

# Reproductive Facts

Patient fact sheet developed by the  
American Society for Reproductive Medicine



## Sperm DNA Integrity Testing: What is It?

### What is sperm DNA testing?

Genetic material is carried in our DNA, also known as deoxyribonucleic acid. DNA in sperm is how genes are passed down to offspring. It is thought that abnormal DNA could lead to abnormal sperm function and, therefore, reduced fertility. The DNA in sperm can be analyzed for damage.

### How is sperm DNA tested?

A sperm sample is collected, and the amount of DNA damage or fragmentation is calculated with a specialized test. Several different tests can examine for DNA damage, including:

- Sperm chromatin structure assay (SCSA)
- Terminal deoxynucleotidyl transferase dUTP nick end labeling (TUNEL) assay
- Single-cell gelelectrophoresis (COMET) assay

### What is the purpose of sperm DNA testing?

The hope is that these tests can be used to assess if DNA fragmentation may be contributing to a man having reduced fertility. Many studies show that there is a link between sperm DNA damage and fertility issues.

**Male patients who have normal fertility tend to have less sperm DNA damage while those with fertility issues tend to have high levels of damage.**

### Who should have sperm DNA testing done?

Sperm DNA testing is not recommended as part of routine male fertility testing. DNA fragmentation testing may be ordered in select cases, for example in couples with recurrent pregnancy losses.

### What can sperm DNA testing tell us?

Some studies suggest that sperm DNA testing may predict fertility under certain conditions while other studies do not. The studies use different methods of sperm DNA testing and have small pools of participants. Therefore, there is not enough evidence to show that any specific technique can accurately predict fertility or miscarriage when combined with any treatment. This predictability may improve as new techniques are developed, current techniques are better understood, and more studies are published.

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