



What else do I need to know about metformin?

- Don't take metformin if you have kidney problems.
- Don't take metformin if you are fasting and especially if you aren't drinking fluids.
- Combining alcohol and metformin can cause potentially serious side effects. Talk with your doctor before drinking alcohol while taking metformin.
- Because metformin can help regulate periods, people with PCOS may become pregnant more easily. If you are sexually active and not trying to become pregnant, be sure to also use a reliable form of birth control.
- Metformin can cause lower levels of the vitamin B12. Consider taking a multivitamin or B12 supplement when using metformin, especially if you are vegetarian or vegan.



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PEDIATRIC AND ADOLESCENT GYNECOLOGY

Metformin for Polycystic Ovary Syndrome

Metformin is a medicine that can lower insulin levels and help with polycystic ovary syndrome (PCOS) symptoms.

How does it work?

Metformin works in several different ways to improve insulin resistance. Insulin is a hormone made by the pancreas that helps the body use sugar for energy, and insulin resistance is when cells in your body don't respond to insulin and your pancreas can make too much insulin. PCOS can make these symptoms worse by:

- Making your body more sensitive to insulin
- Slowing the production of sugar (glucose) from the liver
- Lowering the amount of carbohydrates that are absorbed by the body

Lower insulin levels can help improve cholesterol, fatty liver disease and prediabetes. It can also help improve acanthosis, the darkening of the skin in certain areas such as the back of the neck.

Because insulin makes the ovaries produce extra testosterone and metformin lowers insulin levels, some people with PCOS will also have more regular periods when using metformin. Most teens with PCOS will also use hormonal therapy to help with periods or skin concerns.

How do I take metformin?

It is very important to start with a low dose of metformin and increase slowly. There are 2 types of pills, short-acting and long-acting.

- **Short-acting pills** should be taken 2 times per day.
- **Long-acting pills**, also called extended-release, only need to be taken once a day.

Always take metformin with food.

What are the side effects of metformin?

Gastrointestinal side effects are most common with metformin. It is very important to start on a low dose and not increase the dose until these side effects have gone away.

They can include:

- Upset stomach (nausea)
- Gas
- Bloating
- Loose, runny poop

Avoid taking metformin with very sugary foods. These can make the side effects worse. Changing to the extended-release pills can also help.

How long does it take metformin to work?

- This is different for everyone, but it can take 6-12 months to help with extra hair and acanthosis. Some people will see improvement in acne after 3 months.
- It can take 6 months to help regulate your period.
- Your doctor will check your labs for prediabetes, fatty liver disease and cholesterol each year when using metformin.

Can I use metformin to treat PCOS even if I don't have prediabetes or weight concerns?

Yes. Metformin has been shown to help PCOS symptoms even when people don't have prediabetes or weight concerns.

Will metformin help me lose weight?

Most people don't lose weight when using metformin. If they do lose weight, it is often because they are less hungry and may eat less. Metformin does help improve cholesterol (fat levels in the blood) and can help to reduce fatty liver disease which are very important for overall health.

How should I get started?

Your doctor will send a prescription for metformin to your pharmacy. You can start taking it right away. Some tips for remembering to take your medication are:



Set a timer on your cell phone



Use a weekly pill box where you can put your medicine for each day

For short-acting metformin

1. Take 500 mg once each day. Take with a meal. Do this for 1-2 weeks and **DO NOT** increase the dose if you experience any stomach aches, gas or loose poop.
2. After 1-2 weeks, take 500 mg in the morning and evening.
3. After another 1-2 weeks, take 500 mg in the morning and 1,000 mg in the evening.
4. After another 1-2 weeks, take 1,000 mg in the morning and 1,000 mg in the evening. **DO NOT** increase the dose if you are having any side effects such as stomach aches, gas, bloating or loose poop. Stay at the current dose longer and then increase once these side effects have gone away.

For extended-release metformin

1. After 1-2 weeks, take 1,000 mg once each day.
2. After another 1-2 weeks, take 1,500 mg once each day.
3. After another 1-2 weeks, take 2,000 mg once each day.

Learn more



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