



Published on The Well Project (<https://www.thewellproject.org>)  
<https://www.thewellproject.org/hiv-information/hormones-and-hiv>

## **Hormones and HIV**

Submitted on Feb 6, 2025

Image



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## Hormone Basics

Hormones are chemicals in your body that are carried in your blood stream and send messages between different organs. They are formed in glands and organs and control all sorts of processes in the body. Hormones affect your growth, metabolism (your body's chemical processes), sex drive, and ability to have biological children.

## Hormones and HIV

Studies have shown that HIV can affect the body's ability to make hormones and keep healthy hormone levels. There are many types of hormones. The hormones that seem to be particularly affected by HIV are:

- Estrogen and progesterone: female sex hormones that are made in the ovaries
- Testosterone: male sex hormone found in small amounts in the bodies of people assigned female at birth. Testosterone is made in the adrenal glands (located just above the kidneys) and in the ovaries.
- DHEA (Dehydroepiandrosterone): steroid hormone that may be connected to immune function and energy. DHEA is made in the adrenal glands and sex hormones are made from it.

Estrogen, progesterone, testosterone, and DHEA levels naturally get lower as you age. Changes in one of these hormones can affect the levels of the others.

Some drugs that are used to treat HIV-related conditions can also affect hormone levels. These include:

- Cytovene (ganciclovir)
- Megace (megestrol acetate)
- Nizoral (ketoconazole)

Experts believe that hormones, especially growth hormone, are also connected to wasting and [lipodystrophy](#), a group of fat-related body changes that appear in some people living with HIV. However, more research is needed about this.

The antiretroviral drugs used to treat HIV can sometimes reduce the effectiveness of hormones, including contraceptive (birth control) pills containing estrogen and progesterone. For more information, see our fact sheet on [Contraception and HIV](#).

## Problems Caused by Irregular Hormone Levels

Changes in your hormone levels can affect many of your body's functions. Symptoms that may be caused by hormone level changes include:

- Abnormal menstrual cycles, possibly including early menopause for people living with HIV who menstruate
- Weight loss or gain
- Headaches
- Mood swings
- [Depression](#)
- Sleep problems
- Fatigue (extreme tiredness)
- Decreased [bone density](#)
- Vaginal dryness
- Decreased sexual desire
- Difficulty getting pregnant

If you are experiencing any of these symptoms, it is important that you see your healthcare provider, who can check your hormone levels and address any problems.

Vaginal dryness can be mistaken for a [yeast infection](#). It is important to keep track of your cycles and report anything unusual to your healthcare provider so that they can help find the cause of your symptoms. For more information about menstrual problems and HIV, see our fact sheet on [Menstrual Changes](#).

## Hormone Replacement Therapy (HRT)

Women who have low estrogen levels may choose to replace the estrogen in order to regulate menstrual periods and help relieve pre-menstrual syndrome (PMS). However, the most common reason to replace estrogen is to relieve the symptoms of [menopause](#).

Estrogen and progesterone are available in patches, creams, and vaginal rings; these may be a good and less risky alternative to the pill form of hormone replacement therapy.

Care must be taken in replacing estrogen. Taking estrogen without progesterone increases the risk of uterine cancer. If a person's uterus (womb) has been removed, they can take estrogen by itself. This is called estrogen replacement therapy or ERT. People who still have a uterus usually take a combination of estrogen and progesterone. This is called hormone replacement therapy (HRT).

Although HRT used to be regularly recommended to relieve menopausal symptoms and reduce bone loss, long-term use of HRT is now questioned. Research has shown that HRT can increase a person's risk for breast cancer, heart disease, and stroke. HRT may be appropriate for a short time to relieve menopausal symptoms that do not respond to other therapies. Estrogen and progesterone are available in patches, creams, and vaginal rings; these may be a good and less risky alternative to the pill form of HRT.

To figure out if HRT is right for you, talk with your healthcare provider about all risks and benefits. Make sure your provider knows about any prescription medications, street drugs, over-the-counter medications, alternative therapies, or other treatments you are using before you decide whether to take HRT.

## Alternative Treatments

There are other therapies for treating menopausal symptoms. However, these may also have unwanted [side effects](#) or [interact](#) with HIV drugs. In addition, some may not have enough scientific evidence demonstrating their effectiveness. **If you choose [alternative therapies](#), it is best to consult a skilled practitioner and let your regular healthcare provider know exactly what you are doing.**

Other treatments may include:

- Traditional Chinese Medicine (e.g., acupuncture, Chinese herbs)
- Eating foods that contain plant-based estrogens (also called phytoestrogens; e.g., soy, flax seeds)
- Herbal or botanical supplements (e.g., black cohosh, red clover, dong quai, kava, ginseng)
- Antidepressant drugs and/or counseling
- Prescription drugs to prevent bone loss (e.g., Fosamax, Actonel, or Boniva)
- Mindfulness training

## Testosterone

Do not take another person's testosterone or buy it on the street or on the internet.

