



**The Shrewsbury and
Telford Hospital**
NHS Trust

Patient Information

The Shropshire and Mid Wales Fertility Centre

Sperm function test results & Lifestyle advice for men who are trying to conceive

Shropshire and Mid Wales Fertility Centre

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SPERM FUNCTION TEST RESULTS

Introduction

Sperm function tests are used to check male fertility. The results can vary considerably and so, to try to give an accurate assessment, you are asked not to ejaculate (produce a sample either through intercourse or masturbation) for 3 to 5 days before producing your sample for analysis.

It takes sperm 3 months to mature, sometimes things can happen during that time that can damage sperm production for up to 12 weeks. Examples of these “adverse factors” are detailed in the section below entitled “Why might my sperm test be abnormal?”

What is measured in a routine sperm function test?

1. **Semen Volume:** The semen volume is the amount of fluid produced, measured in millilitres (ml). The normal range is 1.5 to 5 ml. Lower volumes can occur if part of the specimen misses the collection pot, or in certain disorders of the “accessory” sexual glands i.e. prostate gland and seminal vesicles. Increased volume may occur with current or previous infection of the prostate gland.
2. **Sperm density:** This is how many sperm are present in the semen sample. The normal level is at least 15 million per millilitre of semen with a total of 39 million in the whole semen sample.
3. **Sperm motility:** This is a measure of how well the sperm “swim”. The best sperm are progressively motile (forward moving) and a normal result is at least 32% progressively motile sperm in the semen sample.
4. **Sperm morphology:** Morphology is the physical appearance of the sperm (what they look like). A normal sperm sample has at least 4% normal forms. If less than 4% of sperm in the sample are normal it is said to have “poor morphology” and this may indicate a problem.
5. **Inflammatory cells (White blood cells):** A high number of white blood cells in the semen sample suggests there may be some inflammation within the male sexual organs, which may (or may not) be caused by an infection. If high numbers of inflammatory cells are seen, your sample may be sent to another laboratory to see if there are bacteria in the sample and you may be given an antibiotic. A second antibiotic may be required if the inflammatory cells are still there in a second test. Please note though that for most patients with high numbers of white blood cells this is not necessary.
6. **Agglutination:** Sometimes sperm agglutinate (stick together) so they cannot swim in the usual way. Up to 5% agglutination may be seen in a normal sample. More than 5% agglutination is abnormal and can occur for a number of reasons including inflammation, the presence of anti-sperm antibodies, infection or injury of the male sexual organs and after surgery, particularly vasectomy.
7. **Blood in the semen:** This is nearly always abnormal and usually requires a referral to a Urologist (a doctor specialising the genito-urinary system). You should inform the clinic if you cut or damage your penis when producing a sample.

Why might my sperm test be abnormal?

All men produce abnormal semen samples at some point in their lives. Temporary factors that can lead to abnormal results are:

1. Too long or too short abstinence from ejaculation prior to the test. We ask you **not** to ejaculate for 3 to 5 days (no less than 3 days and no more than 5 days of abstinence) before producing your sample.
2. Stress.
3. Any illness, infection, injury or operation, but especially those involving the male sexual organs, and a high temperature. Even a heavy cold or “flu” can affect sperm function for up to 10 weeks.
4. Wearing tight underwear, sitting or driving for long periods (2 hours or more) or long exposure to hot environments
5. Exposure to chemicals, e.g. those who work in industry or farming
6. Recreational drug use including alcohol, tobacco and vaping or cannabis
7. Pharmaceutical drugs, especially drugs used in cancer treatment, some antacids e.g. Tagamet and some blood pressure drugs e.g. Propranolol
8. Diet: The normal western diet is high in carbohydrate and fat and low in certain important elements, such as zinc and selenium
9. “Normal” variation: because of this, repeat tests may be 8 weeks apart.
10. Unexplained – Frequently there is no obvious cause found for abnormal sperm function tests.

