function and may potentially improve outcomes when using assisted reproductive techniques like in vitro fertilization.

Infection

Some infections can interfere with sperm production or can cause scarring that blocks the passage of sperm. These include inflammation of the epididymis (epididymitis) or testicles (orchitis) and some sexually transmitted infections like Gonorrhoea or Chlamydia.

Ejaculation Issues

Retrograde ejaculation occurs when semen enters the bladder during orgasm instead of emerging out of the tip of the penis. Various health conditions can cause retrograde ejaculation, including diabetes, spinal injuries, medications, and surgery of the bladder, prostate or urethra.

Some men with spinal cord injuries or certain diseases can't ejaculate semen, even though they still produce sperm. Often in these cases sperm can still be retrieved for use in assisted reproductive techniques.

Antibodies that attack sperm. Anti-sperm antibodies are immune system cells that mistakenly identify sperm as harmful invaders and attempt to eliminate them.

Tumours

Cancers and non-malignant tumours can affect the male reproductive organs directly, through the glands that release hormones related to reproduction, such as the pituitary gland, or through unknown causes. In some cases, surgery, radiation or chemotherapy to



treat tumours can affect male fertility.

Undescended Testicles

In some males, during foetal development one or both testicles fail to descend from the abdomen into the sac that normally contains the testicles (scrotum). Decreased fertility is more likely in men who have had this condition.

Hormone Imbalances

Infertility can result from disorders of the testicles themselves or an abnormality affecting other hormonal systems including the hypothalamus, pituitary, thyroid and adrenal glands. Low testosterone (male hypogonadism) and other hormonal problems have a number of possible underlying causes.

Defects of Tubules That Transport Sperm

Many different tubes carry sperm. They can be blocked due to various causes, including inadvertent injury from surgery, prior infections, trauma or abnormal development, such as with cystic fibrosis or similar inherited conditions.

Blockage can occur at any level, including within the testicle, in the tubes that drain the testicle, in the epididymis, in the vas deferens, near the ejaculatory ducts or in the urethra.

CHROMOSOME DEFECTS:

- Inherited disorders such as Klinefelter's syndrome — in which a male is born with two X chromosomes and one Y chromosome (instead of one X and one Y) — cause abnormal development of the male reproductive organs. Mutation in the gene that determine the male sex

PROBLEMS WITH SEXUAL INTERCOURSE

- These can include trouble maintaining an erection sufficient for sex (erectile dysfunction), premature ejaculation, painful intercourse, anatomical abnormalities such as having a urethral opening beneath the penis (hypospadias), or psychological or relationship problems that interfere with intercourse

CELIAC DISEASE

- A digestive disorder caused by sensitivity to gluten, celiac disease can cause male infertility. Fertility may improve after adopting a gluten-free diet

CERTAIN MEDICATIONS

- Testosterone replacement therapy, long-term anabolic steroid use, cancer medications (chemotherapy), certain antifungal medications, some ulcer drugs can impair sperm production and decrease



laptop for long hours may increase the temperature of scrotum and may reduce sperm production.

RISK FACTORS:

DRUG USE:

- Anabolic steroids taken to stimulate muscle strength and growth can cause the testicles to shrink and sperm production to decrease. Use of cocaine or marijuana may temporarily reduce the number and quality of sperm

ALCOHOL USE

- Drinking alcohol can lower testosterone levels, cause erectile dysfunction and decrease sperm production

SMOKING

- Men who smoke may have a lower sperm count than those who don't smoke. Second-hand smoke also may affect male fertility

EMOTIONAL STRESS

- Stress can interfere with certain hormones needed to produce sperm. Severe or prolonged emotional stress, including problems with fertility, can affect your sperm count

themselves as well as by causing hormone changes that reduce male fertility

DIAGNOSIS

History and Physical Exam

Your doctor will ask you about childhood illnesses, current health problems, or medications that might harm sperm production. Conditions like mumps, diabetes and steroid use may affect fertility. Use of alcohol, tobacco, marijuana and other recreational drugs, exposure to ionizing radiation, heavy metals or pesticides. All of these can affect fertility.

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 after a period of abstinence. The semen sample is studied for sperm volume, liquefaction, count, concentration, motility, and structure.

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 tests may be needed.

Transrectal Ultrasound

A probe is placed in the rectum. It beams sound waves to the nearby ejaculatory ducts. This gives information regarding blockage in transportation of sperms.

Testicular Biopsy

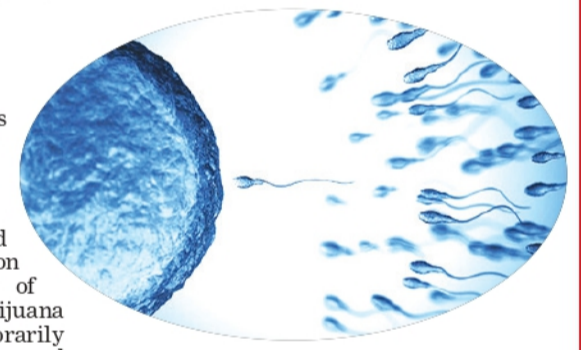
If a semen test shows a very low number of sperm or no sperm, you may need a testicular biopsy. This test can be done in an operating room with general or local anaesthesia in either case, a small piece of tissue from each testicle is removed and studied under a microscope. The biopsy serves 2 purposes. It helps find the cause of infertility. And it can collect sperm for use in assisted reproduction.

Hormonal Profile

This is to learn how well your testicles make sperm. It can also rule out major health problems.

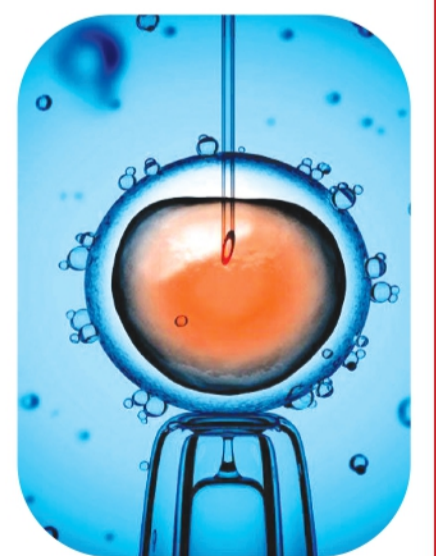
TREATMENT:

- Avoid smoking and alcohol
- Avoid things that lead to prolonged heat for the testicles.
- Reduce stress.
- Avoid exposure to pesticides, heavy metals and other toxins.
- Vitamins- Folic Acid, L-Carnitine, Zinc
- Antioxidants
- Surgery for reversing vasectomy or repairing a condition like Varicocele



ART TREATMENTS

- In cases of mild semen abnormalities and for sexual dysfunction- simple insemination procedure like IUI is sufficient
- Assisted Reproductive Techniques (ART) like IVF and ICSI today are able to help men with even the most severe count and motility problems to have their own genetically linked children
- In Azoospermic males (absent sperms) sperms can be surgically retrieved through needle aspiration from the testis (TESA) and used in ICSI procedure to father their own child



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DEPRESSION

- Causes sexual dysfunction due to reduced libido, erectile dysfunction, or delayed or inhibited ejaculation

WEIGHT

- Obesity can impair fertility in several ways, directly impacting sperm

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