
Infertility in men

Summary

- Around 30 per cent of fertility problems originate in the man.
 - Male fertility problems include poor quality sperm, low sperm count or blockages in the tubes of the reproductive system.
 - Treatment options for poor sperm quality include artificially inseminating the man's partner with a concentrated sample of the man's semen
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New life begins when an egg from a woman is fertilised by sperm from a man. Around 20 million sperm per millilitre (ml) need to be present in the ejaculate, with enough mobility and strength to swim the journey to the fallopian tube where conception normally takes place.

The odds of a young fertile couple conceiving by having sexual intercourse around the time of ovulation are approximately one in five every month. A couple isn't suspected of fertility problems until they have tried and failed to conceive for one year.

Approximately 15 per cent of couples experience difficulties with fertility. In most cases, the couple can be helped with assisted reproductive technologies (ART).

Around 30 per cent of fertility problems in couples originate in the woman. Another 30 per cent originate in the man and 30 per cent is found in both partners. No cause is found in around one in 10 couples investigated for infertility. This is called 'unexplained' or 'idiopathic' infertility.

Lifestyle factors also affect fertility. Read more on [Weight and reproductive outcomes](#), and [Effects of caffeine, alcohol and smoking on reproductive outcomes](#) on Your Fertility website.

Causes of male infertility

The major causes of male infertility are:

- Obstructions to the passage of sperm
- Problems with sperm (such as low sperm count)
- Functional problems (such as impotence)
- Hormonal problems.

Obstructions causing infertility in men

Sperm are made in the testicles, then they spend two to ten days passing through a series of small tubes called the epididymis where they mature and exit into a larger tube called the vas deferens. The vas deferens empties the sperm into the ejaculatory duct, where they are mixed with seminal fluid from the seminal vesicles and the prostate gland.

During ejaculation, muscular contractions force the semen into the urethra and out of the penis. Blockages or absences of tubes (including the vas deferens) are the cause of around one in three cases of male infertility. Blockages or absences of tubes may be due to vasectomy or injury.

Problems with sperm causing infertility in men

Problems with sperm numbers or quality are thought to be caused by genetic factors. Tiny fragments of the male chromosome may be missing in some men with sperm problems. This may cause:

- Absent sperm (azoospermia) – the semen doesn't contain any sperm. This may be caused by a blockage of the tubes or testicular failure
- Low sperm count (oligospermia) – the ejaculate has insufficient sperm to bring about conception
- Abnormal shape – a healthy sperm is shaped like a streamlined tadpole. Abnormally shaped sperm may have problems penetrating the surface of the woman's egg
- Poor motility – a healthy sperm has a lashing tail which helps it to swim through the woman's reproductive system. Sperm with poor motility may swim feebly or not at all.

Functional problems causing infertility in men

Functional problems that can cause or contribute to male infertility include:

- Impotence – the inability to get or maintain an erection sufficient for sexual intercourse
- Ejaculation problems – retrograde (when semen enters the bladder instead of emerging through the penis) and premature ejaculation
- Problems with the testicles – caused by injury, infection or chemotherapy
- Prostatectomy – side effects of the surgical removal of the prostate gland, including infertility, impotence and incontinence
- Certain disorders – multiple sclerosis, diabetes and other disorders can cause erection and ejaculation difficulties
- Antibodies – the man's immune system makes antibodies that hinder the activity of sperm, such as reducing the sperm's ability to latch onto his partner's egg.

Hormonal problems causing infertility in men

The levels of male sex hormones are regulated by a series of glands and their hormones. The pituitary gland in the brain influences hormone production in the testicles under the guidance of the hypothalamus. A relatively uncommon cause of male infertility is the failure to make enough of the hormone gonadotrophin.

Diagnosis of male infertility

Investigating suspected infertility requires tests for both the man and his partner. Diagnosing male infertility may involve:

- Physical examination – including medical history
- Semen analysis – a sample of the man's semen is investigated in the laboratory and checked for abnormalities and the presence of antibodies
- Blood tests – to assess hormone levels
- Testicular biopsy – a fine needle and microscope are used to check the network of tubes within the testicles to see if they contain any sperm
- Ultrasound scans – to take pictures of the reproductive organs, such as the prostate gland.

Prevention of male infertility

To help improve your fertility, avoid:

- Cigarette smoking
- Alcohol
- Sexually transmitted diseases
- Heat stress from tight-fitting underwear
- Anabolic steroids (taken for body-building or sporting purposes).

Treatment for male infertility

No treatments can improve the quality of a man's sperm. However, various techniques can increase the odds of conception using the existing sperm quality.

Many men have sufficient sperm to fertilise their partner's eggs in a test tube, even if they are unable to do so during sexual intercourse. In most cases, the couple can be helped with assisted reproductive technologies (ART).

The reproductive technologies available to infertile men include:

- Surgery
- Hormone therapy
- Artificial insemination
- In vitro fertilisation (IVF)
- Intra-cytoplasmic sperm injection (ICSI).

Surgery for male infertility

Bloating of veins inside the testes (varicocele) may impair fertility. This condition can be surgically treated.

The tubes within the male reproductive system that transport sperm may be blocked, perhaps by injury or vasectomy. In some cases, the blockage can be surgically removed and the tubes repaired.

If surgery doesn't work, the man may undergo another surgical procedure called percutaneous epididymal sperm aspiration (PESA). Under local anaesthetic, a slender needle is inserted into the epididymis. Sperm are removed and either used immediately for IVF or frozen for later use.

Hormone therapy for male infertility

The pituitary gland in the brain releases hormones called gonadotropins, which stimulate the testicles to produce sperm. In a small number of cases, male infertility is caused by insufficient levels of these gonadotropins. Taking these hormones as medication may boost sperm production.

Artificial insemination for male infertility

The man's semen is collected, washed and concentrated, then introduced into his partner's uterus through the cervix.

This option may be chosen when:

- The concentration of sperm in the man's semen is low
- The man has functional problems, such as impotence
- The man's seminal fluid contains antibodies against his sperm
- The women's cervical mucus is abnormal and it interferes with sperm transport.

In vitro fertilisation (IVF) for male infertility

In vitro fertilisation (IVF) is conception outside of the human body. Sperm is collected from the man and is placed in a special incubator. The woman undergoes ovulation induction (hormonal stimulation of her ovaries) and eggs are collected. This is done through the vagina under ultrasound control.

The collected eggs are mixed with the sperm and they are placed in a special incubator. The fertilised eggs develop into embryos, which are then implanted into the woman's uterus through a thin tube inserted through the cervix, again under ultrasound guidance.

Intra-cytoplasmic sperm injection (ICSI) for male infertility

Sometimes, semen contains too few (or too few structurally normal) sperm to make fertilisation possible through IVF. Intra-cytoplasmic sperm injection (ICSI) can be used in these cases.

The eggs are removed from the woman's ovaries and each is injected with a single sperm. The fertilised eggs develop into embryos that are transferred into the uterus at the appropriate time.

Where to get help

- Your doctor
- Fertility clinic
- Family planning clinic
- Public hospital

Things to remember

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This page has been produced in consultation with and approved by:

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