



## Male Reproductive Health

Generally, health counseling and infertility treatment is intensely focused on the female partner. Since male infertility accounts for approximately 50% of all infertility problems, evaluation and optimization men's reproductive health is very important. While certain cases of male infertility are due to anatomical abnormalities such as varicoceles, obstruction in the path through which the sperm travel, or ejaculatory disorders; an estimated 40-90% of male infertility cases are due to deficient sperm production of unidentifiable origin.

**Spermatogenesis** (sperm production) takes place in tiny ducts in the testicles. Cell division produces mature sperm cells that contain the genetic material. Each mature sperm cell requires a period of development and maturation of approximately 3 months. So the mature sperm in the ejaculate you produce today is affected by how you lived 3 months ago; your diet, exposure to toxins, illnesses, medications, etc.

**Semen analysis** measures the following parameters in a sperm sample.

**Sperm count:** measures the number of sperm per million in one cubic centimeter. A normal count is greater than 20 million sperm/cc.

**Motility:** measures the percentage of sperm that can swim. A normal motility should be greater than 40%.

**Morphology:** measures the percentage of normal-shaped sperm found in the sample. There should be greater than 14 % normal-shaped sperm measured by Kruger's strict criteria.

**Antisperm antibodies:** the presence of these antibodies can cause the sperm to clump and be unable to swim. Also, these antibodies may be an indicator of chronic infection.

There are some tests that can further evaluate sperm such as **Acrosome Reaction Test** and **SCSA** (Sperm Chromatin Structure Assay) that can yield more information on your fertility potential. However, the interpretation of the results remains controversial.

## What can you actively do to improve your reproductive health?

**Nutritional supplements:** The following are some supplements may increase sperm count and or motility: L-Carnitine, Zinc, Vitamin C, Vitamin E, Vitamin B 12, Folic Acid, and Selenium.

There are nutritional supplements especially formulated to improve sperm quality such as Proxceed® and Fertile One®.

**Environmental:** Avoid exposure to the following pesticides and potentially toxic substances since they may interfere with reproductive function.

- Pesticides: dibromochloropropane, organochloride compounds, dioxin, DDT, PCB's
- Heavy metals: Cadmium, Lead , Mercury, Manganese
- Ionizing radiation
- Benzene
- Boron
- Organic solvents

**Dietary:** The reproductive system requires proper nutrition, vitamins and minerals. Nutritional deficiencies can impair hormone function, inhibit sperm production, and contribute to the production of abnormal sperm.

- Avoid xeno-estrogens: they are synthetic estrogens widely used in livestock, poultry, and dairy industries.
- Avoid high intake of hydrogenated oils: cotton seed oil particularly
- Avoid caffeine
- Eat fresh vegetables, fruit, nuts, seeds, whole grains, fish, poultry, olive oil, and legumes

**Medications:** The following is not a complete list of medications that affect male reproduction; to find out about the particular medication you are taking ask the doctor. Do not stop taking medications before consulting your doctor.

- Blood pressure and cardiac drugs: Diltiazem, Propanolol, Clonidine, Aldactone.
- Anti-acid drugs: Cimetidine
- Non-steroidal anti-inflammatory drugs: Ketoprofen, Phenylbutazone.
- Anti-gout drugs: Colchicine, Allopurinol
- Antibiotics: Nitrofurantoin, Erythromycin, Ketoconazole
- Colitis drugs: Sulfasalazine, Azulfidine
- Anti-depressants: Amoxapine, Phenelzine, Haldol, Lithium.
- Anti-seizure drugs: Phenytoin, Phenytoin.
- Anabolic Steroids: used for body building.
- Chemotherapy and radiation therapy: may cause temporary or permanent infertility. Talk to your doctor about saving and freezing sperm before any of these procedures.

### **Heat:**

Can have a negative direct effect on sperm quality., especially internal heat such as high fevers or varicose veins. Avoid routine sauna and hot tubs.

**Recreational drugs and alcohol:**

- Marijuana: chronic use lowers testosterone levels and affects sperm quality.
- Cocaine: has been shown to have direct effect of killing testis cells and may affect sperm concentration and motility.
- Alcohol: Heavy alcohol use will lower hormone levels, affect sperm quality, and contribute to erectile dysfunction. Generally have no more than 1-2 drinks a day.
- Nicotine: Smoking has been associated with decreased sperm count, alteration in motility, and overall increase in abnormal sperm.

**Infection:**

Sexually transmitted diseases (Chlamydia,, Gonorrhea, etc.) can reside in the male reproductive tract and damage spermatic ducts. They can be also be passed on to your partner and render her infertile since many of these infections may not cause any symptoms.