



BODY SHAPE CHANGES (LIPODYSTROPHY)

WHAT IS LIPODYSTROPHY?

Lipodystrophy, or "lipo" for short, is a collection of changes in metabolism and body shape in people taking anti-HIV medications. "Lipo" refers to fat, and "dystrophy" means bad growth. These changes include fat loss, fat deposits, and metabolic changes.

Fat Loss occurs in the arms, legs or face (sunken cheeks).

Fat deposits can show up in the stomach, the back of the neck (a "buffalo hump"), the breasts (in both men and women) or other areas

Metabolic changes can include increases in blood fats or lactic acid. Some people get "insulin resistance."

- Blood fats include cholesterol and triglycerides.
- Lactic acid is produced when glucose (sugar) is used by the cells. Damage to the mitochondria (see Fact Sheet 554) or the liver can increase the amount of lactic acid.
- Normally, insulin moves sugar (glucose) into the cells to produce energy. With insulin resistance, less glucose gets into the cells. More stays in the blood.

Fact Sheet 108 has information on lab tests for glucose, cholesterol and triglycerides.

There is no clear definition of lipo. Researchers using different definitions report lipo in between 5% and 75% of patients taking antiviral medications.

These changes were first called "Crix belly", because they were noticed in people taking the protease inhibitor Crixivan (indinavir). However, lipo can develop in people taking almost any type of antiviral therapy.

IS LIPO DANGEROUS?

Although it is not life threatening, lipo is a serious problem.

- High blood fats can increase the risk of heart disease
- Lactic acidosis, although rare, can be fatal. See Fact Sheet 554 for more information.
- Body shape changes can be very upsetting. Some patients even stop taking their medications.
- Fear of body shape changes keeps some people from starting antiviral therapy.
- Insulin resistance can lead to diabetes and weight gain.
- Fat deposits behind the neck (buffalo humps) can get big enough to cause headaches and problems with breathing and sleeping
- Enlarged breasts in women can be painful

No researcher has suggested that people with lipo should stop taking their antiviral medications.

WHAT CAUSES LIPO?

We do not know what causes lipo. There may be different causes for the various symptoms.

One theory is that protease inhibitors interfere with the processing of fat. Protease inhibitor molecules are similar to some human proteins that process and transport fat. However, some patients who have never taken protease inhibitors have lipo.

Another theory is that insulin resistance plays a role in lipo. People with insulin resistance tend to gain weight in the abdomen.

Lipo may also be similar to "Syndrome X" which can occur in people who have recovered from serious illnesses like childhood leukemia or breast cancer. For people with HIV, this may be caused by the recovery of the immune system after effective antiviral therapy. In fact, lipo is more common in people who are doing well on their antiviral therapy.

CAN LIPO BE TREATED?

Because we don't know what causes lipo, we don't know how to treat it. Body changes might keep advancing, or stop or get better by themselves.

Some people are changing their medications to stop taking protease inhibitors. However, there is no evidence that lipo will go away if you stop taking protease inhibitors.

Fat deposits can be cut out surgically, or removed by liposuction. Some people used implants to fill in their sunken cheeks. These procedures have some risks. The results may only be temporary.

Human growth hormone or testosterone might help some lipo symptoms. They are currently being studied. There are a few reports of good results from people who increased their exercise, or who changed their diets. High cholesterol or glucose should be treated the same way as for people without HIV. Some doctors use medications to lower cholesterol and triglycerides, or to improve insulin sensitivity.

THE BOTTOM LINE

Lipo is a collection of changes in metabolism and body shape in people taking antiviral medications. There is no clear definition of lipo. It is difficult to know exactly how many people have it. Also, without knowing what causes lipo, we don't yet know how to treat it.

Researchers are looking into hormone therapies and other ways to treat lipo. ***Changing or stopping antiviral medications is not recommended.***

Revised March 7, 2002