

Male Infertility





Male Infertility

About 30 per cent of infertility cases in Australia are due to problems with male fertility, while a further 30 per cent are traced to problems with both the male and female.

In the past, initial investigations of fertility problems centred around the woman, who often underwent invasive testing to look for possible causes of infertility.

Nowadays, it is common practice for Fertility Specialists to look at both partners in the early stages of investigations.

Approximately one-in-20 Australian men have low sperm levels and about one-in-100 men have no sperm at all.

With the majority of male infertility cases relating to sperm, simple tests such as a semen analysis can help find the cause of fertility problems.

Many cases of male infertility can be overcome with treatment or with the help of assisted reproductive technologies such as IVF, but it is important to begin investigations early to find the cause of male infertility, so patients have the best chance of conceiving.

The main causes of male infertility centre around these key areas:

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The quantity or quality of sperm

Approximately two-thirds of infertile men have sperm-production problems, which can include:

- low sperm count (oligospermia) less than 15 million sperm per millilitre of semen
- complete absence of sperm (azoospermia) can be due to a blockage or issue with the testes
- abnormally shaped sperm (poor morphology) defects such as a large or misshapen head or tail can stop sperm reaching or penetrating the egg
- problems with the way sperm moves (motility) sperm reaches the egg by wriggling and swimming through the cervix, uterus and fallopian tubes.

The ability of sperm to reach the egg

A number of factors can affect the sperm's ability to reach the egg so fertilisation can occur, including:

- damage to the testicles as a result of past or present infection, injury, congenital defect, undescended testicles, cancer or cancer treatment, such as chemotherapy or radiotherapy
- varicocele a collection of swollen veins in the scrotum that can sometimes affect fertility
- · blockage or obstruction in the network of tubes from the testes
- erectile or ejaculation disorders, including retrograde ejaculation (when semen enters the bladder)
- sperm antibodies that can decrease sperm motility or stop it penetrating the cervical mucus or preventing sperm/egg binding.

Medical conditions or hormonal problems

A number of medical and genetic conditions can disrupt male fertility, including:

- · some chronic medical conditions, such as diabetes and multiple sclerosis
- problems with the levels of male sex hormones in the body.

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Lifestyle or environmental factors, and age

Research has shown certain lifestyle or environmental factors and pollutants can adversely affect sperm quality. These include:

- smoking
- recreational drugs
- · alcohol
- stress
- being overweight
- lack of exercise
- · excessive heat, sometimes as a result of certain occupations.

Age is recognised as a factor in male infertility much earlier than previously thought. From the age of 35, men are roughly half as fertile as they were at 25, and their fertility begins to decrease dramatically from the age of 55.

Sperm DNA fragmentation

Sperm DNA fragmentation means the DNA stored in the head of the sperm has been damaged. This interferes with sperm motility and fertilisation, as well as embryo development.

Studies have shown that environmental and lifestyle factors can cause sperm DNA fragmentation, while damage to DNA also increases with age.

Diagnosis

Males should undergo a comprehensive fertility check-up which includes:

- medical history
- physical examination
- blood and urine samples to assess general health and look for conditions that can affect fertility, including STDs and hormone levels
- · semen analysis to check sperm count, motility and morphology
- Sperm Chromatin Integrity Test (SCIT) to check for sperm DNA fragmentation.

Further tests may be recommended depending on the outcome of initial investigations and can include genetic testing, ultrasound or MRI, testicular biopsies and/or fine needle aspirations, and antisperm antibodies tests.

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Genea andrology services

Genea's andrology diagnostic services are world-class processes and procedures that adhere to World Health Organisation standards and, in some cases, are not conducted anywhere else in Australia.

Test	Description	Normal range
Semen analysis (SFA or SFA1)	Analysis of sperm concentration, motility and morphology.	Concentration $\ge 15m/ml$ Progressive motile $\ge 32\%$ Total motile $\ge 40\%$ Normal forms $\ge 4\%$
Semen analysis with antisperm antibody testing (SFA2)	A semen analysis in conjunction with testing for the production of antibodies that bind to the sperm and interfere with fertilisation.	IgG < 50% bound IgA < 50% bound
Semen analysis with sperm chromatin integrity test (SCIT)	Level of DNA fragmentation in the sperm causing infertility and/or miscarriage. Includes a semen analysis.	DNA fragmentation < 29% high green < 15%
SFA2 with SCIT (SCITs2)	A semen analysis in conjunction with antisperm antibodies testing (for diagnosing immunological infertility) and DNA fragmentation testing.	See above for the normal ranges of all three testing categories.
Antisperm antibody screen	Used to diagnose immunological infertility. Can be performed on seminal plasma or male/ female blood serum.	IgG < 50% bound IgA < 50% bound

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Test	Description	Normal range
Fructose test – with azoospermia diagnosis	Insufficient secretion from the seminal vesicles can be an indication of an obstruction to the passage of sperm to the outside world; hypoandrogenism or infection of the seminal vesicles. In these cases, the ejaculate volume is lower than normal and fructose concentration is decreased. Fructose is automatically performed on the first diagnosis of azoospermic samples.	>l4mmol/l
Retrograde ejaculation testing (SFA Rg)	Determines whether sperm can be successfully isolated from the urine for an assisted conception procedure.	
MESA/TESE/PESA	Retrieval of sperm from testes (testicular sperm extraction or TESE) or directly from epididymis (epididymal sperm aspiration or ESA) when there are no sperm in the ejaculate or if low sperm numbers are present and/or sperm DNA is damaged.	
Post-vasectomy test (SFA PV)	Routine follow-up three months post-procedure.	Semen sample is considered free and clear of sperm when it has been three months after the procedure and at least 20 ejaculations have occurred. Follow-up with patient at six months is encouraged.
Semen culture	Checks for bacteria in the semen. Useful if an infection is to be ruled out. All donor semen samples must be cultured prior to use.	



Description	Additional information	
Sperm freeze per collection	The freezing of semen can be performed prior to vasectomy, prior to hormone replacement therapy, for sperm donation, in the absence of a partner during ART treatment or when difficulty in collecting a semen sample is indicated. See also Medical Freeze below.	
Sperm freeze in addition to other testing	Sperm freezing can be added on to most of the testing described above.	
Medical freeze	Patients under the age of 60 undergoing a freeze for medical treatment that may affect fertility (surgery, chemotherapy, radiotherapy, medication) may have Medicare rebates available for them.	

These tests are inpatient services that should also attract private health fund rebates.

Patients will be provided with a personalised quote prior to treatment. Your particular circumstances (Medicare, health fund and if it is the first or subsequent cycle of a calendar year) will determine your actual costs and out-of-pocket.

For the most current version of Genea's fees, please visit our website genea.com.au

1300 361 795 genea.com.au

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