



# Health Concerns

## Lipodystrophy

### What is Lipodystrophy?

Lipodystrophy refers to abnormal changes in body shape and abnormal levels of fat and sugar in the blood that are commonly seen in people with HIV/AIDS.

The signs and symptoms of lipodystrophy can include:

- **Changes in body shape (Fat redistribution):** some people may develop an increase in the amount of fat in their belly, their breasts (women) or on the shoulders and the back of the neck (buffalo hump).
- **Fat loss (lipoatrophy):** some people lose the fat that is just under the skin (subcutaneous fat), usually in the face, arms, legs or buttocks. This can make the cheeks of face look sunken and the arms and legs look thin.
- **Increased fat in the blood:** There are two common types of fats in the blood: triglycerides and cholesterol. Cholesterol is further divided into good (HDL) and bad (LDL) cholesterol. In lipodystrophy, the levels of triglycerides, “bad” cholesterol (LDL-cholesterol) and total cholesterol may be increased. High levels of these fats in the blood increases the risk of heart disease, diabetes, strokes, and pancreatitis.
- **Increased sugar (glucose) in the blood:** Normally, blood sugar levels are maintained by the hormone insulin. Lipodystrophy sometimes causes insulin not to work properly, (insulin resistance). This leads to increased levels of glucose in the blood. Over the long term, higher-than-normal blood sugar levels increases the risk for developing diabetes.

### What causes Lipodystrophy?

Several factors may play a role in lipodystrophy. A number of theories have been proposed to be the cause for lipodystrophy:

#### The role of anti-HIV medications:

- There is evidence that the risk of lipodystrophy increases with the length of time a person uses anti-HIV medications.
- Protease inhibitors (PIs) are commonly linked to increase of fat levels in the blood and body changes associated with fat build up.
- The Reverse Transcriptase inhibitors, (RT Inhibitors, Nukes) especially d4T (stavudine, Zerit) and to a lesser extent ,ddI (didanosine), are more commonly associated with fat loss.
- **The role of HIV disease:** Some abnormal changes in body fat may be due to HIV itself. PHAs have been found to have higher levels of triglycerides in their blood compared to HIV negative people. Some researchers believe that the imbalance in the immune system caused by HIV also contributes to lipodystrophy.

### How dangerous is Lipodystrophy?

Lipodystrophy is not life-threatening, but it can still cause serious problems.

- High blood fats can increase the risk of heart disease as well as diabetes.



- Diabetes in turn can cause problems in other body parts such as weakened kidneys, nerve damage and impaired vision.
- Changes in body fats can be physically uncomfortable and emotionally upsetting, to people. It can also affect people's decision to continue treatment.

### **Can Lipodystrophy be treated?**

A number of treatments are being tried to treat the different problems related to abnormal fat changes. Many of these treatments are still being studied and may have side effects, please make sure you discuss these options with your doctor or pharmacists before trying them.

### **Plastic surgery:**

Fat deposits can be cut out surgically or removed by liposuction. Implants of fats or fat substitute (such as collagen) can be used to fill sunken cheeks. These procedures can be costly, may only work for short periods and have some risks.

### **Switching therapies:**

Since PIs are most commonly associated with lipodystrophy, many PHAs with the problem have tried switching their anti-HIV medications to different classes (most commonly non-nukes or NNRTIs). However, even though people's fat levels in the blood improves, the result with respect to body shape changes are not clear.

### **Medications:**

- Fat-lowering medications such as pravastatin (Pravachol), rosuvastatin (Crestor), and atorvastatin (Lipitor) have been used to help lower the cholesterol and triglyceride levels in some people. Some of these drugs can interact with anti-HIV medications, and dosages may need to be adjusted.
- Metformin (Glucophage) and rosiglitazone (Avandia) have been used to keep blood glucose levels low and prevent or manage insulin resistance.
- Hormones such as anabolic steroids, human growth hormone (Serostim), or testosterone, have been used to help control some of the body shape changes seen in lipodystrophy. These drugs may help increase lean muscle mass and replace muscle loss. However, there may be long term side effects with hormonal therapies including fat loss. This may make the lipodystrophy looks worse.

### **Diet and exercise:**

Some studies have found that a low fat diet rich in fibre and an increase in exercise can help reduce blood fat level and body shape changes. It is a good idea to drink less alcohol as it increases triglyceride level. At any rate, since everyone can benefit from a healthy diet and exercises, please speak with a nutritionist and your physician about how you can improve your eating habits and activity levels.

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