

Information on Testosterone Hormone Therapy

Hi, I'm Dr. Maddie Deutsch, Director of Clinical Services at the UCSF Center of Excellence for Transgender Health. I'd like to talk to you about some of the risks, expectations, long term considerations, and medications associated with your transition from female to male.

Many people are eager for hormonal changes to take place rapidly—I understand that. But it's very important to remember that the extent of, and rate at which your changes take place, depend on many factors. These factors include your genetics, the age at which you start taking hormones, and your overall state of health.

Consider the effects of hormone therapy as a second puberty, and puberty normally takes several years for the full effects to be seen. Taking higher doses of hormones will not necessarily bring about faster changes, but it could endanger your health. And because everyone is different, your medicines or dosages may vary widely from those of your friends, or what you may have read in books or online.

There are four areas where you can expect changes to occur as your hormone therapy progresses.

Physical changes

The first is physical.

The first changes you will probably notice are that your skin will become a bit thicker and more oily. Your pores will become larger and there will be more oil production. You may develop acne, which in some cases can be bothersome or severe, but can be managed with good skin care practices and common acne treatments. You'll also notice that the odors of your sweat and urine will change and that you may sweat more overall.

When you touch things, they may “feel different” and you may perceive pain and temperature differently.

Your breasts will not change much during transition, though you may notice some breast pain, or a slight decrease in size. For this reason, some breast surgeons recommend waiting at least six months after the start of testosterone therapy before having chest reconstructive surgery.

Your body will begin to redistribute your weight. Fat will diminish somewhat around your hips and thighs. Your arms and legs will develop more muscle definition, and a slightly rougher appearance, as the fat just beneath the skin becomes a bit thinner. You may also gain fat around your abdomen, otherwise known as your “gut.”

Your eyes and face will begin to develop a more angular, male appearance as facial fat decreases and shifts. Please note that it's not likely your bone structure will change, though some people in their late teens or early twenties may see some subtle bone changes. It may take 2 or more years to see the final result of the facial changes.

Your muscle mass will increase, as will your strength, although this will depend on a variety of factors including diet and exercise. Overall, you may gain or lose weight once you begin hormone therapy, depending on your diet, lifestyle, genetics and muscle mass.

Testosterone will cause a thickening of the vocal chords, which will result in a more male-sounding voice. Not all transmen will experience a full deepening of their voice with testosterone, and some men 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 may begin within just a few weeks of beginning testosterone, first with a scratchy sensation in the throat or feeling like you are hoarse. Next your voice may break a bit as it finds its new tone and quality.

Let's talk about hair. The hair on your body, including your chest, back and arms will increase in thickness, become darker and will grow at a faster rate. You may expect to develop a pattern of body hair similar to other men in your family—just remember, though, that everyone is different and it can take 5 or more years to see the final results.

Regarding the hair on your head: most trans men notice some degree of frontal scalp balding, especially in the area of your temples. Depending on your age and family history, you may develop thinning hair, male pattern baldness or even complete hair loss.

Lastly, everyone is curious to know about facial hair. Beards vary from person to person. Some people develop a thick beard quite rapidly, others take several years, while some never develop a full and thick beard. This is a result of genetics and the age at which you start testosterone therapy. Non-transgender men have varying degrees of facial hair thickness and develop it at varying ages, just as with trans men.

Emotional state changes

The second impact of hormone therapy is on your emotional state.

Puberty is a roller coaster of emotions and the second puberty that you will experience during your transition is no exception. You may find that you have access to a narrower range of emotions or feelings, or have different interests, tastes or pastimes, or behave differently in relationships with people.

Psychotherapy is not for everyone, but most people in transition will benefit from counseling that helps them get to know their new body and self while exploring their new thoughts and feelings.

Sexual changes

The third impact of hormone therapy is sexual in nature.

Soon after beginning hormone treatment, you will likely notice a change in your libido. Quite rapidly, your clitoris will begin to grow and become even larger when you are aroused. You may find that different sex acts or different parts of your body bring you erotic pleasure. Your orgasms will feel different, with perhaps more peak intensity and a greater focus on your genitals rather than a whole body experience. Some people find that their sexual orientation may change when taking testosterone; it is best to explore these new feelings rather than keep them bottled up.

Don't be afraid to explore and experiment with your new sexuality through masturbation and with sex toys. Involve your sexual partner if you have one.

Reproductive system changes

The fourth impact of hormone therapy is on the reproductive system.

You may notice at first that your periods become lighter, arrive later, or are shorter in duration, though some may notice heavier or longer lasting periods for a few cycles before they stop altogether.

Testosterone greatly reduces your ability to become pregnant but it does not completely eliminate the risk of pregnancy. Transgender men can become pregnant while on testosterone, so if you remain sexually active with a non-transgender man, you should always use a method of birth control to prevent unwanted pregnancy.

If you suspect you may have become pregnant, discontinue testosterone treatment and see your provider as soon as possible, as testosterone can endanger the fetus.

If you do want to have a pregnancy, you'll have to stop testosterone treatment and wait until your doctor tells you that it's okay to begin trying to conceive.