What can I do if I have had an abnormal sperm function test or 2 very different tests?

This may be just a normal variation and so you should wait for the next test. However, you should try to lead as healthy a lifestyle as possible in the weeks leading up to the next test and while trying to conceive. Any change in lifestyle or diet can take 10-12 weeks to show an improvement in sperm function.

Lifestyle advice for all men trying to conceive

Sperm take 8-10 weeks to mature and any “adverse events” that happen in that time may affect the sperm production for up to 3 months. For example, illness, injury, surgery, medication or recreational drugs or excessive alcohol.

Any improvement in lifestyle can take 8-10 weeks to produce an improvement in sperm function tests and the ability of the sperm to fertilise an egg.

Recommended Lifestyle Measures

1. Healthy diet, high in green vegetables, fruit and nuts
2. Stop smoking or vaping and avoid smoky atmospheres (i.e. passive smoking).
3. Reduce alcohol to less than 5 units a week, spread across the week. Preferably do not drink alcohol at all..
4. Do not take recreational drugs
5. Reduce or eliminate caffeine intake e.g. coffee, tea, cola and energy drinks. Caffeine has been associated with reduced pregnancy rates in IVF.
6. Wear loose boxer-style underwear and avoid hot baths and hot environments such as saunas and steam rooms.
7. Avoid sitting/driving for long periods. Try to take hourly breaks - 2 hours of driving heats the scrotum (and testicles) by 2°C.

8. Take vitamin C (up to 1000mg daily), vitamins A&E, zinc and selenium (recommended daily allowance)
9. Avoid inhaling, or direct contact with noxious chemicals, e.g. organic solvents and organophosphate pesticides. You may need to wear a mask or protective gloves.
10. Try to reduce stress: A consultation with the fertility counsellor may be beneficial to develop stress reducing strategies.
11. Mention to your GP, Fertility Doctor, Scientist or Nurse, any pharmaceutical drugs you are taking - they may affect sperm function.

What can I do if all or most of the sperm function tests are abnormal?

Provided there are some sperm, a spontaneous pregnancy is possible -although the fewer sperm in the sample and the lower the overall quality, the lower the chance of pregnancy. You should lead as healthy a lifestyle as possible and further sperm tests may be requested to determine if there is improvement.

Occasionally, other investigations may be required, including:

- A scrotal ultrasound, if a varicose vein is suspected
- a semen sample for culture, if inflammatory cells are seen
- a sperm antibody test, if there is "agglutination" of sperm
- blood tests for hormones and chromosomes when there are very few, or no sperm in the semen

If you have any further questions please contact the fertility department (details overleaf).

Contact details for more information

Useful telephone numbers

Fertility team **01743 261202** or call the hospital switchboard on **01743 261000** and ask to be put through to the Fertility unit. Please note the department accepts calls from 9am to 5pm Monday to Friday. **Further information is available from;**

Patient Advice and Liaison Service (PALS)

We act on your behalf when handling patient and family concerns, liaising with staff, managers and where appropriate, relevant organisations to negotiate immediate or prompt solutions. We can also help you get support from other local or national agencies.

Royal Shrewsbury Hospital, Tel: 0800 783 0057 or 01743 261691

Princess Royal Hospital, Tel: 01952 282888

Other Sources of Information

NHS 111

A fast and easy way to get the right help, whatever the time. NHS 111 is available 24 hours a day, 365 days of the year.

Telephone: 111 (free from a landline or mobile)

Website: www.nhs.uk

Patient UK

Provides leaflets on health and disease translated into 11 other languages as well as links to national support/self-help groups and a directory of UK health websites.

Website: www.patient.info

Special Needs Information

If you need any further help, for example with an interpreter or if you need this information in another format please contact the fertility unit to arrange this by calling (01743) 261202 and select option 2 or email sth-tr@shropshireivf@nhs.net

Website: www.sath.nhs.uk

www.shropshireivf.nhs.uk

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