



# HIV and Diabetes

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## **WHAT IS DIABETES?**

Diabetes is a disease that makes it hard for your body to convert food to energy. Normally, after you eat your body breaks food down into glucose (also known as blood sugar) that your blood carries to cells throughout your body. Your cells use insulin, a hormone made in the pancreas, to help convert blood sugar into energy. In some people with diabetes, this process slows down, resulting in too much sugar in the blood. This condition is known as hyperglycemia.

If diabetes is not controlled, it can cause damage to your nerves and blood vessels. This can lead to complications like [cardiovascular disease \(CVD\)](#), [kidney disease](#), and nerve problems, which can lead to amputation of affected limbs.

## **WHAT CAUSES DIABETES?**

You can develop diabetes when:

- Your pancreas doesn't make enough insulin (Type 1 diabetes)
- Your cells can no longer use insulin properly, known as insulin resistance (Type 2 diabetes)

Type 2 diabetes is most often associated with HIV.

## **RISK FACTORS FOR DIABETES**

People who are overweight, rarely exercise, and those with a family history of diabetes are at higher risk of developing diabetes. Additional risk factors include infection with [human immunodeficiency virus \(HIV\)](#) and [hepatitis C virus \(HCV\)](#), high blood pressure, high cholesterol, and current pregnancy. Smokers are 30-40% more likely to develop type 2 diabetes than nonsmokers. People from certain ethnic backgrounds (African, Hispanic, or Asian) may also be at higher risk. Diabetes can develop as a side effect of certain medications.

## **DIABETES AND HIV**

Improved methods of detection of HIV, earlier diagnosis, and better management have helped in improving the survival of these patients. The availability of, and access to, potent antiretroviral means that people with HIV can live almost normal life spans. This in turn, has meant an increase in the chronic complications of HIV encountered in clinical practice [2]

People living with HIV, therefore, frequently present with diabetes and metabolic complaints.

### ***HOW DO I KNOW IF I HAVE DIABETES?***

The symptoms of insulin resistance are usually mild and may not be noticeable. These symptoms are sometimes referred to as pre-diabetes. They may include:

- Feeling sleepy, especially after meals
- Intense mood swings or extreme hunger after eating sugary snacks or high carbohydrate meals
- High levels of fat in the blood
- Dark skin patches on the neck and armpit area

The symptoms of diabetes can include:

- Unusual thirst
- Frequent urination
- Extreme hunger
- Unusual weight loss or weight gain
- Extreme fatigue and irritability
- Frequent infections
- Blurred vision
- Tingling or numbness in the hands and feet
- Slow healing of cuts or bruises

### ***HOW IS DIABETES DIAGNOSED?***

There are 3 [ways to test for blood sugar levels](#). The most common test is the fasting glucose test. This test measures the amount of sugar in the blood after a person has not eaten for 8 hours.

Your fasting blood sugar level should be checked before starting [antiretroviral therapy \(ART\)](#) and at least every year.

### ***HOW IS DIABETES TREATED?***

The best way to control diabetes is to reduce or eliminate any lifestyle risk factors related to [diet](#), [exercise](#), and [smoking](#).

You may also need to change some of your medications, including ARVs.

Many people can control their diabetes with a combination of diet, exercise, and oral medications. For those who can't, insulin is a very safe and effective means of controlling high blood sugar.

### ***THE BOTTOM LINE***

Diabetes is often considered a lifestyle disease, and as such tends to emerge in [older people](#). As people with HIV are living longer as a benefit of antiretroviral therapy (ART), they are becoming more vulnerable to diabetes.

The best way to avoid diabetes is by limiting or eliminating the controllable risk factors: eat a healthy diet and maintain a healthy weight, exercise regularly, and stop smoking.

Older people are advised to carry out regular checks of blood sugar levels. If these are high, reducing body weight may result in improvement, especially in obese people.

***MORE INFORMATION***

HIVinfo.NIH.gov: [HIV and Diabetes](#)

nam aidsmap: [Type 2 diabetes and HIV](#)

The BodyPro: [HIV/AIDS and Diabetes: Minimizing Risk, Optimizing Care](#)

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