

# What is Insulin?

Insulin is a hormone created by the pancreas that affects the amount of glucose in the blood. Insulin regulates metabolism when carbohydrates, fats, or proteins are eaten, and stores glucose in the liver, fat, and muscles.

When someone without diabetes eats, their pancreas releases insulin and stores the glucose for energy later. In someone with diabetes, their pancreas does not perform this vital function. Their blood sugar levels rise and their body is not able to use the glucose.

People living with type 1 diabetes require insulin to manage blood sugar levels, while those with type 2 diabetes may need to use insulin to help manage theirs. Some women with gestational diabetes may need insulin to be prescribed as well.

## **What Type of Insulin Works Best?**

Healthcare providers (HCP) will work with you to find treatment(s) that work best for you. Factors to consider may include responses to different types of insulin; lifestyle choices; frequency of blood sugar checks; how often someone wants to give insulin injections, and individual goals for blood sugar management. Patients should consult their HCP before beginning or changing treatment.

## **How is Insulin Administered?**

Most people with diabetes inject insulin under their skin with a disposable syringe they fill from a bottle of insulin. Syringes are marked with lines to measure the amount of medication in the needle.

Many people use inject insulin with an insulin pen. Insulin pens may come prefilled, making them easy to store and carry, and they look like large writing tools.

Insulin pumps are wearable medical devices attached to a thin tube that sits under the user's skin. Pumps contain enough insulin for several days. They infuse insulin through the attached tube, in rates and amounts set by the users and their health care providers.

## **How is Insulin Stored?**

Insulin can be stored at room temperature for about a month. Unopened insulin should be stored in the refrigerator and should not be exposed to excessive cold or heat.



Insulin Type	How It Works	Examples Include:
Rapid	Begins to affect blood glucose about 15 minutes after injection. Peaks in about one hour; done working after 2-3 hours. Typically injected at mealtimes or used in insulin pumps.	Lispro Aspart Glulisine
Short-acting	Begins to affect blood glucose about 30 minutes after injection. Peaks in 2-3 hours; done working after 3-6 hours. Typically injected at mealtimes.	Regular Velosulin
Intermediate-acting	Begins to affect blood glucose 1-2 hours after injection. Peaks in 4-12 hours; done working after 18-24 hours. Usually combined with a rapid or short-acting insulin.	NPH
Long-acting	Begins to affect blood glucose 1-2 hours after injection. No specific peaks. May be effective for as long as 24 hours.	Insulin glargine Insulin detemir Insulin degludec
Biosimilar	No clinically meaningful differences. Can be interchanged with other insulins. Can sometimes be more cost-effective.	Insulin Glargine-YFGN Insulin Glargine-AGLR Insulin Lispro-AABC
Premixed	Rapid or short-acting combined with intermediate-acting insulin. Eliminates need to give more than one injection at the same time.	70/30 50/50 75/25