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**An HIV Information Site & HIV Educational Resource Site (HIS & HERS)**

## Abnormal Fat Distribution or Body Shape

or, "What should I do if my body is getting abnormally thin in areas or abnormally large in areas or both?"

Side effects from medications are pretty common, but fortunately they are generally pretty mild and can be remedied with relatively easy treatments. As medicine makes progress in the treatment of HIV and AIDS, the newer medications are generally easier to take and less sickening than some of the older treatments. Additionally as more and more treatments are found, it becomes easier and easier to find treatments that suit all patients much better.

The most important thing to do about side effects is to report them to your healthcare provider promptly and completely. If your healthcare provider is aware of your symptoms and problems, your provider can provide recommendations about treatments and changes in your treatment that can decrease or even eliminate the symptoms that you are dealing with. Please note that the information below should not come before the advice of your healthcare provider because only that person knows all of your medications and all of your conditions.

### Abnormal Fat Distribution or Weight Gain

fat redistribution  
lipodystrophy  
lipoatrophy  
"Crix belly

#### Possible Causes

##### HIV Drugs

stavudine  
zalcitabine  
didanosine  
lopinavir/ritonavir  
indinavir  
nelfinavir  
saquinavir/ritonavir

##### AIDS-related illness

HIV itself

##### Other drugs

Remeron  
Zyprexa

##### Miscellaneous

severe weight loss followed by weight gain for whatever reason  
too much adrenal hormone (cortisone)  
older age (>35 years)

#### Explanation and Possible Solutions

**Important:** Do not stop any medications that you think may be causing the abnormal fat distribution until you have spoken with your healthcare provider. If you absolutely **MUST** stop a suspected antiretroviral medication, stop all of your antiretroviral medications at the same time. Do not stop just the suspected medication or you might lose the effectiveness of the remaining drugs. This warning does not apply to medications that are not antiretrovirals.

Weight gain in and of itself is not due to antiretroviral drugs or illness in general. The most likely cause for weight gain *whether the distribution is correct or not* is eating more calories than you are using. The equation is very simple:

calories eaten are equal to calories used (weight stable - no gain and no loss)

calories eaten are more than calories used (weight gained)

calories eaten are less than calories used (weight lost)

HIV and HIV medications do not change these equations. However, HIV medications inhibit HIV and HIV can be looked on as a drain of your energy and calories. When the drain is plugged with anti-HIV medications, then it is easier to eat too many calories assuming you don't use more, and then you gain weight. Therefore, if the problem is just weight gain, then eating less calories and/or using more calories with increased activity or exercise is the easy answer. However, exercise is not easy for everyone especially for persons with disabilities.

One of the most accurate and frequently used terms for abnormal thinning or fattening is "fat redistribution." In some persons with HIV/AIDS, fat may actually be remodeled and fat may be lost from some areas and gained in others. Generally these effects are quite cosmetically unpleasant. Fat redistribution causes a variety of problems and goes under a variety of names:

**Buffalo hump:** a collection of fat at the base of the neck on the back

**Facial lipoatrophy:** loss of fat from the cheeks, temples resulting in a sunken appearance

**Crix belly or central fat redistribution:** a disproportionately large belly or abdominal protrusion

**Peripheral lipoatrophy:** loss of fat from the arms and/or legs resulting in bulging veins and thin, sometimes stick-like arms or legs

**Increased visceral fat:** this is where fat collects around the internal organs

While medications are definitely at least partially to blame for these problems in many people, persons who have not taken antiretrovirals have also developed abnormal distributions of fat.

There are probably multiple causes for fat redistribution in any one person:

- 1. Sudden weight gain after losing a lot of weight due to illness.** Unfortunately in older individuals with HIV and more advanced disease, when one is able to gain weight back after being ill, the weight that is gained will usually go to places in body that are not the best cosmetically. For example, the stomach or abdomen is one of the most common locations for this type of weight gain.
- 2. Certain NRTIs cause toxicities in fat cells.** The affected fat cells (usually in the face, arms, legs) are not able to grow normally and therefore fat may be decreased. This seems to be

particularly true for stavudine, didanosine, zalcitabine, and zidovudine.

3. Unless one is genetically blessed and/or one is exercising regularly and/or one is eating just the right amount of calories, **as we get older fat tends to gather in unpleasant places.**

4. **Resistance to insulin.** Insulin is the normal hormone in the body that regulates blood sugar and to some degree fat storage. HIV and HIV drugs may interfere with insulin's actions.

5. **Protease inhibitors have been associated with central weight gain.**

Low male hormone levels (testosterone) may also participate in this problem in some cases.

Consult with your healthcare provider if you believe one of your medications or low testosterone is causing fat redistribution.

Supplemental testosterone and anabolic steroids are not a panacea for anyone with fat redistribution. Supplemental testosterone only helps individuals who have low or low "normal" levels of testosterone due to disease, hormonal problems, or certain medications.

In some cases cholesterol levels or other fatty components of the blood may elevate and/or blood sugar may elevate and diabetes may develop. Cholesterol lowering drugs and drugs for diabetes may be needed.

Aside from drug therapy, close examination of your antiretroviral therapy may be needed. If you are taking medications such as those listed above and you believe you are suffering abnormal fat distribution problems, you should speak with your healthcare provider about possibly making substitutions.

Fat redistribution, abnormal weight gain, diabetes and hyperlipidemia also all respond to exercise and diet at least to some extent. If you are thin and gaining weight, the only way to assure that the weight you are gaining is going to go to cosmetically pleasant areas is to exercise regularly. Limiting your dietary caloric intake and the amount of fat and/or carbohydrates may also help. Dietary counseling should be obtained from an expert if possible. Ideally you should have an exercise program designed that takes into account your problems, your goals, and your limitations. The best rule of thumb is to start "like a baby" and only very gradually increase the exercise level over months (NOT days or weeks).

Recently human growth hormone and human growth hormone releasing hormone have shown some benefit in fat redistribution. However, these drugs have to be administered by injection and they are very expensive. Also they can worsen diabetes in some cases and cause other side effects.

Certain antidiabetic drugs, in particular some that decrease insulin resistance, may also be helpful, but this is unproven.

Dermatologists may perform injections of material into the face to fill in areas of abnormal thinning. Liposuction may also be considered for abnormal fat deposition in the midsection.