

## What is this medication used for?

Metformin is approved by Health Canada for management of type 2 diabetes in adults. Metformin is not approved by Health Canada for management of weight gain associated with antipsychotics in adults, children or adolescents.

Evidence shows that metformin benefits children and adolescents who have weight gain and other metabolic changes such as increased cholesterol associated with antipsychotic use (e.g. risperidone, clozapine, olanzapine, aripiprazole). Metformin is sometimes prescribed for people taking an antipsychotic who have experienced weight gain or are at high risk of experiencing weight gain.

When the potential benefits outweigh the risks, metformin may be prescribed “off-label” for children and adolescents. Learn more about off-label use:

 <http://bit.ly/KMH-off-label-use>

## Tell your doctor or pharmacist if you:

- Have allergies or bad reactions to a medication.
- Take or plan to take other prescription or non-prescription medications (including natural medicines). Some medications may interact with metformin. Your doctor may adjust doses or monitor for side effects.
- Have a history of liver or kidney disease, excessive alcohol intake, heart disease, ketoacidosis or lactic acidosis.
- Miss a menstrual period, are pregnant, breast-feeding or planning a pregnancy.
- Have a medical exam or test which requires contrast dye (you may have to temporarily stop taking metformin).
- Have a history of high or low blood sugar.
- Use alcohol or street drugs. Taking metformin with certain substances such as large amounts of alcohol, may cause a serious reaction. Learn more at [www.DrugCocktails.ca](http://www.DrugCocktails.ca)

## When will this medication start to work?

For weight loss, metformin is expected to start reducing weight at 4 weeks, with full effects expected to be seen up to 28 weeks. Continue taking this medication even if you do not lose weight immediately. For some people, maintaining their weight without further weight gain may be beneficial.

Talk with your doctor if you feel that metformin has not been helpful or if side effects are too bothersome. Your doctor may recommend switching you to a different dose or medication.

## How do I take this medication?

Take this medication as prescribed by your doctor. To help minimize the risk of side effects, your doctor will start you on a low dose, and gradually increase. Typically, metformin is taken one or two times daily, with food. Regular tablets should be swallowed whole; do not crush or chew. Glumetza tablets must be swallowed whole; do not break, crush or chew.

Take this medication at the same time every day. Continue taking this medication, even if it has worked to reduce or maintain weight.

## Possible common or serious side effects:

Side effects may be more common when first starting a medication or after a dose increase. Talk to your doctor, nurse, or pharmacist for help managing side effects or if a side effect concerns you.

- Diarrhea, excess gas, nausea, vomiting, stomach ache
- Dizziness or headache
- Chest discomfort, flushing or heart palpitations
- Feeling nervous, excitable or anxious
- Changes in sensations in hands/feet
- Vitamin B<sub>12</sub> nutritional deficiency

## Contact your doctor immediately if you experience:

- Unexplained muscle pain, fatigue, shortness of breath, and/or confusion (possible signs of lactic acidosis)
- Chest pain, irregular heartbeat
- Unexplained rash and/or fever
- Change in level of alertness or wakefulness
- Signs of liver damage, including yellow-coloured skin and eyes, unusually dark-coloured urine or light-coloured stools, severe upset stomach, or abdominal pain

# Metformin



## What precautions should my doctor and I be aware of when taking this medication?

- If you are (or begin) taking any other prescription, over-the-counter medication, natural health product or supplement, check with your doctor or pharmacist to make sure there are no unsafe drug interactions.
- You should temporarily stop taking metformin if you are not eating or drinking, if you are ill with symptoms of nausea or vomiting, or if you have tests or surgeries which require you not to eat. You can restart taking metformin once you are eating and drinking normally.



## How do I store this medication?

Keep this medication in the original container, stored at room temperature away from moisture and heat and protected from light. Keep this medication out of reach and sight of children.



## Is this medication addictive?

There is no evidence to suggest that metformin is addictive. Metformin can be stopped without need for dose reduction as the body does not develop dependence on this medication.



## How does this medication work?

Metformin works by decreasing glucose (sugar) production and absorption as well as improving insulin sensitivity. Insulin is a hormone made by our bodies which regulates blood sugar and turns food into energy. Antipsychotic medications can cause weight gain due to multiple factors including increased appetite. Metformin helps to decrease appetite back to a healthy level.



## How well does this medication work in children and adolescents?

Metformin has been studied in children and adolescents with weight gain caused by antipsychotic use and has shown to be effective and safe for weight management. The effect varies between studies, with some studies showing modest weight loss (1 to 4 kg) and others showing prevention of further weight gain without weight reduction. At this time, there is no evidence that metformin reduces the risk of diabetes in children and adolescents using it for weight management related to antipsychotic use.



## How long should I take this medication for?

The length of time that you take this medication will depend on the length of antipsychotic treatment, severity of weight gain, and risk of other metabolic complications. Most people need to take metformin for at least 4 months for weight management during the start of antipsychotic treatment. After this time, you and your doctor can discuss the benefits and risks of continuing treatment. When metformin is stopped, weight related benefits may last for about 12-24 weeks. It is recommended not to increase, decrease, or stop taking metformin without discussing it with your doctor.



## What special instructions should I follow while using this medication?

Keep all your appointments with your doctor and the laboratory. Your doctor may order lab tests to check how you are responding, and to monitor for side effects.

Do not allow anyone else to use your medication. This medication could cause unwanted side effects in individuals who do not take metformin.

Maintaining a healthy, well-balanced diet and exercising regularly will help to prevent or treat antipsychotic related weight gain.



## What should I do if I forget to take a dose of this medication?

If you forget to take a dose of metformin, take the missed dose as soon as you remember. However, if it is within 4 hours of your next scheduled dose, skip the missed dose and continue regularly with your next scheduled dose. DO NOT double your next dose to try to 'catch up'.