

كلية المستقبل الجامعة

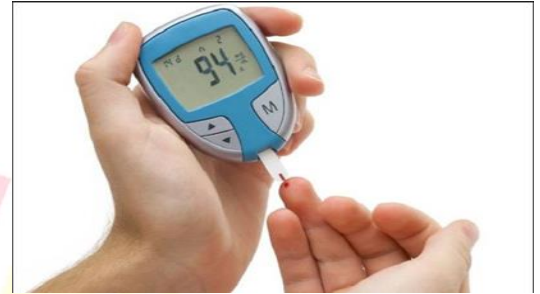
قسم الفيزياء الطبية



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Blood Glucose Monitor. It's an easy home blood glucose meter, just prick your finger to get a single drop of blood on a strip, and within seconds you get your body glucose level at that moment.



Advantages of a glucose meter

It only takes one drop of blood to measure your blood sugar level.

Within five seconds you can get the result of your blood sugar level.

The device has a memory for 360 measured glucose readings.

You can make an alert using the device; To remind you to measure your sugar.

The device can be turned off automatically.

The device can measure glucose in mg/dl or mmol/l

Symptoms of diabetes

- 1 - Frequent urination.
- 2- Constant feeling of thirst.
- 3 - Unjustified weight loss.
- 4- Dizziness and feeling unbalanced.
- 5- Blurred eye

Types of diabetes And its reasons:

- 1-Type 1 diabetes.
- 2-Type 2 diabetes.
- 3- Pregnancy diabetes.

Type 1 diabetes:

It is an autoimmune disease, and for information, autoimmune diseases occur as a result of the immune system working against a part of the body and attacking it. When diabetes occurs, the immune system attacks the beta cells responsible for producing .Insulin in the pancreas destroys it.

What causes the pancreas to produce less insulin, or may not produce it at all. summons. A person with type 1 diabetes needs to get insulin daily throughout his life.

There are key factors behind the immune system attacking cells beta, is:

1-Autoimmune. Possible involvement of some types of viruses.

2-heredity.

3-environmental factors such as pollution

Type 2 diabetes:

It is the most common type among humans, and occupies 90-95% of all patients with diabetes.

This type of diabetes is associated with advanced age and obesity, in addition to heredity, family history of the disease, gestational diabetes at an earlier stage, inactivity, and ethnicity. About 80% of patients with type 2 diabetes are overweight. Patients with type 2 diabetes are characterized by producing enough insulin, but their body, for unknown reasons, is not able to use insulin effectively and benefit from it, a condition known

as “resistance Insulin”. And with the decrease in insulin production after several years, the condition of a type 2 diabetic patient becomes similar to that of a type 1 diabetic patient in terms of the accumulation of glucose in the blood and the body’s inability to effectively use glucose as its own energy source.

The method of work?

1- In the meter off mode, or in memory mode, insert one test strip to bring the glucose meter into test mode.

2- This screen appears for a short time when the device is turned on (by pressing the S button), in order to make sure that the device screen is working properly.

3- After the system check screen disappears, another screen will appear for you with: date, time, glucose measurement code.

4- To make sure that the device is working properly, you will notice that the blood drop symbol that appears on the display screen is



blinking, and this means that the glucose meter is now ready to place and measure the blood sample.

5- After pricking the tip of your finger and blood coming out, close the channel designated for a drop of blood with the test strip to the end of the drop of blood that comes down from your finger very gently, and let the drop of blood spread until it fills the space designated for it.

6- Gently pull the test strip out of the device and dispose of it securely.

7- The device can keep the glucose result in its memory, and you can delete the result by pressing the M button, the result will be deleted within three minutes, after which the glucose meter will automatically turn off.

according to the age group as follows:

First: The percentage of normal sugar ranges in children under the age of 6; 80 to 200 mg/dL throughout the day.

Second: The normal sugar level in children aged 6 to 12 years; 80 to 180 mg/dL throughout the day.

Third: The normal sugar level for adolescents ranges from 70 to 150 mg/dl throughout the day.

Fourth: The normal sugar level for adults varies; Age 20 and over, 100 to 180 mg/dL throughout the day. Normal blood sugar after eating

The normal blood sugar level, one hour after eating, is between 100 and 120 mg/dL.

The normal fasting blood sugar level

The normal rate of sugar for a fasting person is a measure of the extent to which the patient needs to resort to a specialist doctor, and usually the blood sugar of the fasting person is measured in the morning because it is necessary to stop eating foods for a period of eight hours, the normal rate of sugar for the fasting person is as follows:

The normal rate of sugar in the blood fasting .

The normal blood sugar level for a fasting person is less than 100 mg/dL in healthy people, while those with diabetes reach 80 to 130 mg/dL, but the normal rate of fasting sugar within an hour or two of eating is from 72 to 99 mg/dL. As for people who have diabetes, it is less than 180 mg / deciliter; After controlling the level of blood sugar

