

# Masculinizing Hormone Therapy

## What Is It And Is It Right For Me?

*CHA is committed to providing the transgender community access to high quality health care and services. We offer hormone therapy for adults and adolescents who are 16 or older and access to services to those under 16. Our CHA providers will work with you to support the decision that is best for you.*

**What are hormones?** Hormones are chemical messengers that tell tissues of the body how to function, when to grow, when to divide and when to die. They control many functions of the body, including growth, sex drive, hunger, thirst, digestion, metabolism, fat burning and fat storage, blood sugar, cholesterol levels and reproduction.

**What are sex hormones?** Sex hormones are involved in the development of the penis and testicles, or the vulva and clitoris (external genitals). Sex hormones also affect the secondary sex characteristics that typically develop at puberty. These characteristics include facial and body hair, bone growth, breast growth and voice changes.

**There are three categories of sex hormones in the body:**

- Androgens: testosterone, dehydroepiandrosterone (DHEA), dihydrotestosterone (DHT)
- Estrogens: estradiol, estriol, estrone
- Progestin: progesterone

Generally, people with testicles tend to have higher androgen levels, and people with ovaries tend to have higher levels of estrogens and progestogens.

## What Is Masculinizing Hormone Therapy?

Hormone therapy can help transgender people feel more comfortable in their bodies. It involves taking medication to change the levels of sex hormones in your body. Changing these levels will affect your hair growth, fat distribution, muscle mass and other features that are associated with sex and gender.

Masculinizing hormone therapy can help make the body look and feel less “feminine” and more “masculine” — making your body more closely match your identity.

During masculinizing hormone therapy, you’ll be given the male hormone testosterone, which is the main hormone responsible for promoting “masculine” physical traits while suppressing your menstrual cycles and decreasing the production of estrogen from your ovaries. Changes caused by these medications can be temporary or permanent.

Masculinizing hormone therapy can affect your fertility and sexual function and cause other health problems. Your CHA providers will help you weigh the risks and benefits associated with masculinizing hormone therapy specific to you.

**What are the benefits of masculinizing hormone therapy?** Masculinizing hormone therapy has important physical and psychological benefits. Bringing mind and body closer together eases gender dysphoria and can help you feel better about your body. After starting hormones, people who have had gender dysphoria often describe being less anxious, less depressed, calmer and happier.

Research suggests masculinizing hormone therapy can be safe and effective as long as you maintain hormone levels in the normal range for the target gender.

**Masculinizing hormone therapy isn't for everyone, however.** Your provider might discourage masculinizing hormone therapy if you:

- Had or have a hormone-sensitive cancer, such as prostate cancer
- Have uncontrolled behavioral health conditions
- Have uncontrolled significant medical conditions
- Have a condition that limits your ability to provide informed consent

## What Medications Are Involved?

Testosterone is the main hormone responsible for promoting “masculine” physical traits and is usually used for hormonal “masculinization.” Testosterone works on tissues in your body (such as stimulating growth of your clitoris). Testosterone alone will eventually stop menstrual cycles, but to stop them immediately, speak to your provider about available treatments. Testosterone can be taken either by injection or by applying a skin patch, cream or gel.

**What is a typical dose?** Testosterone therapy varies greatly. Deciding what to take depends on your health and gender goals. Each type of testosterone has different risks and side effects. In prescribing a specific medicine and dose, your provider will consider your overall health, including any other medicines you are taking. Every person is different — each body absorbs, processes and responds to sex hormones differently.

If you have your ovaries removed in the future, you may need a different dose of testosterone. To maintain the full effects of testosterone, you will need to stay on it or another form of medicine for the rest of your life. In addition, to preserve bone strength, your CHA provider may also suggest you take calcium and Vitamin D supplements.

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## What Are The Risks For Masculinizing Hormone Therapy?

Talk to your provider about the changes in your body and any concerns you might have.

### Complications of masculinizing hormone therapy include:

- Weight gain
- Acne
- Developing male-pattern baldness
- Sleep apnea
- High blood pressure
- Pelvic pain
- Developing an abnormal level of cholesterol and other lipids, which may increase cardiovascular risk (dyslipidemia)
- Type 2 diabetes
- Infertility
- Clitoral discomfort
- Deep vein thrombosis and/or pulmonary embolism (venous thromboembolism) if red blood cell levels get too high
- Producing too many red blood cells (polycythemia)
- A condition where the lining of the vagina becomes drier and thinner (atrophic vaginitis)

**Will I be able to have children?** The long-term effects of testosterone on fertility are not fully understood. Masculinizing hormone therapy might reduce your ability to have children as the risk of permanent infertility increases with long-term use of hormones. The ability to get pregnant may not come back even if you stop taking testosterone. If you want to have biological children, talk to your provider about your options before beginning masculinizing hormone therapy.

Although testosterone can permanently affect your fertility, there may still be a chance you could get pregnant even after starting hormone therapy. **Depending on how you have sex, you may need to use birth control.**

## How Can I Prepare For Masculinizing Hormone Therapy?

Before starting masculinizing hormone therapy, your provider will evaluate your health to rule out or address any medical conditions that might affect or contraindicate treatment.

