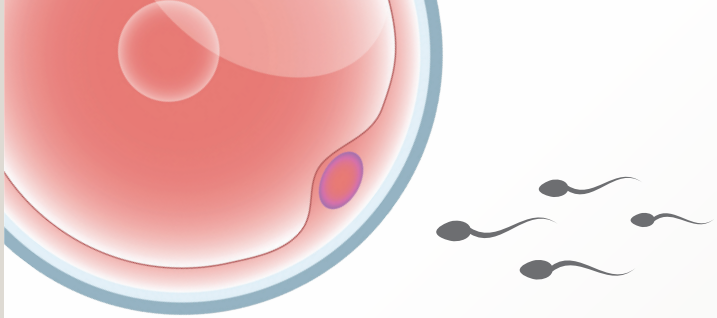
Pre-Treatment

Semen Analysis

What You Need to Know

City Fertility Centre
your partners in life



What is Semen Analysis?

A Semen Analysis evaluates the amount and quality of a man's semen and sperm to determine male fertility. This test is sometimes called a sperm count.

Why is it done?

Male-factor infertility accounts for 30% of infertility cases and is a common problem in couples trying to conceive. A diagnosis of this can only be made by carrying out a complete Semen Analysis.

A Semen Analysis can help clarify whether a man has a reproductive problem that is causing infertility. Although the actual fertility of a semen sample cannot be completely determined until it is known to achieve fertilisation, careful and thorough analysis of all the semen's parameters in a specialised laboratory can allow scientists to determine what fertility treatment options are reasonable. Semen Analysis is best performed by scientists with extensive experience, following the guidelines and criteria of the World Health Organisation* (*WHO Laboratory Manual for the Examination and Processing of Human Semen – fifth edition).

A severely low sperm count or low motility may indicate the need for an advanced approach, whereas a normal Semen Analysis might suggest a more conservative approach. With use of right technology, even the couples with severe male-factor infertility have options to achieve the birth of their own biological child. In most cases of male-factor infertility, the exact cause of the problem is unknown.

How is it done?

A semen sample is usually collected by masturbation, directing the semen into a sterile container. No lubricants should be used as it might kill the sperm. It is a common misunderstanding of some male patients that they can improve their semen by 'storing it up'. In actual fact this is not true. Two to five days of abstinence are recommended before a Semen Analysis, to ensure the reliability of the test. Longer periods of abstinence may affect the accuracy of the results (less active sperm).

Generally, it is preferable that men produce their sample in the comfort of their own home and deliver the sample to the laboratory within one hour. The sample should be kept close to body temperature. For patients that live further afield, City Fertility Centre has a discreet private room available.

What City Fertility Centre scientists look for:

In the laboratory, the City Fertility Centre scientists analyse the following parameters:

- Motility
  movement of the sperm (swimming ability)
- Morphology
  percentage of sperm that have a normal shape
- Count
  the number of individual sperm present in one ejaculation
- Vitality
  sperm's ability to live and endure

In addition, the presence of anti-sperm antibodies can also be detected.

A normal sperm, consists of three main regions that each play an essential role in achieving the ultimate goal of fertilising the egg. City Fertility Centre Scientists assess the morphology of each of these regions in order to give an overall incidence of normal morphology.

1. **THE HEAD**, which is oval in shape and contains the genetic information of the sperm. It also has a region known as the acrosome that is responsible for the

release of enzymes involved in the fertilisation process.

2. **THE MID PIECE**, contains mitochondria which are responsible for generating the energy required to 'swim' towards the egg.
3. **THE TAIL**, this contains microtubules that propel the sperm along the female's fallopian tubes.

Interpreting Semen Analysis Results

PARAMETER	NORMAL RANGE
Volume	> 1.5ml
Sperm concentration	> 15 million sperm / ml
Normal morphology (shape)	> 4%
Motility	> 32% with forward progression

When parameters fall outside the normal ranges, as mentioned in the table above, the following terms are used to define the condition:

- Oligozoospermia
  reduced number of sperm present
- Teratozoospermia
  reduced number of normal-shaped sperm
- Asthenozoospermia
  reduced number of motile/progressive sperm
- Azoospermia
  no sperm present in entire ejaculate

Common Causes of Male Factor Infertility:

In the human it takes 64 days to produce fully functional mature sperm. Although many of the factors that can affect this process are still scientifically unknown, the following have been proven to have a negative effect upon sperm quality:

- Smoking
- Excessive alcohol intake
- Recreational drugs
- Some herbal supplements
- Prolonged exposure to chemicals, such as pesticides and heavy metal
- Illness, such as particular fevers
- Excessive exposure to heat, such as sitting with the laptop on the lap and being in the sun for long periods

Treatment Options Available

At City Fertility Centre the following treatment options are available for male factor infertility:

Intra-Uterine Insemination (IUI)

IUI is generally recommended when the semen result is normal or with mild parameters. Motile sperm are separated and concentrated from the seminal fluid and inseminated into the uterus. This can improve fertility by increasing the number of motile sperm that reach the egg. The sperm washing procedure separates the motile sperm from the seminal fluid and activates sperm motility.

Intracytoplasmic Sperm Injection (ICSI)

ICSI is performed in conjunction with IVF and usually recommended for severe male-factor infertility. This technique maximises fertilisation rates by directly injecting a single sperm into an egg using micromanipulation pipettes. The introduction of this technique has revolutionised the options available for couples with even the severest forms of male-factor infertility.

Sperm Aspiration (PESA, TESA)

Sperm aspiration is performed in conjunction with IVF and ICSI. In men diagnosed with Azoospermia, sperm may be obtained directly from the epididymis or testicular tissue. There are two main reasons why sperm may be absent from the semen: Obstructive Azoospermia is the result of a blockage in the male reproductive tract. Sperm production in the testicle is normal but the sperm are trapped inside the epididymis as seen in patients that have undergone vasectomies. Non-obstructive Azoospermia is the result of severely impaired or non-existent sperm production. A diagnostic procedure is usually recommended to confirm the presence of sperm.

In Vitro Fertilisation (IVF)

IVF is generally recommended when there is mild/moderate male-factor infertility. The semen sample is washed and concentrated and by directly placing eggs and sperm together in the laboratory the chances of successful fertilisation are increased. The resulting embryos are then transferred into the uterus.

Where to Now?

I want more information

- Contact our Fertility Advice Team or
- Book a 15 minute nurse chat

I'm ready to take the next step

- Book an appointment with us
- Get a referral to City Fertility Centre from your GP

Contact Us

Call 1300 354 354
Email contactus@cityfertility.com.au
Visit cityfertility.com.au

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