



Low Testosterone and Men's Health

What is the role of testosterone in men's health?

Testosterone is the most important sex hormone that men have. It is responsible for the typical male characteristics and helps maintain sex drive, sperm production, pubic and body hair, muscle, and bone. The brain controls the production of testosterone by the testes.

Low testosterone (also called hypogonadism) can cause:

- A drop in sex drive
- Poor erections
- Low sperm count
- Enlarged breasts

Over time, low testosterone may cause a man to lose body hair, muscle bulk and strength, accumulate body fat, and have weaker bones (osteoporosis), mood changes, less energy, and smaller testes.

What causes low testosterone?

Low testosterone can be caused by injury (e.g., trauma, castration, radiation or chemotherapy), testicular infection, hormonal disorders (e.g., pituitary tumors or diseases, high levels of prolactin), or other systemic diseases (e.g., HIV/AIDS, chronic liver and kidney disease, too much body fat, and type 2 diabetes and associated obesity). Some medications and several genetic conditions (e.g., Klinefelter syndrome, hemochromatosis, Kallmann syndrome, Prader-Willi syndrome, and myotonic dystrophy) also can cause low testosterone. Many older men have low testosterone levels and, in many cases, the cause is not known.

How is low testosterone diagnosed?

During a physical exam, your doctor will examine body hair, breast size, size and consistency of the testes, scrotum, penis size, and ability to see in all directions. Your doctor will also use blood tests to see if the total testosterone level is within the normal range. This is generally 300 to 1,000 ng/dL but this may differ depending on the laboratory. To diagnose low testosterone you may need more than one early-morning (7–10 AM) blood test and, sometimes, other tests of the pituitary gland.

How is low testosterone treated?

Testosterone replacement therapy can improve sexual interest, erectile function, mood and energy, body hair growth, bone density, and muscle mass. There are several methods of testosterone replacement:

- Injections
- Patches
- Gel
- Tablets (stick to the gums)

The best method will depend on the cause of the problem, the patient's preference and tolerance, and cost.

There are risks with long-term use of any testosterone delivery method for men over 50.

African American men and men over 40 years of age who have close relatives with prostate cancer, and all men over 50 years of age should be carefully monitored for prostate cancer during testosterone

Possible Risks of Testosterone Treatment

- A high red blood cell count
- Occasional stopping of breathing during sleep (sleep apnea)
- An increase in prostate enlargement or prostate cancer growth
- Fluid build-up (rarely)
- Breast enlargement
- Acne

treatment. Men with breast cancer or known or suspected prostate cancer should not receive testosterone therapy.

What should you do with this information?

If you have symptoms, talk with a specialist. An endocrinologist, an expert in hormones, can help determine the cause. Be open with your doctor about your medical history, all prescription and nonprescription drugs you are now taking, sexual problems, and any major changes in your life.

Resources

Find-an-Endocrinologist:

www.hormone.org or call
1-800-HORMONE (1-800-467-6663)

Patient's Guide to Low Testosterone:

www.hormone.org/pdf/patients_guide_low_testosterone.pdf

American Foundation for Urologic Disease: www.reproductive-health.org

MedlinePlus:

www.nlm.nih.gov/medlineplus

EDITORS:

Glenn R. Cunningham, MD
Alvin M. Matsumoto, MD
Ronald Swerdloff, MD
January 2006

For more information on how to find an endocrinologist, download free publications, translate this fact sheet into other languages, or make a contribution to The Hormone Foundation, visit www.hormone.org or call 1-800-HORMONE (1-800-467-6663). The Hormone Foundation, the public education affiliate of The Endocrine Society (www.endo-society.org), serves as a resource for the public by promoting the prevention, treatment, and cure of hormone-related conditions. This fact sheet may be reproduced non-commercially by healthcare professionals and health educators to share with patients and students.

© The Hormone Foundation 2004