

Male infertility

THE MALE REPRODUCTIVE SYSTEM

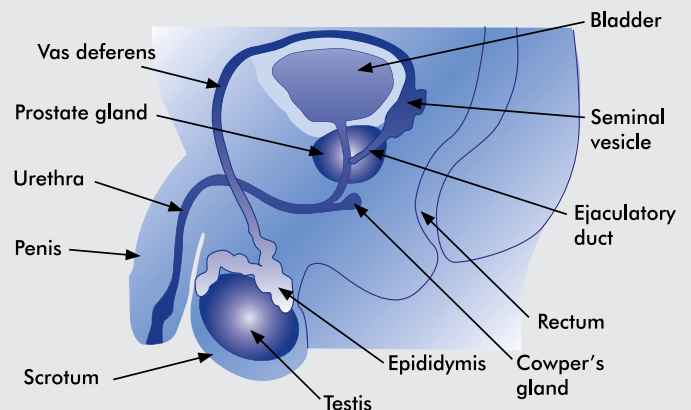
The male reproductive system is made up of the testes, a system of ducts (tubes) and other glands that open into the ducts. The brain plays an important part in the control of the male reproductive system.

The pituitary gland and the hypothalamus, located at the base of the brain, control the production of male hormones and sperm. Luteinising hormone (LH) and follicle stimulating hormone (FSH) are the two important messenger hormones made by the pituitary gland that act on the testes.

The testes (testis: singular) are a pair of egg-shaped glands that sit in the scrotum next to the base of the penis on the outside of the body. The testes make sperm and the male sex hormone testosterone. It takes about 70 days for sperm to become mature and able to fertilise an egg.

When released from the testes, the sperm spend two to 10 days passing through the epididymis where they gain the vital ability to swim strongly (become 'motile'), and to attach to and penetrate (get into) the egg.

At orgasm, waves of muscle contractions transport the sperm, with a small amount of fluid, from the testes through to the vas deferens. The seminal vesicles and prostate contribute extra fluid to protect the sperm. This mixture of sperm and fluid (the semen) travels along the urethra to the tip of the penis where it is ejaculated (released).



What is male infertility?

Reproduction (or making a baby) is a simple and natural experience for most couples. However, for some couples it is very difficult to conceive.

A man's fertility generally relies on the quantity and quality of his sperm. If the number of sperm a man ejaculates is low or if the sperm are of a poor quality, it will be difficult, and sometimes impossible, for him to cause a pregnancy.

Male infertility is diagnosed when, after testing both partners, reproductive problems have been found in the male.

How common is male infertility?

Infertility is a widespread problem. For about one in five infertile couples the problem lies solely in the male partner.

It is estimated that one in 20 men has some kind of fertility problem with low numbers of sperm in his ejaculate. However, only about one in every 100 men has no sperm in his ejaculate.

What are the symptoms of male infertility?

In most cases, there are no obvious signs of infertility. Intercourse, erections and ejaculation will usually happen without difficulty. The quantity

and appearance of the ejaculated semen generally appears normal to the naked eye.

Medical tests are needed to find out if a man is infertile.

What causes male infertility?

Male infertility is usually caused by problems that affect either sperm production or sperm transport. Through medical testing, the doctor may be able to find the cause of the problem.

About two-thirds of infertile men have a problem with making sperm in the testes. Either low numbers of sperm are made and/or the sperm that are made do not work properly.

Sperm transport problems are found in about one in every five infertile men, including men who have had a vasectomy but now wish to have more children. Blockages (often referred to as obstructions) in the tubes leading sperm away from the testes to the penis can cause a complete lack of sperm in the ejaculated semen.

Other less common causes of infertility include: sexual problems that affect whether semen is able to enter the woman's vagina for fertilisation to take place (one in 100 infertile

couples); low levels of hormones made in the pituitary gland that act on the testes (one in 100 infertile men); and sperm antibodies (found in one in 16 infertile men). In most men sperm antibodies will not affect the chance of a pregnancy but in some men sperm antibodies reduce fertility.

How is male infertility diagnosed?

If a couple has been trying for a pregnancy without success, they should go to their local doctor or family planning clinic, and have some initial tests.

Infertility should be considered a couple's problem requiring review of both the male and female partner even if one partner has a child from another relationship. Male infertility may be a sign of other (possibly undiagnosed) health problems such as testosterone deficiency or coexisting testicular cancer, so it is important that it is investigated.

Diagnosis can involve a medical history from the man and a physical examination along with a semen analysis to check the number, shape and movement of sperm in the ejaculate. Blood tests may also be done to check the levels of hormones that control sperm production or for genetic testing. Testicular biopsies or testicular

ultrasound are sometimes done.

