

Diabetes Medicines: Mixed insulin

What is insulin, and what does it do?

Insulin is a medicine used to treat diabetes. It is taken by injection (a shot).

Insulin moves glucose (sugar) out of your blood and into your body's cells. Taking insulin helps lower your blood sugar level and makes it less likely that your diabetes will cause serious problems.

Insulin works best when you follow the rest of your diabetes treatment plan. This means checking your blood sugar regularly, following your meal plan, and exercising every day.

What is mixed insulin?

There are many kinds of insulin. Some work right away and don't last very long. Others work more slowly and over a longer period of time.

Mixed insulin is a blend of fast- and slow-acting insulin. When combined with proper diet and exercise, you only need 2 shots of mixed insulin a day to help control your blood glucose. The 2 shots should be taken every 10 to 12 hours. The table on [page 2](#) shows the different kinds of mixed insulin and how to use them.



How do I give myself shots?

- 1 **Warm the insulin bottle** by holding it in your closed hand for 1 to 2 minutes. Insulin is easier to mix when it is warm, and the shots will hurt less.
- 2 **It is very important to mix your insulin well. To do this, roll the bottle between your palms 10 times.** Don't shake the vial — just roll it gently.

Gently roll the vial between your palms 10 times to mix the insulin.



- 3 When the insulin is mixed, it will look cloudy or milky. Do not use your insulin if it is clear or has particles floating in it.

Make sure your insulin looks cloudy or milky before you give yourself a shot.



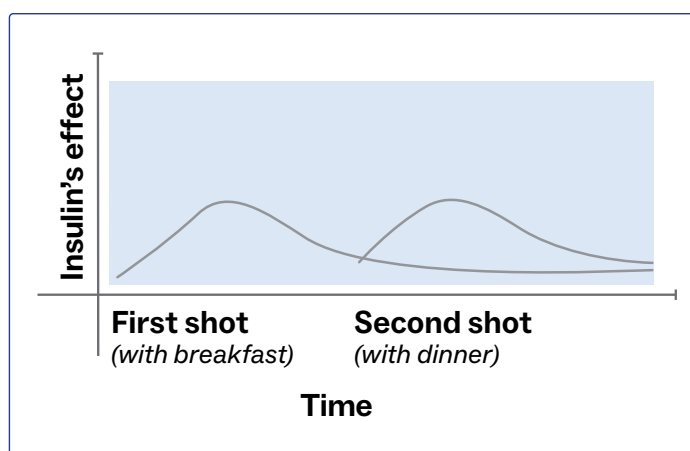
- 4 Give yourself the shot right after you mix the insulin. Your doctor or a nurse will show you how to do this. Ask for the Intermountain fact sheet ***Giving Insulin Injections (Shots)*** for instructions on how to give the shot with a syringe or pen. Do not use mixed insulin in an insulin pump.

When do I give myself shots?

Many people who use mixed insulin give themselves **1 shot at breakfast time and 1 shot at dinner time.**

By giving yourself a shot in the morning and another shot in the evening, mixed insulin works all day and all night to keep your blood sugar under control.

The timing of your injection may vary, depending on the type of mixed insulin your doctor prescribes. Your doctor will describe the best schedule for you.



Types of Mixed Insulin

Insulin Name	Usual Injection Schedule*	Usual Dose Timing*	Storage Instructions	
			Unopened	Opened
Humalog 75/25 (NPH/lispro)	Twice a day. Give once before breakfast and once before dinner.	Inject 15 minutes before a meal.	Store vials, pens, or cartridges in refrigerator until expiration date.	Store at room temperature for 28 days (vials) or 10 days (pens and cartridges).
Humalog 50/50 (NPH/lispro)	Twice a day. Give once before breakfast and once before dinner.	Inject 15 minutes before a meal.	Store vials, pens, or cartridges in refrigerator until expiration date.	Store at room temperature for 28 days (vials) or 10 days (pens and cartridges).
Novolog 70/30 (NPH/aspart)	Twice a day. Give once before breakfast and once before dinner.	Inject 15 minutes before a meal.	Store vials, pens, or cartridges in refrigerator until expiration date.	Store at room temperature for 28 days (vials) or 14 days (pens and cartridges). DO NOT refrigerate in-use cartridges or pens.
Humulin 70/30 (NPH/regular)	Twice a day. Give once before breakfast and once before dinner.	Inject 30 to 45 minutes before a meal.	Store vials or pens in refrigerator until expiration date.	Store at room temperature for 31 days (vials) or 10 days (pens).
Novolin 70/30 ReliOn 70/30 (NPH/regular)	Twice a day. Give once before breakfast and once before dinner.	Inject 30 minutes before a meal.	Store vials or pens in refrigerator until expiration date.	Store at room temperature for 42 days (vials) or 28 days (pens).

*Everyone's insulin needs are different. Your doctor will describe the best schedule for you.

General guidelines for taking insulin

Always follow your doctor's specific instructions for taking mixed insulin. Here are some other general rules to keep in mind:

- **Don't stop taking your insulin**, even if you feel good or your symptoms go away. You need insulin to stay well.
- **Don't change or skip your insulin dose** unless your doctor tells you to.
- **Try to eat your meals and snacks at the same time every day.** Sticking to a regular schedule for breakfast, lunch, dinner, and your bedtime snack will help your insulin work better and keep your blood sugar at the right level. If you change your meal plan (for example, you overeat or skip a meal), your insulin needs may change. Speak with your diabetes care team before adjusting your insulin dose.
- **If you miss a meal**, you might be at risk for low blood glucose. If this happens, check your blood glucose more often.
- **If you're sick**, most of the time you should keep taking your insulin as usual. But check your blood glucose more often. Sometimes illness increases your need for insulin, and sometimes it decreases your need. Only monitoring will tell you whether you should adjust your dose. **It is best to have a sick day insulin plan prepared in advance** — ask your doctor for a written plan at your next visit.
- **If your blood glucose is higher or lower than it should be for more than 2 to 3 readings in a row**, contact your doctor.

What are the side effects of insulin?

The most common side effect of insulin is low blood sugar, also known as **hypoglycemia** [hahy-poh-glahy-SEE-mee-uh]. **Hypoglycemia is any glucose reading less than 70 mg/dL. With mixed insulin, skipping a meal will increase your risk of hypoglycemia. Hypoglycemia can come on suddenly and can make you feel shaky, sweaty, weak, cranky, hungry, or dizzy.** Be sure that you and your family know these symptoms. They're your signal to take in some quick-acting sugar. Good sources are a half a cup of fruit juice or regular soda (not diet soda), 1 cup of milk, or 3 to 4 glucose tablets.

To help avoid this side effect, monitor your blood glucose regularly. This will tell you if your blood sugar begins to fall too low.

Storing insulin

Follow these guidelines to safely store your insulin:

- Don't let your insulin freeze or get too hot. Store it at room temperature (59°F to 86°F) or in the refrigerator (36°F to 46°F). If your insulin does freeze or get too hot, make sure to throw it away.
- When you open a new pen, vial or cartridge, write the date on it so you know how long to use it. See **Storage Instructions** in the table on **page 2**.
- Check the expiration date before injecting your insulin. If it is past the expiration date, throw it away even if there's insulin still in it.