



جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

مستشفى الملك فهد الجامعي  
King Fahad Hospital The University

## What is Insulin?



## What is Insulin?

Insulin is a [hormone](#) secreted by the pancreatic gland that is located behind the abdominal cavity. The insulin works on sugar entry to body cells where it is converted into energy. The level of insulin secretion in a person with diabetes is low or absent, which leads to high blood sugar.

Insulin is a protein [and it is not taken by mouth](#) as it will be digested by stomach acids.



## Why insulin doses are different?

The doses vary depending on several factors, including:

1. **Daily activity:** An exercise that you perform consumes a number of calories, thus the level of sugar in the blood decreases. So, you need to eat more food or reduce the dose of insulin.



2. **Diet:** It is considered a key factor in adjusting the dose of insulin. For example, if you eat more than usual, you will need a larger dose of insulin.



3. **Body mass or body weight:**

The human body needs half to one unit of insulin per kilogram of body weight. The need increases during puberty or with other diseases or when you're exposed to severe psychological stress.

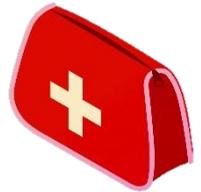


## How to store insulin?



1. Insulin must be kept away from sunlight and heat by placing it in the refrigerator.

2. When traveling, you can store the insulin in a bag designed to save insulin or in a small thermos bottle make sure that the insulin is not directly in contact with ice.



3. When opening the insulin box, write the date of opening the package. Don't use insulin for more than 4 weeks from the date of opening.



### Notice:

The presence of solid white chunks inside the insulin bottle that don't disappear even after gently shaking the bottle between the hands indicates that the insulin is not stored correctly and must be discarded.

# What are the types of insulin?

1. **Rapid-acting insulin:** It is absorbed quickly and works in 5-15 minutes, and its effect ends in a short period of 3-4 hours.



2. **Regular or short-acting insulin:**

Its work within 30 minutes, its effect lasts for 5-8 hours.



3. **Intermediate-acting insulin:**

Its work within 1-3 hours, its effect lasts for 16-24 hours.



## What are the types of insulin?

4. **Long-acting insulin:** It works after 4-6 hours, but its effect lasts 24-48 hours.



5. **Mixed insulin:** It consists of two types of insulin mixed in one bottle, such as a moderate and short-acting mixture, and it works within 30 minutes and lasts 16-24 hours.



## What are the methods of insulin injection?

**Insulin injections:** The most common injections, which are insulin needles, and there are different types.



**Insulin pens:** It is a device used to inject insulin, it consists of an insulin cartridge and a numbered handle to measure the dose, and it's used with non-reusable needles.



**Insulin pump:** It is an electronic device that works to pump insulin through a needle that is placed under the skin and works in the body permanently. It is placed in the abdomen or thighs, the place is changed periodically. An extensive number of checkups are made to avoid repeated low blood sugar levels.



### Sources and References:

American Diabetes Association, ADA

### Review and Audit:

The content of this booklet is reviewed by  
Diabetes Unit Consultants at King Fahd University Hospital.

## Health Awareness Unit

IAU-20-1



جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

مستشفى الملك فهد الجامعي  
King Fahad Hospital The University