How is male infertility treated?

One in eight infertile men has a treatable condition, and after treatment, couples can become pregnant naturally. In some cases, the doctor will recommend that the couple seek assisted reproductive technologies (ART), such as IVF (in vitro fertilisation). ART do not cure or treat the cause of infertility but they can help couples achieve a pregnancy, even if the man's sperm count is very low.

CAUSE OF MALE INFERTILITY

Sperm production problems:

- Chromosomal or genetic causes
- Undescended testes (failure of the testes to descend at birth)
- Infections
- Torsion (Twisting of the testes in scrotum)
- Varicocele (varicose veins in the testes)
- Medicines and chemicals
- Radiation damage
- Unknown cause

Blockage of sperm transport:

- Infections
- Prostate-related problems
- Absence of vas deferens
- Vasectomy

Sexual problems

(erection and ejaculatory problems)

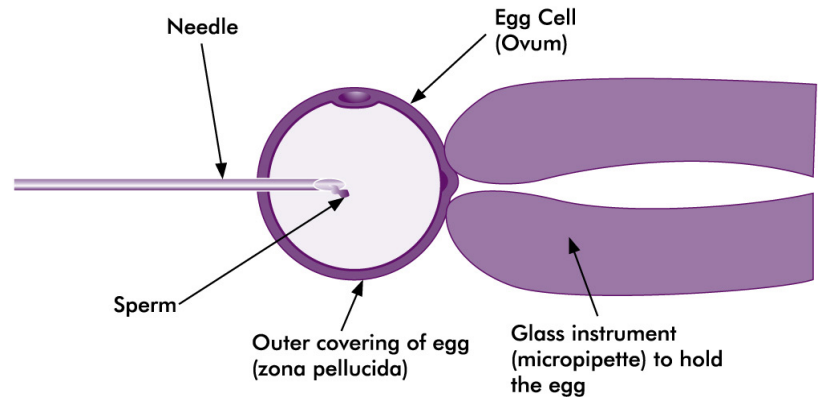
- Retrograde or premature ejaculation
- Failure of ejaculation
- Erectile dysfunction
- Infrequent intercourse
- Spinal cord injury
- Prostate surgery
- Damage to nerves
- Some medicines

Hormonal problems

- Pituitary tumors
- Congenital lack of LH/FSH (Pituitary problems from birth)

Sperm antibodies

- Vasectomy
- Injury or infection in the epididymis
- Unknown cause



What is ICSI?

Intracytoplasmic sperm injection (ICSI) is a form of IVF where a single sperm is placed directly into each egg by piercing the outer covering of the egg. ICSI is particularly helpful for men with poor sperm production. Sperm are collected from the semen or removed carefully from the testis or epididymis.

ICSI can achieve pregnancies even when only a few sperm are produced.

As for IVF, after fertilisation the resulting embryos are then placed into the woman's uterus.

Can I do anything to prevent male infertility?

It is best to avoid cigarette smoking, excess alcohol, sexually transmitted infections, heat stress from tight fitting underwear, and anabolic steroids (taken for body building or sporting purposes) as these factors can be harmful to the production of sperm.

If you work in an occupation that may affect your fertility, it's important to wear protective clothing and follow all occupational health and safety guidelines. It is recommended that couples trying to conceive avoid exposure to any possibly harmful chemicals.

Because of the possible effects on fertility, it's important to tell your doctor if you have had hormone treatment or had surgery as a child to move your testes into the scrotum.

Can older age cause male fertility problems?

Healthy men in their 70s and beyond can still father children, however the time taken for a partner to become pregnant is longer when a man is middle-aged or older. Reasons for this may include a decrease in sexual activity, lower semen volume, changes to sperm motility (movement), a lower number of motile sperm, and possibly lower sperm function and DNA quality.

The chance of the child having some genetic or chromosomal problem is also increased for older men.

What emotions might a man experience when diagnosed with infertility?

Men may be shocked when they find out they are infertile. There is still a common but incorrect belief that infertility is a woman's problem. Therefore, when men are told there is a sperm problem, they are often unprepared.

Being told that there is a sperm problem can affect a man's sense of masculinity, sexuality and potency. Most infertile men at some time struggle with the idea that they are not able to do what other men can.

An emotional response to infertility is normal. Talking with a doctor or a sexual therapist or counsellor can help some men with their feelings about infertility.

Further information about male infertility can be found in [Andrology Australia's consumer guide: Male Infertility: A child of our own](#); and [fact sheet: Semen Analysis](#).

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