



Information on Estrogen and Androgen Antagonists

Persons in the male-to-female spectrum who desire feminization may use estrogen and/or androgen antagonists (also called “anti-androgens” or “androgen blockers”) to reduce gender dysphoria and to facilitate a more feminine gender presentation. While there are risks associated with taking feminizing medications, when appropriately prescribed, they can greatly improve mental health and quality of life.

Please review the following information to be sure that you understand the benefits, risks, and changes that may occur from taking feminizing medication. If you have any questions or concerns about the information below, please talk with the people involved in your care so you can make fully informed decisions about your treatment. It is your right to seek another opinion if you want additional perspective on any aspect of your care.

Feminizing Effects

1. Estrogen, androgen antagonists, or a combination of the two, reduce male physical features and feminize the body.
2. The feminizing effects of estrogen and/or androgen antagonists can take several months or even much longer to become noticeable. The rate and degree of change is not predictable.
3. A person who is taking estrogen will probably develop breasts, and:
 - Breasts may take several years to develop to their full size.
 - If estrogen treatment is stopped the breast tissue that has developed will remain.
 - Someone taking estrogen may develop a milky nipple discharge (galactorrhea). If they develop more than a very small amount of nipple discharge it is important to notify their health care provider.
 - It is unknown if taking estrogen for hormone transition increases the risk of breast cancer.
4. The following changes may reverse if the medicine is stopped.
 - Softer skin texture.
 - Decrease in muscle mass and in upper body strength.
 - Slower growth in body hair.
 - Male pattern baldness may slow down, but will probably not stop completely, and hair that has already been lost will likely not grow back.
 - Fat distribution may change (less in abdomen, more in buttocks/hips).

5. Taking estrogen and/or spironolactone will make the testicles produce less testosterone, which can affect overall sexual function:
 - It is still possible to make someone pregnant. Use contraception if needed.
 - Testicles may shrink by 25-50%.
 - The amount of fluid ejaculated may be reduced.
 - There is typically a decrease in morning erections and spontaneous erections.
 - Erections may not be firm enough for penetrative sex. Libido (sex drive) may decrease.
 - The effects on fertility are very unpredictable. Consider sperm banking before starting treatment to increase the odds of having a child.
6. There will be aspects of the body that will not significantly change by use of feminizing medications:
 - Beard/moustache hair may grow more slowly and be less noticeable, but will not go away.
 - Voice pitch will not rise and speech patterns will not become more feminine. The laryngeal prominence ("Adam's apple") will not shrink.

Other treatments may be helpful to change these features. Referrals can be sent for other gender affirming treatments.

Risks of Feminizing Medication

7. The medical effects and safety of feminizing medications are not completely understood, there may be long-term risks that are not yet known.
8. Do not take more medication than is prescribed, as this increases health risks. Taking more than prescribed will not make feminization happen more quickly or increase the degree of change: excess estrogen converts to testosterone, which may slow or stop feminization.
9. Feminizing medications can contribute to damage in the liver, possibly leading to liver disease. Labs may be needed to monitor for liver disease for people at higher risk.
10. Feminizing medications will result in changes that will be noticeable by other people. Transgender people have experienced harassment, discrimination, and violence, while others have lost support of loved ones. Referrals can be made for support/counselling if this would be helpful.

Medical Risks Associated with Estrogen

11. Taking estrogen increases the risk of blood clots, especially if these run in the family, which can result in:
 - Pulmonary embolism (blood clot to the lungs), which may cause permanent lung damage or death.
 - Stroke, which may cause permanent brain damage or death.
 - Heart attack.
 - Chronic leg vein problems.

The risk of blood clots is much worse for those who use tobacco products, especially those over 40. The danger is so high that smoking should be stopped before taking estrogen. Ask your health care provider for advice about options to stop smoking.

12. Taking estrogen can increase deposits of fat around internal organs, which is associated with increased risk for diabetes and heart disease.
13. Taking estrogen can cause increased blood pressure. If you develop high blood pressure, your health care provider will work with you to try to control it by diet, lifestyle changes, and/or medication.
14. Taking estrogen can increase the risk of gallstones. If you develop abdominal pain (with or without nausea and vomiting) that is severe or prolonged, you should seek urgent medical evaluation.
15. Estrogen can cause nausea and vomiting, similar to morning sickness in pregnant women. If nausea/vomiting are severe or prolonged it should be discussed with your health care provider.
16. Estrogen can cause headaches or migraines. If you are having frequent headaches or migraines, or the pain is unusually severe or associated with neurological symptoms (alteration in vision in one eye or one-sided numbness or weakness), it should be discussed with your health care provider.
17. It is unknown if taking estrogen increases the risk of non-cancerous tumors of the pituitary gland (prolactinoma). Although a prolactinoma is typically not life threatening, it can damage vision and cause headaches. Prolactinoma tumors can cause a milky nipple discharge. If any of these symptoms develop, it should be discussed with your health care provider.
18. Dangerous side effects from estrogen are more likely if you smoke, carry extra fat tissue, are over 40 years old, or have a history of blood clots, high blood pressure, or a family history of breast cancer.
19. If you take too much estrogen, the body may convert it into testosterone, which may slow or stop feminization.

Risks Associated with Androgen Antagonists

20. Spironolactone affects the balance of water and salts in the kidneys, and that this may:
 - Increase the amount of urine produced, making it necessary to urinate more frequently.
 - Reduce blood pressure, which can make you feel lightheaded or dizzy.
 - Increase thirst.
 - Rarely, cause high levels of potassium in the blood, which can cause changes to heart rhythm that may be life-threatening.
21. Some androgen antagonists make it more difficult to detect prostate cancer with a screening blood test. Plan to discuss prostate cancer screening with your healthcare provider starting when you are between 40 and 50 years of age.

Prevention of Medical Complications

22. Take the medicine(s) as prescribed and tell your clinician if you are not happy with the treatment or are experiencing any problems.
23. The right dose or type of medication prescribed for you may not be the same as for someone else.
24. Regular physical examinations and blood tests will check for negative side effects of the medications.

25. The medications can interact with other medication (including other sources of hormones), dietary supplements, herbs, alcohol, and street drugs. It is important to be open with your provider about other things you are taking to prevent medical complications that could be life threatening. You will continue to get medical care no matter what information you share.
26. Some medical conditions make it dangerous to take estrogen or androgen antagonists. Further testing may be needed if your clinician suspects one of these conditions before deciding to start or continue feminizing medication.
27. You can choose to stop taking feminizing medication at any time, but do this with the help of your medical care provider to make sure there are no negative reactions to stopping. Your medical provider may suggest that you reduce or stop taking feminizing medication, or switch to another type of feminizing medication, if there are severe side effects or health risks.
28. Dispose of any needles used for any injectable medication in a sharps box or other hard sided container to avoid injury. Some pharmacies will accept sharps boxes for disposal, or will have a policy for returning the box when full.

My signature below confirms that:

- My clinician has talked with me about the benefits and risks of feminizing medication, the possible or likely consequences of hormone therapy, and potential alternative treatment options.
- I understand the risks that may be involved.
- I understand that this form covers known effects and risks and that there may be long-term effects or unknown risks.
- I have had sufficient opportunity to discuss treatment options with my clinician. I have no further questions regarding this treatment.
- I believe I have adequate knowledge on which to base informed consent to the provision of feminizing medication.

Whatever your current decision is, please talk with your clinician any time you have questions, concerns, or want to re-evaluate your options.

Patient Signature

Date

Prescribing Clinician Signature

Date