



Male Factor Infertility

Male infertility is either due to a problem making good quality sperm, or a problem with delivery of the sperm to the egg.

Various medical issues can contribute to male fertility problems, including:

- Hormonal imbalances (problems in the hypothalamus or the pituitary gland – parts of the brain that signal the testicles to produce testosterone and sperm)
- Testicular disease
- Sperm transport disorders

Age can also play a role. The ability of sperm to move and the proportion of normal sperm tend to decrease with age, affecting a man's fertility. Some research shows that it takes longer for men in their mid-30s and early 40s to achieve pregnancy than it does for younger men.

Typical causes of delivery problems can range from issues with erections or ejaculation, to physical blockages, which can occur at any step from where the sperm is made in the testicle, to its point of delivery at the tip of the penis. Some blockages can be overcome, such as a previous vasectomy. Others, such as multi-level obstruction due to infections, or being born without a vas tube cannot. In cases of "obstructive" infertility, the testicle still makes sperm normally, so sperm can usually still be directly retrieved from the testicle.

Issues That Can Cause Problems With How Sperm Are Made Include:

- Prescribed drugs such as chemotherapy
- Recreational drugs (cannabis, cocaine)
- Smoking or excessive alcohol intake
- Hormonal imbalances (thyroid/ prolactin)
- Previous testicular infection, injury or surgery
- Raised scrotal temperatures including varicoceles or recent febrile illness
- Genetic problems such as chromosome variations and Y chromosome deletions

Treatment Options

Lifestyle Changes

- Wear loose-fitting underwear (ie. loose boxer shorts)
- Stop smoking and reduce alcohol intake
- Avoid recreational drugs and gym supplements
- Adopt a healthy diet
- Consider fertility vitamin supplements

The damage associated with some of these situations may be reversed to allow a return to normal fertility. Genetic problems cannot be reversed, but may be overcome using direct surgical sperm retrieval from the testicle, but with a lower overall chance of successfully finding sperm than in cases of obstruction.

Male Factor Infertility Due To Obstruction

- Surgical bypass may be possible depending on where the level of the obstruction lies.
- Blockages to the ejaculatory duct in the prostate may be overcome with resection of any obstructing cyst
- Blockages of the vas (sperm duct) – most commonly seen post vasectomy and can be overcome with vasectomy reversal

- Blockages to the epididymis may be overcome using microsurgical epididymo-vasostomy. In cases where the obstruction cannot be reversed, direct surgical sperm retrieval (SSR) from the normal but blocked testes carries a 100% success rate in finding sperm for use with assisted conception. The choice to reconstruct or obtain sperm surgically depends on a number of factors, including:
 - the female partner's age,
 - how many children are planned,
 - the time interval since vasectomy (for vasectomy reversal only)

Male Infertility Due To Impaired Sperm Production

Besides the general measures outlined above, correction of any reversible element may result in a return to normal fertility (e.g. correction of any hormonal abnormality).

Varicoceles occur in 20% of infertile men (and in 10% of the normal male population). The treatment of clinically relevant varicoceles has been shown to be associated with an improvement in sperm number and quality, and an increased rate of natural conception (1 in 3 couples) in more recent studies. Treatment of clinically relevant varicoceles is now advocated by both the European and American Guidelines on Infertility.

In cases where no reversible cause is present, and no sperm is present in the ejaculate, sperm may still be successfully retrieved in approximately 50% of cases from the testicle using microsurgical retrieval techniques (MicroTESE).

Assisted Reproduction Techniques

Intrauterine Insemination (IUI)

In cases where there is an issue with timing or achieving intercourse, or for mild reduction in sperm count or motility, intrauterine insemination may be utilised. This involves washing and concentrating the sperm sample and placing directly in the uterus at an appropriate time close to ovulation.

Intracytoplasmic Sperm Insemination (ICSI)

In this type of in vitro fertilisation a single sperm is injected directly into an egg to fertilise it. It is useful in a setting of a very low sperm count or in cases of surgically retrieved sperm. As with any IVF technique it carries risks for the female partner due to the stimulation required in the egg collection process. It has a pregnancy rate of approximately 30-40% per cycle.

What Options Are Available If No Sperm Can Be Found?

Coming to terms with infertility can be extremely difficult. If it is not possible to use a couple's own sperm to create a child, there are other ways to form a family via donor sperm. Newlife IVF has an active sperm donor program with access to both domestic donors and international donors via the European Sperm Bank. Donor sperm may be utilised for either IUI or IVF with ICSI.