How to Increase Male Fertility with Selenium

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With male infertility on the rise - contributing to as much as 40% of infertility cases, many couples have started to wonder how to increase male fertility naturally. In this article we'll look at one of the most important minerals for healthy sperm.

Selenium Deficiency Can lead to Infertility

Selenium is a major micro-mineral antioxidant important for immune and thyroid function, breast health in women and needed to increase male fertility. Men loose selenium in semen and deficiency has been linked to low sperm count, poor motility and odd morphology (shape). In pregnancy it maintains a healthy blood pressure and deficiency has been linked to Down syndrome and SIDS (sudden infant death syndrome). Selenium deficiency can not only lead to infertility, but can also increase the risk of cardiac failure, cancer, liver disease, hair loss and skin changes.

Selenium’s Functions:

Conquers Viruses

Low selenium status can lead to increased virulence of pathogens. Selenium has been shown to reduce oxidative stress induced by the pathogens, and minimize their ability to mutate to more aggressive forms.

Responsible for Thyroid Hormone Metabolism

Selenium regulates movement of iodine among different types of hormones produced by the thyroid gland. It also monitors the amounts of accumulated thyroxine in the liver and kidneys, inactivating any excesses.

Protects Fetal Tissue

Developing embryo could be harmed by high levels of thyroid hormone in mother’s body. Selenium shields the fetus by neutralizing some of its strength.

Maintains healthy insulin levels in the body

Selenium plays a crucial role in reducing elevated insulin in the blood.

Gene Expression and Cell Replication

Selenium is involved in gene expression and cell replication. It plays a role in apoptosis – a cell is instructed to self destruct as it’s faulty. Animal studies showed that rodents deficient in selenium had
more tumor formations than those whose selenium status was normal.

**Sperm Shape**

Selenium maintains the shape of the sperm mitochondria (cell’s energy generator).

**Super Antioxidant**

Selenium protects fatty acids from oxidizing. Sperm are mainly made of essential fatty acids. Essential fatty acids can easily oxidize and become rancid. For sperm this means abnormal sperm parameters leading to infertility. Tight underwear, varicose veins of the testis, hot baths and sports like bike riding can all increase scrotal temperature leading to fatty acid oxidation and sperm defects.

**Egg Development**

Animal studies showed that selenium deficiency led to poor egg development and increased birth defects.

**What causes deficiency?**

Poor nutritional intake of selenium is the main cause of deficiency. Selenium comes in many forms, some are water soluble. In this form a lot of selenium is lost through cooking and food storage.

**Depleted Soil**

Some soils like the Australian, New Zealander and Chilean soil as well as the soil around the United States (parts of the Pacific Northwest, parts of the Great Lakes region moving eastward toward the New England states, and parts of the Atlantic Coast) have been identified as selenium-deficient regions. Where soil is depleted in selenium, the food sources grown in such soil will also be depleted in selenium.

**Drug Interaction**

Glucocorticoids – a group of widely used anti-inflammatories deplete body’s selenium reserves.

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**Supplementation**

Selenomethionine is a good form of selenium for supplementation.

**Positive Nutrient Interactions**

Studies have shown vitamin E and selenium together have protective and beneficial effects of semen quality. This combination is often successfully used to increase male fertility.

**Food Sources**
Onions, garlic, grains, Brazil nuts, lean meat, seafood, fruit and vegetables to a lesser extent. Brazil nuts are excellent source of selenium. Men should have 2-3 Brazil nuts a day to keep their sperm in good shape and increase male fertility.

**Recommended daily intake**

55 µg/day during preconception care in women, 55µg/day in men

60 µg/day during pregnancy

70 µg/day during lactation

**Recommended therapeutic dose**

In men with sperm abnormalities 200 -400 micrograms of selenium have been shown to improve overall sperm function. Doses over 400 micrograms have been shown to be toxic and should be avoided.

How to increase male fertility? Making sure you have adequate intake of selenium is one of the many steps to take into consideration. Are you experiencing male infertility? What steps have you taken to address your sperm health and trying to increase male fertility? I'd love to hear your thoughts!

**Sources:**


Keene, I. 2008. “Natural Fertility Prescription”, Australian Natural Therapeutics, Switzerland.