Low levels of testosterone can result in fatigue, sexual problems, depression, and muscle loss. We do not know whether testosterone is safe in women for long-term use. Discuss with your medical provider

whether testosterone therapy is appropriate for you and use only the testosterone prescribed by them. Do not take another person's testosterone or buy it on the street or on the internet. Anabolic steroids are drugs with very similar effects to testosterone. They have also been shown to increase lean muscle mass and add weight.

Speak to your healthcare provider about possible side effects from testosterone use. In women, it may cause hair to grow on their face and body, acne, their voice to become deeper or their clitoris to become larger. Testosterone is available in many forms; patches, gels, and creams may be preferred to injections and tablets because they decrease the likelihood of the side effects listed above. Testosterone is not recommended for women who are [pregnant](#) or who wish to [become pregnant](#).

## Human Growth Hormone

People suffering from weight loss (wasting) or [lipodystrophy](#) may consider treatment with human growth hormone (HGH, Serostim). HGH has been shown to increase lean muscle mass and may reduce fat changes associated with lipodystrophy. Unfortunately, HGH does not seem to correct facial wasting. Because of its high cost and potential side effects (e.g., high cholesterol, muscle and joint pain, swelling due to fluid retention), HGH is not for everyone.

## Gender-Affirming Hormone Therapy

**Note:** *This section describes the scientific information on gender-affirming care. However, hormones may not be available everywhere as some US states are restricting or outlawing such care.*

[People of transgender experience](#) are more likely to seek gender-affirming hormone therapy than any other medical treatment for aligning their physical body with their gender identity. There are no medical recommendations against trans people living with HIV taking HIV drugs together with hormone therapy.

Providing hormone therapy alongside HIV care can help trans people enter and stay in HIV care, take their HIV drugs on time, and maintain lower viral loads.

While more research is needed on gender-affirming hormone therapy and HIV treatment (and there is even less information about these issues for trans men), available data show that most HIV drugs are safe to take with estrogens. There are two HIV drugs that should not be taken with estrogens: amprenavir (Agenerase) and unboosted fosamprenavir (Lexiva). Tenofovir disoproxil fumarate (Truvada) for HIV prevention ([pre-exposure prophylaxis](#), or PrEP) can be safely taken with feminizing hormones but should be taken daily and not just "on demand."

Studies have shown that providing hormone therapy alongside HIV care can help trans people enter and stay in HIV care, take their HIV drugs on time, and maintain lower viral loads. Unfortunately, however, few providers know much about providing transgender care and gender-affirming therapies. This may lead trans women to access feminizing hormones through underground and unregulated channels. Hormones bought on the internet, from veterinary suppliers or other channels may not be safe. Without a prescribed amount, trans women may also give themselves incorrect doses (often too much).

## Taking Care of Yourself

Discuss any symptoms you are experiencing with your healthcare provider. If a hormone imbalance is found to be the cause, you can explore treatment options. Also make sure to discuss [drug interactions](#) and long-term side effects of hormone use.

## Additional Resources

Select the links below for additional material related to hormones.

- [Hormone Changes \(CATIE\)](#)
- [FAQs: The Menopause Years \(American College of Obstetricians and Gynecologists\)](#)
- [Hormone Therapy: Is It Right for You? \(Mayo Clinic\)](#)
- [The Importance of Gender-Affirming Care \(Positively Aware\)](#)
- [Menopause Treatment \(Office on Women's Health\)](#)
- [Hell in a Hot Flash? \(Positively Aware\)](#)
- [Transgender Women, Hormonal Therapy and HIV Treatment \(Journal of the Internati...](#)
- [How do antiretroviral therapy and hormone therapy interact with each other? \(Me...](#)
- [Menopause \(Terrence Higgins Trust, UK\)](#)
- [HIV & Hormone Therapy? \(We > AIDS, includes video\)](#)
- [HIV Testing, Prevention and Care for Transgender People \(US Centers for Disease...](#)
- [Interactions Between PrEP and Gender-Affirming Hormone Therapy \(aidsmap\)](#)
- [Using PrEP and PEP as a Trans Feminine Person \(Terrence Higgins Trust, UK\)](#)



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