

Testosterone Treatment to Affirm Gender

This *Health Facts for You* will review the benefits and risks of taking testosterone to affirm gender. As you read through it, write down any questions or concerns you have. You can send your questions through MyChart or bring them to your next visit.

Testosterone

This is the sex hormone that triggers male puberty. You may choose to receive testosterone to make your body more masculine.

Methods for Taking Testosterone

Below are the current methods for taking testosterone. Your provider may discuss other options as they become available.

- **Subcutaneous (SC) injection** is the most common method. SC injections are given just under the skin and are given once a week. You can give yourself this treatment at home.
- **Intramuscular injections** in the muscle can also be used every two to four weeks. These are often given in the clinic.
- **Pills** have been used in the past but are not absorbed well by the body. They may cause serious liver problems.
- **Skin gels** may be used by some people. Gel is applied daily. It is important to limit the transfer of these medications to the skin of other people.

Dosage

The doses vary based on the product and the patient. Often, patients start at a low dose and slowly increase the dose until blood levels of testosterone are in a target range.

Effects of Testosterone

Permanent Changes

There are some changes from testosterone that are permanent once they happen. This means, the changes will not go away once you stop taking testosterone.

- **Deeper voice:** This may be the first change you notice. As the voice box gets larger, your voice may crack, then it will deepen over time.
- **Slow growth of moustache and beard:** Facial hair takes up to five years to reach its final pattern. This varies and is based on genetics.
- **Hair loss at the temples and crown of the head:** Many people do not have hair loss, but some do. You may develop a receding hairline or baldness depending on your family history.
- **Changes to body hair:** You will get more, thicker, and coarser hairs on abdomen (belly), arms, back, chest, and legs.
- **Bigger clitoris:** The clitoris will grow to about half an inch to a little more than an inch. You may notice that it becomes sore with tight clothing or bike riding. This tends to improve over time.

Reversible Changes

Some changes are reversible. This means that they will go away if you stop taking this medicine in the future.

- **More belly fat:** Changes include decreased fat on buttocks, hips, and thighs with increased fat in the belly. You may change from “pear shape” to an “apple shape.”
- **Muscle mass and strength changes:** Testosterone builds tissue. If you exercise and do weight training, it will be easier to gain muscle and strength. If you do not exercise much or combine aerobic exercise such as running, swimming, or cycling with weight training, you may gain weight from other tissues (like fat) instead of muscle.
- **Menstrual cycle changes:** If you have a menstrual cycle, it will likely stop within 1-6 months of starting treatment.

Features Which Will Not Change

Testosterone will have no effect on:

- **Breasts:** Losing some fat may make breasts look slightly smaller, but they will not shrink very much.
- **Speech:** The voice will deepen, but other aspects of speech may not sound more masculine.
- **Growth:** If you have gone through puberty, you will not get taller and your hands and feet will not get bigger.
- **Face/Jaw shape:** The face may change slightly as you have changes in fat distribution, but the shape of the jaw will not change.

There are other treatment options that can address these features. Please discuss with your provider.

Physical Changes Timeline		
Effect	Onset	Time to Maximum Effect
Skin oiliness/acne	1-6 months	1-2 years
Facial/body hair growth	6-12 months	4-5 years
Loss of hair on head	6-12 months	-----
Increased muscle/strength	6-12 months	2-5 years
Fat redistribution	1-6 months	2-5 year
Periods stop/increase	1-6 months	----
Larger clitoris	1-6 months	1-2 years
Vaginal dryness/thinning of skin around the vagina	1-6 months	1-2 years
Deepening of voice	6-12 months	1-2 years

Pregnancy/Fertility

The effects of testosterone on fertility are not completely known. You may or may not be able to get pregnant even after stopping treatment. You may also get pregnant while taking testosterone and even after it stops your menstrual periods. **You cannot take testosterone while pregnant.**

Birth Control

Testosterone is not birth control. You will need to use at least one form of birth control if you want to prevent pregnancy. Your provider can tell you about your birth control options.

Pregnancy Planning

If you want to become pregnant or give an egg to a pregnancy in the future, there are options. These options may include treatments to preserve fertility, lower doses of testosterone, or waiting to start treatment. It may be harder to get pregnant if you have been on testosterone for many years.

Questions/Notes:

[illegible]

Risks

This treatment does have risks. Risks include:

- **Acne** which may cause permanent scars.
- **Headache** caused by changes in hormones. It can sometimes trigger or worsen migraines. Talk with your provider if headaches are frequent or the pain is very severe.
- **Increased red blood cell count and hemoglobin.** This should only increase into the normal male range. There is a small chance that higher levels of red blood cells and hemoglobin may increase your risk of stroke or heart attack. You will need to have regular blood checks as long as you are on this medicine.
- **Less good cholesterol (HDL)** which protects against heart disease.
- **More bad cholesterol (LDL)** which can increase the risk of heart disease.
- **Higher blood pressure.**
- **Weight gain** and more fat deposits around internal organs.
- **Increased risk of heart disease** if people in your family have had heart disease or if you have a higher body mass index or use nicotine.
- **Drug interactions.** Testosterone may interact with other drugs, such as diabetes or blood thinning medicines.
- **Emotional changes.**
- **High blood pressure.**
- **Infertility or decreased fertility**
- **Hair loss**, or male pattern baldness
- **Increased diabetes risk** due to your body's decreased response to insulin.

Questions/Notes:

Adapted from: Table 12 From: Wylie C Hembree, Peggy T Cohen-Kettenis, Louis Gooren, Sabine E Hannema, Walter J Meyer, M Hassan Murad, Stephen M Rosenthal, Joshua D Safer, Vin Tangpricha, Guy G T'Sjoen; Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline, The Journal of Clinical Endocrinology & Metabolism, Volume 102, Issue 11, 1 November 2017, Pages 3869–3903, <https://doi.org/10.1210/jc.2017-01658>.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 8/2024 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF#8317.