

## Improving Low Testosterone Naturally

The following information is a summary of materials featured in the "[Men's Health](#)" overview. It is meant to be a quick reference for use at the point of care. For additional details and a list of helpful references, see the overview.

Hormones change as we go through the life cycle. What is normal for a 20-year-old is not the same normal as for a 60-year-old. Although low testosterone ("low T") is a diagnosis being promoted by the makers of testosterone medications, it is not as simple as just prescribing hormone replacement. A low testosterone level can be due to many factors. A clinician must also take care not to add testosterone too quickly without exploring other therapies first, because once external testosterone is given, it inhibits the body's natural production of testosterone. Testosterone supplementation is also not without risks, and in terms of long-term use, there is much about safety that we do not yet know.

### Key Factors in Optimizing Male Hormones

#### Maintain Ideal Body Weight

This is probably the most important thing a man can do. As belly fat increases, there is an increase in activity of the enzyme "aromatase" which converts testosterone in the fat cells to estrogen. This reduces testosterone and increases estrogen, which can increase fat deposition in typical female areas (breast, hips, thighs) and increase the risk of enlargement of the prostate and even prostate cancer. With every one-point drop in your body mass index (BMI) your testosterone level will increase by approximately 1 point. In fact, management of obesity may prevent declining total testosterone in the aging male.

#### Avoid Developing Diabetes

Developing diabetes increases the risk of having a total testosterone level of less than what is considered normal. Over a 10-year period, the risk for developing abnormally low testosterone levels more than doubles in diabetic individuals.

#### Exercise

A combination of aerobic (increase in heart rate) and resistance (weightlifting) training has been found to increase the production of testosterone. This also helps prevent the most common diseases that men are most likely to die from, heart disease and cancer. Overtraining in endurance sports such as American football and weight-class wrestling and excessive exercise with calorie restriction can cause testosterone deficiency as well.

#### Sleep well

Most of the body's testosterone is made during deep sleep when a person is in Rapid Eye Movement (REM). A disrupted sleep cycle with less time spent in REM has been associated with low testosterone levels.

## Avoid Tobacco Products

Tobacco reduces testosterone.

## Avoid Excessive Alcohol

Alcohol (more than two drinks a day), increases the conversion of testosterone to estrogen.

## Avoid Opioid Pain Medications

Morphine and other opiates decrease testosterone. This can go on for months to years while a person is being treated with opioid medications. Levels can drop as quickly as a few hours after starting opioids. It appears that the higher the dose of opioids, the greater the risk of low testosterone. Fortunately, this side effect should be reversible after stopping the pain medication. Of course, do not stop or change pain medication suddenly without consulting with the prescribing provider.

## Avoid Xenobiotics

Xenobiotics are compounds from the environment that mimic the body's hormones. Research has shown that the average testosterone level in men has gradually dropped over the years. This may be in part due to all the environmental toxins that have accumulated over the years. The main toxins that we know about thus far include the following:

- **Bisphenol A (BPA).** BPA is found in plastics. To avoid it, don't microwave food in plastic containers. Avoid plastic containers with the numbers 3, 6, or 7 engraved in the triangle on the product. Buy BPA-free water containers. Drinking water out of containers with the numbers 2, 4, 5, or 7 is OK. Do not drink out of Styrofoam containers.
- **Phthalates.** These chemicals are used in plastics, coatings, lubricants, and binders. Many are found in hygiene products such as shampoos and colognes. A useful website on phthalate-free products is the [Guide to Less Toxic Products](#).
- **Organophosphates.** These are mainly found in pesticides and herbicides. Eat organic when possible to avoid exposure to them.

## Avoid Excessive Stress

Cortisol levels in the blood are indicators of stress level. This steroid hormone can increase fat deposition, resulting in more conversion of testosterone to estrogen.

## Eat Well

Poor nutrition is at the root of many diseases and can also create an imbalance of male hormones.

- **Foods to avoid:**
  - Excessive sugar
  - Excessive caffeine
  - Red meat and other sources of animal fat
  - Excessive dairy products
  - Food dyes
  - Processed foods

- **Foods to include:**
  - Green tea
  - Multicolored fruits and vegetables
  - Nuts (particularly Brazil nuts which are rich in selenium—two a day is plenty)
  - Fiber (covered by eating fruits and vegetables)
  - Ground flax seed (1 tablespoon a day)
  - Soy products (soy milk instead of cow's milk)

## Consider Dietary Supplements

**Note:** Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of adulterants, and the legitimacy of claims made by the manufacturer.

To maintain healthy testosterone levels, the changes discussed above will trump any supplement, but the nutrients below have been found to inhibit aromatase and may be additive benefits.

- **Zinc** (if levels are low): 25-50 mcg daily.
- **Quercetin:** 400 mcg daily.
- **Grape seed extract:** 100-300 mcg daily. You can get all these nutrients by eating nuts, fruits (grapes and citrus), and vegetables.
- **DHEA:** 25-50 mcg daily. This OTC supplement is a precursor to testosterone found in the adrenal gland. It goes down when stress (cortisol) goes up. The best way to raise DHEA is to learn to see life in a less stressful way.

## Resource Links

- [Men's Health](https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/overview-mens-health.pdf): <https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/overview-mens-health.pdf>
- [Guide to Less Toxic Products](http://lesstoxicguide.ca/): <http://lesstoxicguide.ca/>
- [Passport to Whole Health](https://www.va.gov/WHOLEHEALTHLIBRARY/docs/Passport_to_WholeHealth_FY2020_508.pdf): [https://www.va.gov/WHOLEHEALTHLIBRARY/docs/Passport\\_to\\_WholeHealth\\_FY2020\\_508.pdf](https://www.va.gov/WHOLEHEALTHLIBRARY/docs/Passport_to_WholeHealth_FY2020_508.pdf)

## Author(s)

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