It's also important to know that, depending on how long you've been on testosterone therapy, it may become difficult for your ovaries to release eggs, and you may need to use fertility drugs or expensive techniques such as in vitro fertilization to become pregnant. It is also possible testosterone therapy may have caused you to completely lose the ability to become pregnant. Freezing fertilized eggs is a possibility but is very expensive and not always effective.

Cancer risks

Let's talk about some of the risks associated with testosterone therapy.

If you miss a dose of testosterone or change your dosage, you may experience a small amount of spotting or bleeding. However if your periods have stopped, be sure to report any return of bleeding or spotting to your doctor, who may request an ultrasound to be certain the bleeding isn't a symptom of an imbalance of the lining of the uterus. Sometimes such an imbalance could lead to a precancerous condition, although this is extremely rare in transgender men. Some men may experience a return of spotting or heavier bleeding after months or even years of testosterone treatment. In most cases this represents changes in the body's metabolism over time. To be safe, always discuss any new or changes in bleeding patterns with your doctor.

It is unclear if testosterone treatment causes an increased risk of ovarian cancer. Ovarian cancer is difficult to screen for, and most cases of ovarian cancer are discovered after it is too late to be treated. A periodic pelvic examination, where your doctor uses a gloved hand to examine your vagina, uterus and ovaries is recommended to help detect this condition.

Your risk of cervical cancer, or HPV, relates to your past and current sexual practices, but even people who have never had a penis in contact with their vagina may still contract an HPV infection. The HPV vaccine, can greatly reduce your risk of cervical cancer, and you may want to discuss this with your provider. Pap smears are used to detect cervical cancer or precancer conditions such as an HPV infection. Your provider will make a recommendation as to how often you should have a pap smear. It is unclear if testosterone therapy plays any role in HPV infections or cervical cancer.

Some experts recommend a full hysterectomy which would include removal of the uterus, ovaries, and fallopian tubes--5-10 years after beginning testosterone treatment to minimize the risk of cancer and eliminate the need for screening.

Testosterone treatment does not seem to significantly increase the risk of breast cancer, but there's not enough research to be certain. However it is still important to receive periodic mammograms or other screening procedures as recommended by your doctor. After breast removal surgery, there is still a small amount of breast tissue left behind. It may be difficult to screen this small amount of tissue for breast cancer, though there are almost no cases of breast cancer in transgender men after chest reconstruction surgery.

Other risks

As a result of your testosterone treatment, your overall health risk profile will change to that of a man. Your risk of heart disease, diabetes, high blood pressure, and high cholesterol may go up, though these risks may still be less than a non-transgender man's risks. Since men on average live about 5 years less than

women, you could theoretically be shortening your lifespan, though there is not enough research data to know for sure. Fortunately, since you do not have a prostate, you have no risk of prostate cancer and there is no need to screen for this condition.

There are a few other risks associated with testosterone therapy that you should know about.

Testosterone can make your blood become too thick, otherwise known as a high hematocrit count, which can cause a stroke, heart attack or other conditions. This can be a particular problem if you are taking a dose that is too high for your body's metabolism. Your cholesterol could potentially increase when taking testosterone. Your doctor will perform periodic tests of your blood count, cholesterol, kidney functions, and liver functions, and a diabetes screening test in order to closely monitor your therapy. Though it's not necessary to routinely check your testosterone level, which is an expensive process, your doctor may choose to check it for a variety of reasons – usually if you are having unpleasant symptoms or ongoing bleeding.

Some of the effects of hormone therapy are reversible, if you stop taking them. The degree to which they can be reversed depends on how long you have been taking testosterone. Clitoral growth, facial hair growth, voice changes and male-pattern baldness are not reversible.

If you have had your ovaries removed, it is important to remain on at least a low dose of hormones post-op until you're at least 50 and perhaps older to prevent a weakening of the bones, otherwise known as osteoporosis.

Those are many of the risks for you to consider and discuss with your doctor should you have any questions. Now let's discuss some practicalities of hormone therapy.

Treatment tips

Testosterone comes in several forms. Most transgender men use an **injectable** form to start. Some chose to begin on a lower dose and increase slowly, while others chose to begin at a standard dose. Both approaches have their pros and cons; you should discuss with your doctor the best option for you. Testosterone levels tend to be most even, over time, when the injections are given weekly.

In addition to injections, there are also **transdermal** forms of testosterone, including patches, gels, and creams. In some men these forms cause changes to progress at a slower pace. .

Regardless of the type of testosterone you are taking, it's important to know that **taking more testosterone will not make your changes progress more quickly**, but could cause serious health complications. Excess testosterone can be converted to estrogen, which may increase your risks of uterine

imbalance or cancer. It can also make you feel anxious or agitated, and cause your cholesterol or blood count to get too high.

In conclusion, please be patient and remember that all of the changes associated with the puberty you're about to experience can take years to develop.

Thank you for reading and for taking care of your health.

UCSF Transgender Care

2356 Sutter St, 3rd Floor, San Francisco, CA 94143

Phone: (415) 885-7770

Fax: 415-353-3399

© 2019 The Regents of the University of California