

# DIABETES AWARENESS MONTH



## NEWSLETTER

Compiled by: ICL Lancet Laboratories

Diabetic Panel is a series of blood test used to determine a person's average blood sugar. It is used to help diagnose diabetes. It can also be used to diagnose type 2 diabetes and pre-diabetes. Tests are recommended since early diabetes does not usually show symptoms.

### Blood Glycated Hemoglobin (A1C test)

Hemoglobin A1C is a blood test used to determine a person's average blood sugar over a **period of three months**. It is used to help diagnose diabetes. It can also be **used to diagnose type 2 diabetes and pre-diabetes**. It measures the percentage of blood sugar attached to **hemoglobin, the oxygen carrying protein in red blood cells**. **This measurement can give a person a more accurate assessment** of how well they are managing their glucose levels because it is not based on single measurements taken at a specific time.



### Could you be at risk of Diabetes?

People with diabetes should receive regular hemoglobin A1C tests (Hba1c tests). Those who have risk factors for diabetes such as being overweight, or having a family history of diabetes should consider receiving periodic hemoglobin A1C tests (hba1c tests.)

### Key Indicators

- A blood sample will be **taken after an overnight fast**.
- A fasting blood sugar level less than 100 mg/ dL
- An A1C level of **6.5 percent or higher** on two separate tests indicates **diabetes**.
- An A1C between **5.7 and 6.4 percent** indicates **pre-diabetes**.
- Below **5.7** is considered **normal**.

### Monitoring/controlling Diabetes

- Patient Preparation: Overnight fasting is preferred.
- Preferred specimen(s) : serum or plasma in EDTA
- The normal fasting range for NEFA is approximately 0.1-0.9 mmol/l Random blood sugar test: A blood sample will be taken at a random time. Regardless of when you last ate, a random blood sugar level of 200 milligrams per deciliter (mg/dL) – 11.1 millimoles per liter (mmol/L) – or higher suggests diabetes.

The higher blood sugar levels, the more hemoglobin will have with sugar attached.

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## Blood Glucose Test

Non-Esterified Fatty Acids Fibro Test is validated for the following diseases: If the A1C test results aren't consistent, the test isn't available, or in conditions that can make the A1C test inaccurate — pregnancy or presence of a hemoglobin variant, blood glucose tests are used to diagnose diabetes

Useful for monitoring of control of diabetes mellitus (serum-free glycerol is a very useful companion test in assessing diabetes). The correlation with insulin resistance and downstream cardiovascular risk may be a useful treatment aid in some patients.

- A blood glucose test measures the amount of glucose in the bloodstream. It is used to screen for diabetes and to monitor management/progress of an already been diagnosed diabetes.
- Blood glucose tests can be fasting or random. Fasting tests provide the most accurate results and are easier to interpret than random tests.
- NEFA: The Nonesterified Fatty Acids (Free Fatty Acids) assay is useful in evaluating lipolysis and fatty acid oxidation. Nonesterified Fatty Acids may be useful in evaluating patients with hypoglycemia and for nutritional assessment. Non-esterified fatty acids (NEFA) are molecules released from triglycerides by the action of the enzyme lipase and are transported in the blood bound to albumin.



They contribute only a small proportion of the body's fat, but provide a large part of its energy. Serum free fatty acids are increased in patients with uncontrolled type 2 diabetes mellitus and are an indicator of insulin resistance.

Measurement of NEFA is particularly important in diabetes where insulin deficiency results in the metabolism of fat. Levels are also frequently increased in obese patient. Elevated NEFA concentrations in obesity are thought to arise from an increased adipose tissue mass, which in turn leads to insulin resistance in insulin target tissues

## DIABETES TESTS

### 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.

### 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.