



## DIABETES

Compiled by: Dr Shamin Mahabeer Lancet Laboratories South Africa

# What is Diabetes?

Diabetes is a lifelong disease in which the body can not process sugar properly. It is also called "diabetes mellitus" or "sugar diabetes". There are two common types of Diabetes.



### Are you at risk of Diabetes?

Your blood needs to always contain sugar as available energy but too much sugar is not good for your health as it may damage your heart, kidneys, eyes, nerves, teeth and gums.

You may have one or more of the symptoms mentioned. It is advisable to visit your doctor so that he/she can decide on the appropriate test for testing your blood sugar.

### The symptoms of high blood sugar are:

- **dry and itchy skin**
- **losing feeling in your feet**
- **a tingling sensation in your feet**
- **blurry vision**
- **being very thirsty**
- **passing urine often, even at night**
- **feeling hungry or tired often**
- **losing weight**
- **sores that heal very slowly**

### Type 1 Diabetes

This is commonly diagnosed in children, teenagers and young adults. People with this type of diabetes do not produce **insulin** which is used by the **body to lower sugar levels in blood**. These patients need to take insulin injections every day.

### Type 2 Diabetes

This is the most common type of diabetes. People with this type of diabetes do not make enough insulin and/or the body's cells do not respond to insulin. Therefore, they need to take tablets to help the body to make more insulin or that **help insulin to do its job**; or they may need to take insulin injections every day.

**People who are overweight and inactive have an increased risk of developing type 2 diabetes.**





When people who have diabetes eat glucose, which is found in foods such as breads, potatoes and sweets, it can't be converted into energy. Instead of being converted into energy, the glucose stays in the blood. This is why people who have diabetes have blood sugar. (**Glucose.**) that is too high.

### The likelihood of developing Diabetes is much higher if you:

- Low HDL (good cholesterol) and high levels of other lipids (fats)
- Had Diabetes during pregnancy and delivered a large baby (4 kg or more)
- A parent, sister or brother with Diabetes
- 40 years or older
- Overweight
- Black or Indian
- High blood pressure above 140/90 mmHg)

### How to create an eating plan for type 2 Diabetes?

1. Eat three balanced meals a day, not more than six hours apart.
2. Limit added sugars and sweets.
3. Eat a variety of vegetables and fruit each day.
4. Eat your fruit rather than drinking it as juice.
5. Include whole-grain starchy foods at each meal.
6. Choose low-GI foods.
7. Drink water instead of a fizzy or fruit drink.
8. Always choose lean protein at each meal.
9. Make low-fat choices and cut down on added-on fat, (butter, margarine and cheese).
10. Include beans and lentils in your diet.
11. Choose to drink alcohol only in moderation.
12. Reduce your salt intake.



**DID YOU KNOW?**  
**46.5%**  
of adults  
with Diabetes  
are left  
undiagnosed.



### Complications with Diabetes

**If Diabetes is not diagnosed early or is not adequately controlled, the risk of complications increases.**

**The following are some of the major complications of Diabetes:**

- Kidney disease
- Eye disease that can lead to blindness
- Disease of the peripheral nerves
- Heart disease
- Stroke
- Lower limb amputation

## How to manage Diabetes?

### 1 HbA1c Test

You do not have to fast to do this test. This test may be used for both diagnosis as well as monitoring of diabetes. This test represents, time-averaged highs and lows of your blood sugar over a period of three to four months.



### 2 Lipogram Test

Total cholesterol, LDL-cholesterol, HDL-cholesterol and triglycerides form part of a standard lipogram. These lipids are used to estimate the risk of heart disease. (E.g. Heart attack and Stroke).

### 3 Urine Micro-Albumin Test

This test is done in the urine. It is the earliest way of testing for the presence of complications caused by Diabetes. ( i.e. end-organ damage like kidney disease). This test is also used to estimate the severity of kidney disease as a complication of diabetes.

If you have Diabetes, the most important thing you can do is control your "ABC's "

- HbA1c
- Blood pressure
- Cholesterol

### 4 Serum Creatinine Test

This is a blood test that is used to assess for kidney disease. It can be collected at any time of the day.

### 5 Blood Sugar Test: Check Glucose Levels

Your blood sugar can be tested following an overnight fast. The blood is tested first thing in the morning before eating and drinking. Your doctor may however choose to test a random blood sugar level that can be drawn anytime without prior fasting. A blood sugar sample is taken first, before you are given a solution mixed with 75 g sugar to drink.



### 6 Glucose Tolerance Test GTT:

This is also known as a glucose loading test. For this test, you need to fast overnight and have the test done before you eat anything in the morning. You need to stay seated for the duration of the test. A second blood sugar sample is drawn at the end of a two-hour period after you ingested the solution.