

Diabetes Medication: Metformin

What is metformin?

Metformin [met-FORE-min] is a medication that is used to treat type 2 diabetes and insulin resistance. Metformin is taken orally (by mouth) as a pill. Like other diabetes medications, it works best when you follow the rest of your treatment plan. This means checking your blood glucose regularly, following your meal plan, and exercising every day.

What does it do?

Metformin helps lower your blood glucose (blood sugar). It does this by:

- **Decreasing the amount of glucose released by your liver.** Less glucose enters your bloodstream.
- **Increasing the ability of your muscles to use glucose for energy.** As more glucose is used, more glucose leaves your bloodstream.

Why is metformin important for my health?

Metformin can't cure your diabetes. But, by helping control your blood glucose, it lowers the chance that your diabetes will cause serious problems.

When you have diabetes, you tend to have high blood glucose. Over time, this can damage your blood vessels and nerves, leading to a heart attack or stroke, kidney and eye disease, and problems with your teeth, feet, and skin. If you have high blood pressure or high cholesterol — like many people with diabetes — you have an even greater risk for these problems. (This is why you should always take your blood pressure or cholesterol medications as well as your diabetes medications.)



Does metformin cause hypoglycemia (low blood glucose)?

No. Metformin doesn't cause hypoglycemia by itself. But combined with other medications, vigorous exercise, or too little food, it can make your blood glucose drop too low.

Since low blood glucose can be dangerous, make sure that you and your family know the symptoms. These include feeling **shaky, sweaty, hungry, and irritable**. If you have these symptoms, take some quick-acting sugar. Good sources are 3 or 4 glucose tablets, a half-cup of fruit juice or regular soda, or a tablespoon of honey or sugar.

My medication (name): _____

Strength (mg per pill): _____

How much to take / when to take: _____

Other instructions: _____

Guidelines for taking metformin

You should always follow your doctor's specific instructions for taking any medication, including metformin. In general, follow these guidelines:

- **If you don't notice a change in your blood glucose right away**, don't stop taking metformin. It takes about 3 to 4 weeks for metformin to reach its full effect.
- **If your symptoms go away or you decide you feel fine now**, don't stop taking metformin. You need this medication to stay well.
- **If you forget to take a dose, take it as soon as you remember.** If it's already time for your next dose, just take the usual amount. **Do NOT double your dose.**
- **If you take extended-release metformin (Glucophage XR)**, be sure to swallow the pill whole. Don't chew, crush, or split the pill.
- **If your meal plan changes**, keep your metformin dose the same.
- **If you're sick**, most of the time you should keep taking metformin as prescribed. However, if you're throwing up or dehydrated, stop taking your metformin. **Call your doctor for additional instructions.**
- **If you're scheduled for a medical or dental procedure**, make sure that the doctor and nurses know that you take metformin. You might need to stop taking it for a short time if you have to fast (not eat) before the procedure, or if you're having a surgery or x-ray that uses contrast dye. Be sure to ask your surgeon, dentist, or diabetes care provider for instructions.

What are the side effects?

Common side effects from metformin include **nausea, diarrhea, gas, and upset stomach.** These are most common when you first start taking it and usually go away on their own. To lessen these side effects, try taking your metformin with a meal. If your symptoms don't get better in 2 weeks, talk with your diabetes care team about some ideas for relief.

Long-term use of metformin may also cause a **vitamin B12 deficiency** [deh-FISH-en-see] (your body doesn't have enough). Your doctor may order a lab test to check the levels of vitamin B12 in your blood.

Lactic [LAK-tik] **acidosis** [a-seh-DOH-sis] is a very rare, but serious side effect. It happens most often in people with liver, kidney, or lung diseases. **Call your doctor right away** if you have any of these symptoms of lactic acidosis:

- Weakness
- Severe stomach pain
- Fast and shallow breathing
- Sleepiness
- Muscle cramping

When should I call my doctor?

Call your diabetes care team if you:

- Have questions about how to take your medication.
- Are thinking about stopping your medication. **Never stop without talking to your doctor first.**
- Are ill and think you may be dehydrated.
- Have side effects that don't go away.
- Have any symptoms of lactic acidosis (see "What are the side effects?" above).

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