



Male Infertility

What is male infertility?

Infertility is defined as the failure to achieve a pregnancy after one year of regular (at least twice weekly) unprotected intercourse with the same partner. Male infertility is diagnosed when, after testing of both partners, reproductive problems have been identified in the male partner.

How common is male infertility?

One in eight couples in Australia has difficulty becoming pregnant and is considered infertile. In about one in five infertile couples the problem lies solely in the male partner (male infertility). Male infertility is the underlying reason for 40% of infertile couples using assisted reproduction technologies.

Are there any signs or symptoms of male infertility?

In most cases, there are no obvious signs of an infertility problem. Intercourse, erections and ejaculation will usually happen without difficulty. The quantity and appearance of the ejaculated semen generally appears normal to the naked eye.

How is it diagnosed?

If a couple has been trying to get pregnant without success, they should go to their local doctor, family planning or women's health clinic where initial tests can be performed. Both partners should be tested, even if one has already had a child in another relationship.

Diagnosis can involve a medical history from the man to find out whether there are any obvious health issues that could affect fertility. A physical examination is performed, along with a semen analysis to check the number, movement and shape of the sperm in the ejaculate. Blood tests may also be done to check the hormone levels that control sperm production. Genetic investigations and testicular biopsies are sometimes done.

What causes male infertility?

With the results of medical tests, the doctor may be able to identify the cause of a man's fertility problems.

The following are known causes of male infertility:

- Sperm Production Problems: The most common cause of male infertility is due to a problem in the sperm production process in the testes. About two thirds of infertile men have sperm production problems. Low numbers of sperm are made and/or the sperm that are made do not work properly. A number of factors can disrupt the production of sperm including undescended testis, infections such as mumps, heat, sperm antibodies, torsion, varicocele, drugs or radiation damage.

- Blockage of sperm transport: Blockages (obstructions) in the tubes leading sperm away from the testes to the penis can cause a complete lack of sperm in the ejaculated semen. This is the second most common cause of male infertility and affects about three in every 20 infertile men, including men with the common problem of having an earlier vasectomy.
- Sperm antibodies: In some men, sperm antibodies can develop which can lessen sperm movement and block egg binding during fertilisation. About one in every 16 infertile men has sperm antibodies.
- Sexual problems: Difficulties with sexual intercourse, such as erection or ejaculation problems, can also prevent couples from becoming pregnant.

Known causes 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 testis in scrotum)
- Heat
- Varicocele
- Drugs and chemicals
- Radiation damage
- Unknown cause

Blockage of sperm transport

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

Sperm antibodies

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

Sexual problems (erection and ejaculation problems)

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

Hormonal problems

- Pituitary tumours
- Congenital lack of LH/FSH (pituitary problem from birth)
- Anabolic (androgenic) steroid abuse

Nerve damage following spinal cord injury, diabetes, or surgery to the prostate or pelvis can prevent erection and ejaculation. Some drugs to treat depression or high blood pressure may also cause erection and ejaculation problems. Sexual problems are not a common cause of infertility and affect less than one in 100 infertile men.

- **Hormonal Problems:** Sometimes the pituitary gland, located underneath the brain, does not send the right messages to the testes. This can cause low testosterone levels, which means that sperm are not produced. Hormonal causes are uncommon, and affect less than one in 100 infertile men. Anabolic (androgenic) steroid abuse by body builders can shut off the hormones from the pituitary and lead to low sperm counts.

There are still gaps in our knowledge and for 40% of men with male infertility, the cause of the problem is unknown. This is called 'idiopathic infertility' or 'cause unknown'.

What treatments are available?

When the cause of the male infertility problem can be treated, a couple can try and achieve a pregnancy naturally. A range of treatments are available to treat specific causes of male infertility. Blockages of sperm transport are often treated with surgery. Medications can assist with producing hormones for sperm production and erectile dysfunction.

In some cases, the doctor will recommend that the couple seek assisted reproductive technologies (such as IVF) in order to become pregnant. These techniques do not cure or treat the cause of the male infertility problem, but they can help the couple conceive even if the man's sperm count is very low.

Male infertility is completely untreatable when the man has no sperm in his semen or in the testes, because the sperm producing cells in the testes either did not develop or have been permanently destroyed. The only options for such couples who want to have a family is to consider adoption or donor insemination.

What is intracytoplasmic sperm injection (ICSI)?

ICSI is a form of IVF where a single sperm is injected directly into the egg by piercing the outer covering of the egg, and is particularly helpful for men who produce low numbers of sperm. This technique can achieve pregnancies even when only a few sperm are produced. The sperm are collected from the semen or removed carefully from the testis or epididymis. If a couple proceeds with ICSI/IVF, it should be remembered that these assisted reproductive technologies expose women to risk such as those associated with surgical collection of eggs, and switches the focus from the man to the woman.



Normal sperm from a fertile male

Can male infertility be prevented?

Cigarette smoking, alcohol, sexually transmitted diseases, heat stress from tight fitting underwear and vaginal lubricants can be harmful to the production of sperm and should be avoided.

Although there is no clear evidence that certain work environments affect fertility, it is generally recommended that couples trying to become pregnant avoid exposure to any possible harmful chemicals. Pesticides, heavy metals, toxic chemicals and radiation may affect the quality and quantity of sperm produced.

What emotions can a man experience when diagnosed with infertility?

Most men are shocked when they find out they are infertile. There is still a common incorrect belief that infertility is a female condition, so when men are told there is a sperm problem, they are often quite unprepared.

It is not unusual for infertile men to feel stressed and vulnerable. Most infertile men at some time struggle with the idea that they are not able to do what other men can. This can lead men to confuse their infertility with their sense of masculinity, sexuality, virility and potency. An emotional response to infertility is normal and getting expert assistance with a counsellor to work through these feelings is strongly recommended.

For more information

For more detailed information on male infertility, please call Andrology Australia on 1300 303 878 for a free 'Men's Health Matters' guide on male infertility, or visit the website www.andrologyaustralia.org ACCESS Australia's National Infertility Network Ltd. Phone 1800 888 896 or visit website www.access.org.au

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