

# Hyperglycemia

## What is glucose?

Glucose, commonly called blood sugar, is the body's main energy source. Your body breaks down the food you eat and converts it to glucose. Your cells take glucose from your blood and use it to make energy.

## What is hyperglycemia?

Hyperglycemia occurs when you have a higher than usual level of glucose in your blood. This can happen shortly after you have eaten a big meal and is not a problem if your glucose level returns to normal.

Cells remove glucose from the blood in response to **insulin**. If your pancreas doesn't make enough insulin, glucose can't enter the cells and remains in the blood. Blood glucose levels can also get too high if cells are unable to respond to insulin properly (**insulin resistance**). Without glucose, your cells are unable to make energy and can't function properly.

## Is hyperglycemia the same as diabetes?

Diabetes mellitus is a disease that occurs when the body can't use glucose properly. Hyperglycemia is a symptom of diabetes; however, you can have hyperglycemia without having diabetes.

## What are the symptoms of hyperglycemia?

The most common symptoms of hyperglycemia are increased urination, excessive thirst or hunger, and unexplained weight loss.

## What causes hyperglycemia and diabetes?

Treatment with HIV **protease inhibitors** (PIs) and infection with hepatitis C virus increase the risk of hyperglycemia and diabetes in patients with HIV. The risk of developing hyperglycemia is about the same with all PIs.

People who are older, overweight, have family members with diabetes, or are from certain ethnic groups are also at greater risk for developing hyperglycemia.

### Terms Used in This Fact Sheet:

**Hypoglycemic medications:** medications used to decrease the level of glucose in the blood. Common oral hypoglycemic medications include Amaryl, Avandia, Glucophage, and Glucotrol.

**Insulin:** a hormone made by the pancreas. Insulin directs cells to take up glucose from the blood.

**Insulin resistance:** Insulin resistance occurs when cells are unable to respond to (resist) insulin's message to take up glucose from the blood.

**Protease inhibitor (PI):** class of anti-HIV medication. PIs work by blocking protease, a protein that HIV needs to make copies of itself. The PIs approved by the FDA are Agenerase, Crixivan, Fortovase, Invirase, Kaletra, Lexiva, Norvir, Reyataz, and Viracept.

## I am taking a PI and am worried about hyperglycemia. What should I do?

Tell your doctor if you have symptoms of hyperglycemia and discuss other risk factors you may have for hyperglycemia or diabetes. Do your best to maintain a healthy body weight.

A fasting blood glucose test measures the level of glucose in your blood and is used to diagnose hyperglycemia. You should have this test every 3 to 4 months during the first year you take a PI.

## What happens if I develop hyperglycemia?

You and your doctor will discuss your treatment options. For most patients, hyperglycemia goes away if they stop taking PIs. Don't stop taking any medication without first talking with your doctor. Together you may decide to make changes to your HIV treatment regimen.

You and your doctor may decide to continue using PIs in your treatment regimen despite your hyperglycemia. Your doctor may suggest you take **hypoglycemic medications** (by mouth) or insulin (injected under the skin) to decrease your blood glucose levels.

## For more information:

Contact your doctor or an *AIDSinfo* Health Information Specialist at 1-800-448-0440 or <http://aidsinfo.nih.gov>.