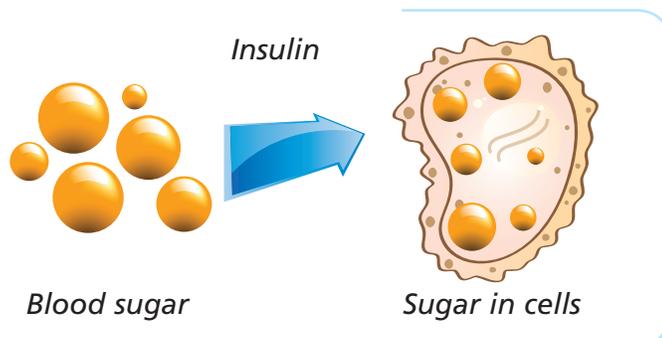


# Type 2 diabetes and insulin

## What is insulin?

Insulin is a hormone that helps sugar move from your blood into your cells. Insulin is made by the beta cells in your pancreas.



Your cells need sugar for energy. Sugar from food makes your blood sugar level go up. Insulin lowers your blood sugar level by helping sugar move from your blood into your cells.

If you have type 2 diabetes, your body prevents the insulin it does make from working right. Your body may make some insulin but not enough.

## How insulin can help with type 2 diabetes

Many people with type 2 diabetes follow meal and physical activity plans to help manage their blood sugar. But following a meal plan and staying active often are not enough to keep blood sugar in check. Medicine is almost always necessary.

In type 2 diabetes, many people find that as their beta cells stop working over time, they need to take insulin. If you have been told that you could benefit from insulin but have delayed starting it, you are not alone. Many people worry about injecting themselves. They wonder if insulin has side effects. They wonder if taking insulin will interfere with their lives.

Today, there are many insulin products and insulin devices available to treat all the stages of type 2 diabetes. You and your diabetes care team can work together to find the diabetes products that are right for you.

| Types of Insulin   | When It's Usually Taken                                      | How Soon It Starts Working* | When Its Effect Is Strongest | How Long It Lasts           |
|--|--|-----------------------------|------------------------------|-----------------------------|
| <b>Analog insulin</b>  |  |                             |                              |                             |
| Fast-acting insulin  | Right before a meal  | 15 minutes                  | 30 to 90 minutes             | 3 to 5 hours                |
| Long-acting insulin  | 30 minutes before the evening meal or at bedtime             | 1 hour                      | Steady over time             | Up to 24 hours              |
| Premixed (mixture of fast-acting and intermediate-acting insulins)           | Before breakfast and/or before the evening meal              | 5 to 15 minutes             | Varies                       | Up to 16 hours <sup>†</sup> |
| <b>Human insulin</b>   |  |                             |                              |                             |
| Short-acting insulin (also called regular insulin)                           | 30 minutes before a meal                                     | 30 to 60 minutes            | 2 to 4 hours                 | 5 to 8 hours                |
| Intermediate-acting insulin (NPH)  | 30 minutes before breakfast, the evening meal, or at bedtime | 1 to 3 hours                | 8 hours                      | Up to 16 hours              |
| Premixed (mixture of short-acting [regular] and intermediate [NPH] insulins) | 30 minutes before breakfast and/or before the evening meal   | 30 to 60 minutes            | Varies                       | Up to 16 hours <sup>†</sup> |

\*All times shown are approximate. <sup>†</sup>Check label.

# Type 2 diabetes and insulin

## What are the different types of insulin?

There are many types of insulin. They each work at a different pace to mimic the way the body normally releases insulin. They each have a different:

- Onset of action (when they start to work)
- Time of peak action (when their effect on blood sugar is strongest)
- Duration of action (how long they work)

There are two main types of insulin. Human insulin was developed earlier. Analog insulin is a more recently developed medicine. Your doctor will prescribe the insulin that is best for you.

Each type of insulin helps keep diabetes under control. But no one type is right for everyone. Each person's insulin need is different. And each person's insulin need may change over time.



## Making your insulin plan

Everyone who takes insulin needs a personal insulin plan. Your diabetes care team will help you make a plan that works for you.

Your plan will help you take insulin the way your body would make it if you did not have diabetes. Your plan will tell you:

- What type of insulin to take
- How much insulin to take
- When to take it

Your plan will be based on:

- When and how much you eat
- Your current blood sugar level
- Your level of physical activity
- Your lifestyle

Your body's need for insulin goes up and down all day. Your need for insulin depends on what you are doing and how much sugar is in your blood. Your insulin plan will take these changes into account.

For more information, visit  
[Cornerstones4Care.com](http://Cornerstones4Care.com)

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