

# Type 2 diabetes

**T**ype 2 diabetes begins slowly and sometimes has no real signs or symptoms. Many times, it is found during a regular checkup. It is recommended that every one get an annual physical with their doctor after the age of 35 so they can be checked for type 2 diabetes. This is all the more important if there is a family history of the same. Also, some times type 2 diabetes is diagnosed when a person falls ill and the doctor performs blood tests. Illness and stress have a tendency to lead to the development of type 2 diabetes.

With type 2 diabetes, the body is still making Insulin. It just may not be making enough of it, or the insulin is unable to work. Insulin works by hooking on the cell surface proteins (called receptor sites) and helps the cells take up glucose from the blood. In type 2 diabetes, the cells have few receptor sites, or the receptor sites resist the insulin.

Being overweight can make it harder for the insulin to bind with receptor sites. Losing weight actually improves the function of insulin.

Another hormone (a chemical produced by the internal organs and secreted in the blood) called GLP-1 is produced by the intestines. This hormone makes you feel less hungry and also helps insulin work better. This hormone is good for people with diabetes (PWD), but

gets destroyed in the blood quickly. Medicines that stop the destruction of GLP-1 help in controlling the blood glucose. You may also take an injectable medicine that is GPL1.

Another problem for people with type 2 diabetes is that the liver makes too much blood sugar. Hormones such as insulin, amylin, and GLP-1 help stop the liver from making too much blood sugar (glucose). If there is not enough of the above hormones in your system or if your body is resistant to these hormones, the liver could be making too much blood sugar (glucose). On the other hand, a hormone called Glucagon produced in the body in response to low glucose causes the liver to make more glucose.

The following could possibly occur to cause high blood glucose in type 2 diabetes: (See diagram below):

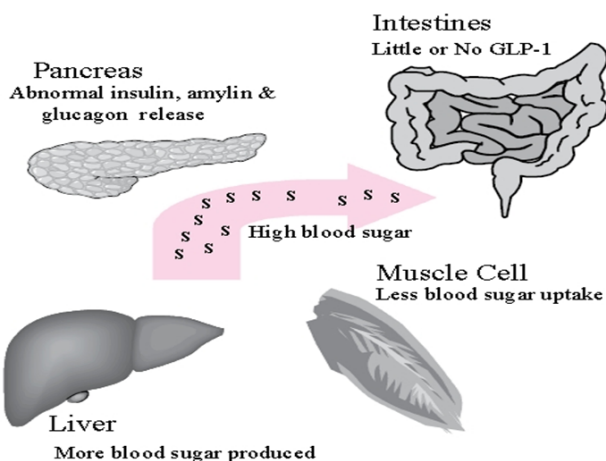
1. Muscle cells are not taking up enough glucose (due to resistance of cells to insulin).
2. Pancreas (an organ in the abdomen) is secreting less insulin, amylin and more of glucagon (a hormone that causes the liver to make more blood sugar).
3. Liver is producing more blood sugar (glucose).
4. Intestines are not making enough GLP-1

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## Type 2 Diabetes

### Causes of high blood sugar



## Symptoms

The Symptoms of type 2 diabetes are not always clear. You may have:

- Blurred vision
- Headaches
- Numbness in hands or feet
- Slow healing of cuts
- Feel very, very tired

These are caused by high blood sugar. Some people have no symptoms.

You control type 2 diabetes with healthy eating, activity/exercise and often diabetes medicine. You may need to take insulin or use both insulin and diabetes pills. Some people may also take a new drug to replace GLP-1 or help increase the life of GLP-1.