UC **SANTA BARBARA**

Student Health Service

Testosterone Information and Consent

Testosterone is used to reduce estrogen-related features and induce testosterone-related features to make a person feel more at ease in their body.

It is important to know what to expect from taking testosterone, including the physical and emotional changes, side effects, and potential risks. The use of testosterone to treat gender dysphoria is not FDA-approved.

At Student Health, testosterone is available in two forms: a weekly injectable or a daily topical gel. Each person responds differently to taking testosterone, and the amount of change varies from person to person. This chart outlines the most common effects and timelines.

Testosterone-related effects:

Testosterone-related changes may include:	**Expected onset**	**Expected maximum effect**	**Effect**
Deeper voice	3-12 months	1-2 Years	Permanent
Increase in body and facial hair	3-6 months	3-5 years	Permanent
Growth of the external genitals (clitoris)	3-6 months	1-2 years	Permanent
Scalp hair loss (balding)*	>12 months	Variable	Permanent
Decreased fertility	Variable	Variable	Possibly Permanent
Cardiovascular changes	Variable	Variable	Possibly Permanent
Increased muscle mass	6-12 months	2-5 years	Reversible
Fat redistribution, possible weight change	3-6 months	2-5 years	Reversible
Mood and emotional changes	Variable	Variable	Reversible
Changes to libido, sexual interests, or sexual function	Variable	Variable	Reversible
Skin changes, including increased oil and acne*	1-6 months	1-2 years	Reversible *scarring may be permanent
Dryness of genitals (vagina and vulva)*	3-6 months	1-2 years	Reversible
Lighter or no monthly bleeding (period)	2-6 months	n/a	Reversible
Increase of red blood cells	3-6 months	Variable	Reversible

*Medical interventions are available to help with hair loss, acne, and genital dryness

Benefits that hormone therapy can have on health and quality of life:

- decreased discomfort related to gender
- increased comfort in body
- increased success in work, school, & relationships
- improved mental health

Testosterone-related effects: potential risks and outcomes explained:

The greatest threat to the health of trans and gender diverse (TGD) people is the well-documented high rates of discrimination and trauma these communities experience. Transphobia and its associated socio/economic effects can cause toxic stress, leading to negative mental and physical health outcomes. Research shows that the mental health and psychosocial outcomes for those taking hormones are overwhelmingly positive. Many consider gender-affirming care to be life-saving, life-changing medical treatment that allows them to live more authentic lives.

Voice

Testosterone will cause the vocal cords to thicken, likely resulting in a deeper voice. As is commonly associated with testosterone-dominant puberty, voice breaking, squeaking, and sudden jumps in pitch are common as the body adjusts to changes. Voice changes can also affect singing, vocal range, and more. Voice is as much about the method of speaking as it is about vocal cord thickness. Some may find that practicing various vocal techniques or working with a speech therapist may help them develop a voice that feels more comfortable and fitting. Voice changes related to testosterone are PERMANENT.

Body, Head, and Facial Hair

Testosterone typically causes an increase in thickness, coverage, and length of body and facial hair. It can also trigger Androgenic Alopecia, commonly known as Male Pattern Baldness, if genetically predisposed. Head hair growth or loss is highly dependent on genetics and will likely reflect the experiences of biological family members who have also experienced testosterone-dominant puberty. Some individuals also report changes in hair texture or color. Any facial hair growth, body hair growth, and balding will be PERMANENT. If testosterone is stopped, the progression of male pattern baldness may stop (but will not reverse), and body hair may become softer and thinner.

Growth of the External Genitals/"Bottom Growth"

Testosterone will cause the genitals, specifically the clitoris, to grow into what many people refer to as "bottom growth". Growth varies greatly by person and is highly dependent on existing genital configuration. Bottom growth may become even larger when aroused, similar to an erection. As the body is changing, genitals may be especially sensitive and at times uncomfortable, but this should subside once growth is complete. Bottom growth is PERMANENT and not reversible.

Fertility

Testosterone can suppress ovulation and reduce fertility within weeks to months of initiation, but the timing and degree of fertility impairment is variable and not fully predictable. The reversibility of fertility impairment after discontinuing testosterone is variable; some individuals have achieved pregnancies after stopping testosterone, but the recovery time for ovulatory function is not well defined and may depend on the duration of therapy and individual factors.

Testosterone is not a contraceptive. Even if periods stop, pregnancy is still possible. Those having penetrative sex with a sperm producing partner should discuss birth control options with their medical provider. If there is interest in becoming pregnant or having biological children in the future, talk to a provider about options before starting testosterone.

Testosterone can endanger a fetus, so it is important to avoid pregnancy while taking testosterone and stop immediately if pregnant.

Cardiovascular Changes

Cardiovascular risks appear to increase while on testosterone, but data is lacking, and best practice is to work to mitigate lifestyle factors. Limited research suggests a possible increase in triglycerides and systolic blood pressure, and a decrease in HDL cholesterol. Permanency of effects is unknown and likely depends on the age at which hormones are begun and the total length of exposure.

Increased Muscle Mass
Testosterone can cause an increase in muscle mass and strength, although changes will vary depending on diet, activity levels, and genetics. Muscle mass changes are REVERSIBLE, though muscle gain may take some time to return to pre-testosterone levels.

