

# Information about Feminizing Hormone Treatment

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*You are considering taking feminizing hormones, so here is some important information about some of the medications, risks, expectations, and long-term considerations associated with feminizing hormone treatment.*

To date, no controlled clinical trials of any feminizing/masculinizing hormone regimen have been conducted to evaluate safety or efficacy in producing physical transition. As a result, wide variation in doses and types have been published in the medical literature. It is important to remember that everyone is different; the extent of change and the 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.

It is also important to remember that because everyone is different, your medicines or dosages may vary widely from those of your friends, or from what you may have read in books or online. Many people are eager for changes to take place rapidly; please remember that you are going through a process often likened to a second puberty, and puberty normally takes several years for the full effects to be seen. Taking higher doses of hormones will not necessarily make things move more quickly; it may, however, endanger your health.

Feminizing hormone therapy may include three different kinds of medicines: estrogen, testosterone blockers, and progesterones:

## Estrogen

Estrogen is the hormone responsible for most feminine characteristics. It causes the physical changes of transition, as well as many of the emotional changes. Estrogen may be given as a pill, by injection, or by a number of preparations applied to the skin, such as a cream, gel, spray, or patch.

Pills are convenient, cheap and effective, but they are hard on your liver and are less safe after age 35 or if you smoke. Patches can be very effective and safe, they may cost a little more than pills, and they require that you wear them at all times. Sometimes they may irritate your skin. Creams, sprays and gels are very effective and safe, and absorb quickly into your skin. These tend to be a bit more expensive, and may not work as well for people who have testicles.

## *Risks related to estrogen*

Risks associated with estrogen include high blood pressure, blood clots, liver problems, stroke, and perhaps diabetes. Also, there are potential unknown risks since there is still not a lot of research on the use of estrogen for the purpose of gender transition. It is possible that in the future we may learn about more risks or side effects, particularly when using estrogen for many years. Contrary to what many may believe, a very small amount of estrogen is needed to deliver the maximum effect. Taking very high doses of estrogen does not necessarily make changes happen more quickly, but it can be dangerous and harmful to your health.

There is not much scientific evidence about the risks of cancer in individuals assigned male at birth who take estrogen. Many believe that one's risk of prostate cancer will go down, but this conclusion is not definitive, and therefore you will still need to be tested for prostate cancer when appropriate. Your risk of breast cancer may increase slightly, though it will still be less than the risks for an individual assigned female at birth. Breast cancer screening with mammograms is recommended to begin between ages 40 and 50 in people who have been on hormones for more than 2-3 years.

## *Estrogen injections*

Some individuals assigned male at birth are interested in taking estrogen injections. Estrogen injections may be appropriate for some people in some cases. When you take estrogen injections, you will have the same amount of estrogen as a pregnant cisgender woman. This can make you feel nauseated, tired, or cause you to gain weight or have mood swings. In people who smoke, or people over 35-40 years old, this high level of estrogen can be dangerous and increase your risk of stroke, blood clots, diabetes, or other disorders. If the prescriber does start you on estrogen

injections, you should expect to stop them after 1-2 years, since the body is not designed to be constantly exposed to such high levels of estrogen. When you stop the injections and switch to another form of estrogen, you may feel sick for a while, with mood swings, anxiety, and other symptoms as your body re-adjusts to the lower and healthier levels of estrogen. Estrogen may also overwork the liver and there is a risk for liver damage. Your prescriber will periodically check your liver functions, cholesterol, and perform a diabetes-screening test to monitor your health while on estrogen therapy. After genital surgery or orchiectomy (removal of the testicles), your estrogen dose would be lowered, and estrogen injections may be stopped. Once the testicles are removed, very little estrogen is needed to maintain feminine characteristics.

### Testosterone blockers (androgen reducing medications or “anti-androgens”)

There are a number of medications that can be used to block testosterone. Some of these drugs block the action of testosterone in the body, and some of them also prevent the production of testosterone. Most of the testosterone blockers are very safe. The most commonly used testosterone blocker, spironolactone, does have some side effects. Spironolactone may cause excessive urination, which can lead to dizziness or lightheadedness. It is important to drink plenty of fluids when taking this medicine. Also, spironolactone can interact with some blood pressure medicines and can be dangerous in people with kidney problems. It is important to share your full medical history and medication list with your physician or medical provider so that they can be aware of any possible drug interactions. People taking spironolactone must have their potassium levels checked periodically, as it can rarely get dangerously high, which may cause cardiac arrest.

### Progesterone

Progesterone use is a source of debate among both providers and some individuals assigned male at birth. Progesterone has a number of reported benefits, such as improved mood, energy or libido, better breast development, or better body fat redistribution and “curves”. There are concerns regarding potential adverse effects of progesterone, including depression, weight gain, and lipid changes. Progesterone is also suspected to increase breast cancer risk and cardiovascular risk in cisgender women.