### The evaluation might include:

- A review of your personal and family medical history
- A physical exam, including an assessment of your external reproductive organs
- Lab tests measuring your lipids, blood sugar, blood count, liver enzymes and electrolytes, and a pregnancy test
- A review of your immunizations
- Age- and sex-appropriate screenings, such as pap smears or mammograms
- Identification and management of tobacco use, drug abuse, alcohol abuse, HIV and other sexually transmitted infections
- Discussion about contraception and your desire for future fertility
- Discussion about use of potentially harmful treatment approaches, such as unprescribed hormones

**You might also need a behavioral health evaluation by a provider with expertise in transgender health. The evaluation might assess:**

- Your gender identity and gender dysphoria
- The impact of your gender identity at work, school, home and social environments, including issues related to discrimination, relationship abuse and minority stress
- Mood or other mental health concerns
- Sexual health concerns
- Risk-taking behaviors, including substance use or unapproved hormone therapy or supplements
- Protective factors such as social support from family, friends and peers
- Your goals, risks and expectations of treatment and your future care plans

**What Changes Can I Expect?**

For some people, this psychological change happens as soon as they start taking hormones. For others, it happens a bit later as physical changes appear. Each person changes differently. How quickly changes appear for you depends on your age, the number of hormone receptors in your body and the way your body responds to the medicine. There is no way to know how your body will respond before you start hormones.

**Androgen blocker (spironolactone) without estrogen**

Taking spironolactone (the most common androgen blocker) without estrogen has small effects blocking the effect of testosterone in your body. Most of the changes are reversible, which means if you stop taking it, your body will go back to how it was before you started taking the medicine. Androgen blockers affect the whole body. You cannot pick the changes you want.

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Average Timeline	Effect
After 1 to 3 months	<ul style="list-style-type: none"> <li>• Increased sex drive</li> <li>• Vaginal dryness</li> <li>• Growth of your clitoris (typically 1 to 3 cm)</li> <li>• Increased growth, coarseness and thickness of hairs on arms, legs, chest, back and abdomen</li> <li>• Oilier skin and increased acne</li> <li>• Increased muscle mass and upper body strength</li> <li>• Redistribution of body fat (more around waist and less around hips)</li> </ul>
After 1 to 6 months	<ul style="list-style-type: none"> <li>• Menstrual periods stop</li> </ul>
After 3 to 6 months	<ul style="list-style-type: none"> <li>• Voice starts to crack and drop (can take up to a year to finish changing fully)</li> </ul>
Gradual changes (usually takes at least 1 year)	<ul style="list-style-type: none"> <li>• Gradual growth of facial hair (usually takes 1 to 4 years to reach full growth)</li> <li>• Possible “male”-pattern balding</li> </ul>

Most of the effects of hormones happen in the first 2 years. During this time, the provider who prescribes your testosterone will want to see you regularly. This will continue until the dose that is best for you is determined and blood tests show you are at a consistent level. At appointments in the first 2 years, your provider will likely:

- Look at your facial and body hair. If you shave, your provider will ask how quickly your hair grows back
- Ask about changes to your sex drive, clitoris or other sexual changes; menstrual period, skin and voice
- Order blood tests to check your hormone levels
- Ask how you feel about the changes that have happened
- After 2 years have passed, you will likely just be asked if you notice any further changes from the hormones

**Are the changes permanent?** Most of the changes you will notice from testosterone are not fully reversible, even if you stop taking testosterone.

- **Permanent (not reversible):** clitoral growth, deeper voice, hair growth. “Male”-pattern baldness may or may not happen, based on your family history.
- **May or may not reverse:** body and facial hair will decrease but usually does not completely disappear, the ability to get pregnant.
- **Reversible:** menstrual periods will return and changes to fat, muscle and skin will reverse.

## What Will Not Change?

Hormone therapy will not change some physical characteristics, and some are only slightly changed. These include aspects of your body that develop before birth (vagina, sex chromosomes, etc.) and also physical characteristics that developed from the increase in estrogen at puberty.

Breast tissue will not go away. Testosterone may slightly change the shape of your chest by increasing muscle mass and decreasing fat. Some people have “top surgery,” a surgery to remove breast tissue and reshape their chest.

Once your bones have stopped growing after puberty, testosterone cannot change the size or shapes of your bones. There are no treatments you can take to increase your height or the size of your hands and feet.

## What Else Should I Know?

**You will need routine preventive care if you haven’t had certain surgical interventions, including:**

- **Breast cancer screening:** This should be done according to age-appropriate breast cancer screening recommendations for cisgender women. If mammography isn’t possible due to masculinizing chest surgery, breast self-exams are recommended.
- **Cervical cancer screening:** This should be done according to age-appropriate cervical cancer screening recommendations for cisgender women. Make sure the provider doing your pap smear knows you are on testosterone and notes that on the paperwork sent with your test. This therapy can cause your cervical tissues to thin (cervical atrophy), which might mimic a condition in which abnormal cells are found on the surface of the cervix (cervical dysplasia).
- **Evaluation of vaginal bleeding:** If you have persistent or recurrent vaginal bleeding, early evaluation is important.
- **Supplementation:** This includes standard calcium and vitamin D supplementation, along with bone density assessment according to the age-appropriate recommendations for cisgender men.

## Transgender Care at CHA

CHA earned the coveted “LGBTQ+ Healthcare Equality Leader” designation for 2022 in the Human Rights Campaign Foundation’s 15th anniversary edition of the Healthcare Equality Index. Visit our [LGBTQ+ Living Well](#) and [Transgender Care](#) pages to find out more about our commitment to caring for the transgender and gender diverse communities.

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*“Masculinizing Hormone Therapy.” Mayo Clinic, Mayo Foundation for Medical Education and Research, 1 Nov. 2022, <https://www.mayoclinic.org/tests-procedures/masculinizing-hormone-therapy/about/pac-20385099>.*