



RAINBOW FERTILITY

*your dream, our passion*

Pre-treatment

## SPERM DNA FRAGMENTATION

### *What is Sperm DNA Fragmentation?*

The methods of evaluating male infertility have typically been limited to a semen analysis measuring the sperm's count, motility and morphology.

This test provides a reliable analysis of sperm DNA integrity and may help to identify men who are at risk of failing to initiate a healthy, ongoing pregnancy. Information about sperm DNA integrity may help in the clinical diagnosis, management and treatment of male infertility.



### *Why is it done?*

Up to 8 per cent of infertile men have been shown to have high levels of sperm DNA fragmentation despite a normal semen analysis<sup>1</sup>. New studies suggest that sperm with certain levels of DNA fragmentation serve as a strong predictor of reduced male fertility.

*your dream – our passion*



## *Possible causes of sperm DNA damage:*

- Drugs, chemotherapy and radiation therapy.
- Cigarette smoking and environmental toxins.
- Genital tract inflammation.
- Testicular hyperthermia (use of hot baths, saunas, laptop computers and prolonged periods of driving).
- Varicoceles.
- Hormone factors.
- Infrequent ejaculation.
- Male's age.

## *Treatment for sperm DNA damage*

### **Ways that may help improve sperm DNA include:**

- Changing to a healthier lifestyle.
- Refraining from smoking.
- Avoiding exposure to toxins.
- Taking a daily supplement of antioxidants and zinc.

Further clinical options can be discussed with one of our specialists.

### **PLEASE NOTE:**

- **For the health and safety of our donors, surrogate and recipient, any embryos created must be quarantined for six months.**
- **People wishing to have assisted reproductive treatment in Victoria must undergo a criminal records check and child protection order check.**
- **All treatment procedures are carried out in our RTAC (Reproductive Technology Accreditation Committee) accredited fertility clinics, where gametes (eggs/sperm) and embryos are also stored.**

---

(1) Sakkas et.al. 2010, 'Sperm DNA fragmentation: Mechanism of origin, impact on reproductive outcome, and analysis', *Fertility and Sterility*, Vol.93, no.4, pp. 1027-1036.

(2) Evenson, D & Wixon, R 2006, 'Meta-analysis sperm DNA fragmentation using the sperm chromatin structure assay', *Reprod Biomed Online*, vol 12, no.4, pp.466-472.

The development of a healthy embryo is initiated when the chromosomes from the female's egg combine with chromosomes from the sperm. These chromosomes consist of strands of DNA (deoxyribonucleic acid), which can become damaged.

Research indicates that sperm with high levels of DNA fragmentation have a lower probability of producing a successful pregnancy. A review of data on hundreds of semen samples shows that patients with a DNA fragmentation level of more than 30 per cent are likely to have significantly reduced fertility potential, including a marked reduction in term pregnancies and a doubling of miscarriages<sup>2</sup>.

Sperm that appears to be normal by traditional semen analysis parameters (motile, morphologically normal) may even have extensive DNA fragmentation. In an effort to achieve the most effective measurement of male fertility potential, sperm DNA fragmentation analysis is an option.

## *How is it done?*

The sperm are captured within an inert agarose gel. This is treated with an acid denaturant that removes already fragmented DNA. The remaining material is then treated with a lysing agent that frees the intact DNA into the agarose gel. This agarose is then stained to highlight the released DNA, which is evaluated to determine the degree of fragmented versus intact material.

## *Where to now?*

### **I WANT MORE INFORMATION**

Contact our Fertility Advice Team

### **I'M READY TO TAKE THE NEXT STEP**

Book an appointment with us and  
get a referral to Rainbow Fertility  
from your GP

**1300 222 623**

**[info@rainbowfertility.com.au](mailto:info@rainbowfertility.com.au)**

**[rainbowfertility.com.au](http://rainbowfertility.com.au)**



## **LEGAL CONSIDERATIONS**

**Rainbow Fertility encourages all  
individuals/couples to seek independent  
legal advice before taking part in the donor program.**

**An initiative of City Fertility Centre**

MFS44 0916 0916

**ADELAIDE | BRISBANE | GOLD COAST | MELBOURNE | SYDNEY**