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## **Lipodystrophy Treatments Part I: Treatments for Fat Gain**

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Image



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Fat is needed for the body to function. It plays an important role in keeping the skin and hair healthy, protecting body organs, and maintaining body temperature. Fat is also stored energy.

There are different types of fat in the body. Visceral fat is located deep in the belly under the muscle. Subcutaneous fat is found just under the skin. Lipids are fats or fat-like substances in the blood, such as [cholesterol and triglycerides](#).

Lipodystrophy means abnormalities in the way the body uses or stores fat. This is different from the weight gain that can be a concern with HIV drugs in the integrase inhibitor drug class. Lipodystrophy is used to describe a number of potentially unhealthy changes including:

- **Body shape changes**
  - **Lipohypertrophy:** Fat gain in the breasts, back of the neck (buffalo hump), front of the neck (turkey neck), or hips; visceral fat gain in the belly; round lumps that appear under the skin (lipomas)
  - **Lipoatrophy:** Loss of subcutaneous fat in the arms, legs, butt, or face (sunken cheeks)

- **Blood fat and sugar changes (metabolic problems)**
  - Increased fats (lipids) in the blood
  - Increased sugar (glucose) in the blood

People living with HIV who have lipodystrophy can have both body shape changes and metabolic problems. Some treatments can help with certain lipodystrophy changes, but no existing treatment gets rid of them all. However, with newer HIV drugs, lipodystrophy has become much less of a problem for people living with HIV.

This fact sheet looks at treatments for fat gain. For treatments for fat loss and metabolic changes, see our fact sheets on [Lipodystrophy Treatments Part II: Treatments for Fat Loss](#) and [Lipodystrophy Treatments Part III: Treatments for Metabolic Changes](#).

## Treatments for Fat Gain

The major treatment for lipodystrophy involves changing HIV drugs to those that are less likely to cause fat gain.

Fat gain, especially visceral fat in the belly, can cause a number of problems. Belly fat can make people feel badly about how their bodies look and can lead to [depression](#). Many people living with HIV believe that the fat gain or lipodystrophy marks them as living with HIV and increases the [stigma](#) they face. Additional belly fat can also lead to bloating, tiredness, and heart problems. Fat gain can not only affect the way you look, but also be harmful to your health.

No one is really sure what causes fat gain in some people living with HIV. Sometimes it happens when a person puts on weight because of lack of exercise or getting older. However, fat gain may also be linked to the use of certain HIV drugs, including the older [protease inhibitors](#). There are several treatments for HIV-related fat gain, many of which are listed below. The major treatment for lipodystrophy involves changing HIV drugs to those that are less likely to cause fat gain. It is important to talk with your healthcare provider before stopping or switching any of your HIV drugs.

## Human Growth Hormone

Human growth hormone (HGH) is naturally produced in the human body. Two drugs based on HGH have shown the ability to reduce visceral belly fat:

- Serostim (somatropin): This drug is a synthetic (made in a laboratory) version of HGH
- Egrifta (tesamorelin): This drug is a synthetic growth hormone releasing factor, which causes the body to produce more HGH

Serostim is injected under the skin every day or every other day. It helps adults grow muscle. If the drug is stopped, the visceral fat comes back. The main side effects are joint or muscle aches, swelling in the hands and feet due to extra water held in the body, and increased blood sugar levels, including [diabetes](#).

Serostim is approved by the US Food and Drug Administration (FDA) to treat HIV wasting (unwanted loss of body mass or size), but not HIV-related lipohypertrophy (fat gain). Health insurance therefore covers it only for wasting. The drug can be very expensive. There is a patient support program (see Additional Resources below).

Egrifta has also been shown to decrease visceral belly fat but the fat returns when the drug is stopped. In the US, it was approved for HIV-related lipodystrophy in 2010. The drug requires daily injections but seems to have milder [side effects](#) than Serostim. See Additional Resources below for payment assistance.

Over-the-counter nutritional human growth hormone supplements are often advertised. Beware of these – there is no proof that they work or are safe.