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

#### 1) Physical

The first changes you will probably notice are that your skin will become drier and feel thinner. Your pores will become smaller, and there will be less oil production. You may become more prone to bruising or cuts. You may notice that you perceive pain or temperature differently, or that things just “feel different” when you touch them. You will probably notice skin changes within a few weeks. In these first few weeks you will notice that the odors of your sweat and urine will change, and that you may sweat less overall.

You will also notice small “buds” developing beneath your nipples within a few weeks of starting your treatment. These may be slightly painful or sensitive (especially to the touch) and uneven between the right and left side. This is normal, and is the normal course of breast development. The pain will likely diminish over the course of several months.

Breast development is quite variable from person to person. Not everyone develops at the same rate. Most individuals undergoing feminizing hormone treatment can expect to develop an “A” cup or perhaps a small “B” cup, sometimes only after many years of hormone therapy. Likewise, breasts will vary in shape and size, and are sometimes different sizes or shapes between the right and the left.

Weight will begin to redistribute around your body. Fat will begin to collect around your hips and thighs, and the fat under your skin throughout your body will become a bit thicker, giving your arms and legs less muscle definition and a

smoother appearance. Hormones will not have a significant effect on the fat in your abdomen (i.e., your gut/belly/stomach). Your muscle mass may decrease significantly, as will your strength (though you should continue to exercise to maintain your muscle tone as well as your general health). Depending on your diet, lifestyle, genetics, and starting weight and muscle mass, you may gain or lose weight once you begin hormone therapy.

The fat under the skin in your face will increase and shift around to give your eyes and face in general a more feminine appearance. Please note that your bone structure (including your hips, arms, hands, legs and feet) will not change. The facial changes can take up to 2 years or more to show the final result; it is usually a good idea to wait at least 2 years after beginning hormone therapy before considering facial feminization procedures.

The hair on your body, such as your chest, back and arms, will decrease in thickness and will grow at a slower rate. It may not all go away, however, and some people may choose to receive electrolysis or laser hair removal to help reduce unwanted body hair. Your beard may thin a bit and grow a bit more slowly; however, it will rarely go away completely without electrolysis or laser treatments. If you have had any scalp balding, this should slow or stop, though the amount that will grow back is variable.

Some people may notice minor changes in shoe size or height. This is not due to bone changes, but due to changes in the ligaments and muscles of your feet.

## 2) Emotional

Your overall emotional state may or may not change; this varies from person to person. 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 wider range of emotions or feelings, or have different interests, tastes or pastimes, or behave differently in relationships with other people. While psychotherapy is not for everyone, you may benefit from a course of supportive psychotherapy while in transition to help you explore these new thoughts and feelings, and get to know your new self.

## 3) Sexual

Soon after beginning hormone treatment, you will notice a decrease in the number of erections that you have. When you do have an erection, it will be less firm, and will not last as long. You may lose the ability to penetrate. You will still have erotic sensation, and will still be able to orgasm. However, when you do orgasm, it may be “dry”. Your testicles will shrink to half their original size, or smaller. In nearly all cases, this does not affect the amount of scrotal skin available for future genital surgery. You may find that there are different sex acts or different parts of your body that bring you erotic pleasure. Your orgasms will feel different, with more of a “whole body” experience, less peak intensity, and longer duration. It is recommended that you explore and experiment with your new sexuality through masturbation, using sex toys such as dildos or vibrators, and involving your sexual partner.

## 4) Reproductive

You must assume that within a few months of beginning hormone therapy, you will become permanently and irreversibly sterile. While some people may be able to maintain a sperm count on hormone therapy, or have their sperm count return after stopping hormone therapy, you must assume that this will not be the case for you. If you think that there might be any chance that you may in the future want to parent a child using your own sperm, you should speak to the prescriber about preserving your sperm in a sperm bank. You should store your sperm before beginning any hormone therapy.

Also, if you are on hormones but remaining sexually active with a person who is able to become pregnant, you should always continue to use a birth control method to prevent an unplanned pregnancy.

Many 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 hormones. Breast growth and possibly sterility are not reversible. If you have an orchiectomy (removal of the testicles) or genital reassignment surgery (irreversible genital surgery), you will be able to take a lower dose of hormones. However, it is important to remain on at least a low dose of hormones post-op until at least age 50 years old, to prevent a weakening of the bones, otherwise known as osteoporosis.

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I have reviewed this document with my mental health provider and understand the risks and benefits related to taking feminizing hormones. These risks include the irreversibility of some changes, even if hormone treatment is stopped. I understand that many of the long-term health impacts of gender confirming hormones are still unknown. I also understand that I should review any detailed medical concerns that I have regarding gender confirming hormones with my medical care provider.

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Client Signature and Date

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Provider Signature and Date

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Printed Name of Client

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Printed Name of Provider

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Adapted with permission, August 2013  
Counseling & Consultation Services, University Health Services  
LGBT Campus Center, Division of Student Life  
University of Wisconsin-Madison

Sources:

Center of Excellence for Transgender Health, University of California-San Francisco, [transhealth.ucsf.edu](http://transhealth.ucsf.edu)  
*Standards of Care for the Health of Transsexual, Transgender, and Gender Nonconforming People*,  
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Final Version 04/2015