Fat Redistribution and Weight Changes
Testosterone can adjust how the body distributes/carries weight. Fat will tend to go more to the abdomen and mid-section. Fat may decrease around the chest, but the mammary glands and tissue will remain. Clothes or shoes may fit differently, but bone structure will remain the same. Fat redistribution may also subtly change the appearance and angularity of the face. Increased appetite and weight gain (muscle and fat) are also possible. Weight gain could lead to other weight-related complications, such as diabetes or sleep apnea. Fat redistribution is REVERSIBLE, though weight changes may take some time to readjust, and a return to pre-testosterone levels is not guaranteed.

Mood and Emotional Changes
Changes in mood or thinking may occur. Some people have reported decreased emotional reactions (e.g., difficulty crying) and/or increased feelings of irritability/aggression while on testosterone. However, most people find that their overall mental health improves after starting hormone therapy. Mood and emotional changes are REVERSIBLE. The effects of hormones on the brain are not fully understood, and it is impossible to predict how hormone therapy may interact with preexisting mental health conditions such as depression, bipolar disorder, and schizophrenia.

Libido, sexual interests, and sexual function
Testosterone will likely cause an increase in libido or sex drive. Orgasms will feel different, with perhaps more peak intensity and a greater focus on the genitals than a whole body experience. Different sex acts, body parts, or people may bring sexual arousal or pleasure. Some people find that their sexual interests, attractions, or orientation may change when taking testosterone. Changes to libido, sex drive, and sexual function are typically REVERSIBLE, though discoveries of sexual interest made while on testosterone may remain.

Skin Changes and Acne
Skin may become a bit thicker, rougher, and more oily on testosterone. Acne may develop, which in some cases can be severe or leave permanent scarring, but usually can be aided by good skin care practices. Some people may require prescription medications to manage acne, which should be discussed with a provider. Generally, acne severity peaks during the first year of treatment, and then gradually improves.

The odors of sweat and urine will change, and the amount of sweat may increase overall. There may also be changes in how one perceives their senses. For example, touching things may "feel different," and the perception of pain and temperature may change. Skin changes are REVERSIBLE, but acne scarring may be permanent.

Dryness of Genitals
The internal (vagina) and external (vulvar) genital tissue may become drier and more fragile, which can cause irritation, discomfort, and loss of elasticity (atrophic vaginitis). Using lube with penetration can help compensate for any loss of natural lubrication and prevent pain or tearing. Those concerned about this symptom should talk to their medical provider about additional management options (e.g., topical estrogen). Dryness of the genitals is typically REVERSIBLE.

Changes to Menstrual Cycle

Testosterone will likely make periods stop, but it is NOT contraception. Some report still experiencing a hormone cycle, even without bleeding. Period may resume if testosterone is paused, stopped, or if medication is not taken on a regular schedule. Period symptoms may also be managed with birth control; ask a provider to learn more. The cessation of periods is REVERSIBLE and will likely resume if testosterone is paused or stopped (unless surgical measures are taken). Menstrual cycle may also be affected by birth control and other medications or factors.

Increased Red Blood Cells

Testosterone triggers erythrocytosis, an increased production of red blood cells. Because red blood cells carry oxygen to the body, having more of them may improve athletic performance and reduce fatigue. This increase also thickens the blood, which can impair blood flow and lead to complications such as blood clots, stroke, and heart attack. Blood tests are used to monitor red blood cell count and hematocrit (the percentage of blood volume taken up by red blood cells). The increase in red blood cell production is REVERSIBLE, but complications may remain.

Risks and outcomes may be affected by:

- Pre-existing physical or mental health conditions
- Cigarette smoking or other substance use
- Consistency of medication administration
- Family history of health conditions
- Nutrition, exercise, stress
- Amount of time consistently on medication

Those who are pregnant, trying to become pregnant, or have been diagnosed with a testosterone-dependent cancer should not take testosterone

Alternatives to testosterone:

Some changes to one's body can be achieved with diet and exercise. Appearance can be temporarily altered using a variety of gender-affirming products. Permanent changes to the body can be made using gender-affirming surgery. A provider can discuss options, answer questions, and suggest alternatives to hormone replacement therapy if requested. Testosterone can be stopped or paused at any time.

Important considerations to ensure the best outcomes:

- Taking testosterone in higher than recommended doses will increase the risks of testosterone treatment. Higher doses will not necessarily work better; in fact, abnormally high amounts of testosterone can be converted to estrogen that may interfere with desired effects.
- Hormone therapy can be discontinued at any time and for any reason. Discussion with a medical provider is encouraged.
- Keep regular follow-up appointments. In the first year of treatment, visits are recommended at least every three months.
- To ensure that testosterone treatment is safe and effective, regular blood testing will be done. When measuring hormone levels, the blood draw should be performed within a day or two before the next injection is due or at least 4 hours after applying topical medication.
- Health maintenance and screenings such as routine STI testing, Pap smears, and mammograms will be advised when applicable.
- The prescription or dosage of testosterone may need to be adjusted or paused if there are medical and/or safety concerns; all treatment decisions should be a conversation between the medical provider and their patient.
- Any new physical symptoms or medical conditions while taking testosterone should be communicated to the medical provider. Providers are here to help and work best when they have all the information.
- Many effects of testosterone are outwardly visible. Physical transition may increase the chances of harassment, targeting, or outing if perceived by others. It is recommended that all patients consider any possible effects this visibility may have on their living situation, interpersonal relationships, and financial stability before starting hormone replacement therapy.

Questions or concerns?

If you would like to talk to someone about transition options before meeting with a medical provider, please email equity@sa.ucsb.edu. For more resources and information on gender affirmation and exploration at UCSB, refer to our Trans@UCSB webpage.

Please sign:

I acknowledge that I have read this information in its entirety and have had the opportunity to ask my provider any questions.

X_____

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