## Leptin

Leptin is a hormone that is produced by fat cells. High levels of leptin suppress appetite and cause more fat to be used for energy. The drug form of the hormone (metreleptin, Myalept) is injected under the skin. In the US, it has not been approved for HIV-related fat gain, although the FDA approved it in 2014 for other forms of lipodystrophy. The most common side effects include headache, low blood sugar, and belly pain. It also can increase people's risk of developing lymphoma, a type of blood cancer.

## Fat Burners

These products are not recommended and not proven to be effective in people living with HIV. They usually contain stimulants that decrease appetite and make it more difficult to sleep. They can also increase blood pressure and make heart disease worse.

## Testosterone

Synthetic testosterone has been studied as a treatment for lipodystrophy. One study of testosterone gel (AndroGel) in men living with HIV who had low testosterone levels showed no decrease in visceral belly fat. In fact, visceral fat increased and lipoatrophy in the arms and legs increased as well. This treatment is not used in cisgender women.

## Anabolic Steroids

Anabolic steroids are synthetic steroid hormones that look and act a lot like testosterone.

## Liposuction

Ultrasound-assisted liposuction has been successfully used to remove fat accumulation in the back of the neck (buffalo hump). Liposuction for this purpose has a good track record of insurance coverage when healthcare providers justify it due to pain or sleep disorders. In some cases, however, the hump may return after a few months. Liposuction should not be used for removing visceral fat in the belly, since the procedure is designed to remove fat under the skin and not deep down around the organs.

## Nutrition and Physical Activity

In one study, nutrition and lifestyle changes resulted in decreased belly fat in people living with HIV.

There are no strong studies of the connection between HIV-related fat gain and diet and/or exercise. However, in one study, [nutrition](#) and lifestyle changes resulted in decreased belly fat in people living with HIV. More importantly, there is a wealth of research in the general population showing that diet and exercise can improve blood sugar problems, reduce cholesterol and triglycerides, enhance heart health, and decrease belly fat.

Cardiovascular (aerobic) [exercise](#) and resistance (strength or weight) training decreased triglycerides and visceral fat in a small study of people living with HIV. Another study showed that resistance training decreased fat, while improving cholesterol and triglycerides.

Cardiovascular exercise is any physical activity that increases your heart rate. Examples include walking at a fast pace, jogging, roller blading, dancing, and climbing stairs. In a gym you can also use

treadmills, elliptical machines, and stair climbers.

Resistance training consists of using weights to improve muscle strength and growth. Examples include push-ups, squats, and the use of free weights, adding elastic resistance bands, and machines at the gym.

The US Department of Health and Human Services (DHHS) recommends at least 30 minutes of moderate intensity aerobic activity five times a week and strength or resistance training twice a week. It is a good idea to check with your healthcare provider if you are going to start an activity program to make sure you get off to a good start and do not hurt yourself. For more information, see our fact sheet on [Physical Activity, Exercise, and HIV](#).

## Taking Care of Yourself

Even though the physical changes of lipodystrophy can cause [emotional distress](#), no researcher has suggested that people with lipodystrophy should stop taking their HIV drugs. If you are concerned about your appearance, talk to your healthcare provider about treatment options. There are many things that you can do to stay healthy and feel good about your body.

## Additional Resources

Select the links below for additional material related to lipodystrophy treatments.

- [Changes to Your Face and Body \(Lipodystrophy, Wasting and Weight Gain\) \(POZ\)](#)
- [Body Fat, Lipodystrophy and HIV \(TheBody.com\)](#)
- [Body Weight and Body Shape Changes \(CATIE\)](#)
- [FAQs: Will HIV Medicines Cause Changes to Your Fat and Stomach? \(US Department ...\)](#)
- [HIV and Body Shape Changes: Where and What Kind? \(TheBody.com\)](#)
- [Facing Facts: Dealing with Lipodystrophy \(POZ\)](#)
- [Lipodystrophy Today: An HIV Doc on Causes, Treatment Options and Long-Term Surv...](#)
- [HIV and Lipodystrophy \(HIVinfo\)](#)
- [Lipodystrophy and HIV Treatment \(aidsmap\)](#)
- [Serostim Patient Assistance Program \(EMD Serono\)](#)
- [Changes to Your Face and Body \(Lipodystrophy, Wasting and Weight Gain\) \(POZ\)](#)



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