Foods you should avoid while taking metformin

Below are six foods you to avoid while taking metformin.

1. Fats

You should avoid foods high in trans and saturated fats when taking metformin. Healthy fats, on the other hand, are fine and you should include them as part of a healthy diet if you're on metformin.

2. Sodium

You should avoid having too much sodium while you're on metformin. Keep your sodium intake under 2300 milligrams per day.

3. Simple and refined carbs

Simple and refined carbs increase your blood sugar levels. Avoid simple carbs such as soda, candy, and desserts. Stay away from refined carbs such as white bread, pasta, and white rice.

4. High-fiber foods

Fiber can absorb certain drugs and lower their concentration in your bloodstream. If you eat large amounts of fiber, your metformin levels may decrease. Keep your fiber intake under 30 grams per day.

5. Alcohol

You'll want to avoid large amounts of alcohol since it increases your risk of developing low blood sugar and lactic acidosis. Alcohol prevents the liver from storing and releasing glucose.

Since people with diabetes already struggle to manage blood sugar levels, minimizing the risk factor of alcohol consumption is worth consideration.

Drinking alcohol with an empty stomach can cause low blood sugar. This is even more true for people taking insulin or other diabetes medications that increase insulin levels.

Metformin increases the amount of lactate. Lactate is the underlying compound of lactic acid.

This isn't of too much concern, but research shows that too much alcohol, along with a thiamine deficiency, can lead to a buildup of lactate.

Alcohol and metformin together can lead to too much lactic acid in the blood. This can lead to lactic acidosis, a serious condition.

In general, drinking in moderation is safe. Safe levels are one drink per day for women and two drinks per day for men.

Discuss this with your doctor, as it's possible that abstaining from alcohol may be the best choice for you as an individual.

6. Grapefruit

One study looked at the effects of grapefruit on metformin in rats. Some rats were exposed to grapefruit juice and metformin, while the others were given metformin on its own.

Researchers found that the rats that had both grapefruit juice and metformin had a higher amount of lactic acid production than the just metformin group. They may also have more weight gain.

Researchers postulated that grapefruit juice increased the accumulation of metformin in the liver. This then caused an increase in lactic acid production.

Researchers concluded that drinking grapefruit juice might lead to a higher risk of lactic acidosis in patients taking metformin.

Foods to avoid when taking metformin for PCOS

If you're taking metformin for PCOS, you may need to adjust your diet. Below we share five foods to avoid when taking metformin for PCOS.

- **Sugary drinks**: Sugary drinks like soda, sweetened teas, flavored coffee drinks, and energy drinks are very high in added sugar, which can raise your blood sugar levels quickly. Since PCOS often stems from insulin resistance, it's best to avoid sugary drinks so metformin can more easily do its job to help improve insulin sensitivity.
- **Alcohol:** Drinking alcohol can lower your blood sugar levels. If you drink a lot of alcohol while taking metformin for PCOS, you might develop even lower blood sugar levels. If you choose to drink alcohol while taking metformin for PCOS, try to limit it to no more than one drink per day.
- **Foods with added sugar:** Food high in added sugar can worsen insulin resistance and PCOS symptoms. The American Heart Association recommends limiting your added sugar consumption to fewer than 25 grams per day.
- **Refined grains**: Refined grains are stripped of their nutrient- and fiber-rich parts, leaving behind a lower-fiber, lower-nutrient grain. These types of grains are more likely to raise your blood sugar levels and worsen insulin resistance.
- **Fried foods:** If you experience stomach side effects while taking metformin for PCOS, try cutting back on fried foods to see if that's part of the culprit. Cutting back on fried foods might also help you lose weight, which can improve insulin sensitivity and PCOS symptoms.

Foods to include in your metformin diet

Below are five foods you should eat while taking metformin.

1. Complex carbohydrates

Complex carbohydrates come from vegetables, fruits, and whole grains, such as brown rice and whole-grain bread.

These carbs have more fiber, which makes them more difficult for the body to metabolize. This then slows the release of glucose into the bloodstream.

If you are consuming complex carbs, keep an eye on your overall carb intake. This is important because carbohydrates do directly affect blood sugar levels.

2. Nonstarchy vegetables

Nonstarchy vegetables can help to slow your carb metabolism. Examples of nonstarchy vegetables include broccoli and leafy greens.

3. Healthy fats

You can get healthy fats from sources such as fish, nuts, and olive oil.

4. Moderate fiber intake

Although lots of fiber is not recommended, moderate fiber intake can actually be helpful. This is because fiber can help to control blood glucose levels.

An average intake of fiber is between 25 and 30 grams per day.

5. Lean protein

Encourage the consumption of lean proteins such as turkey, fish, and tofu.

Other things to avoid while taking metformin

Fortunately, there aren't many serious metformin drug interactions. But using some drugs while on metformin can increase the risk of lactic acidosis.

If you take any of the following medications, let your healthcare provider know:

- Anticonvulsants, such as topiramate (Topamax) and zonisamide (Zonegran)
- Oral contraceptives
- Corticosteroids, such as prednisone
- Diuretics, such as acetazolamide
- Blood pressure medication, such as amlodipine (Norvasc)

- Antipsychotic drugs, such as chlorpromazine

Should metformin be taken with food?

It is fine to take metformin on an empty stomach, but taking metformin with food is usually better tolerated and helps to reduce the stomach or bowel side effects that can occur.

When to take metformin

You might wonder whether you should take metformin before or after your meals. There are two types of metformin – regular and extended-release (XR).

Typically, the regular tablet is taken with your meal two to three times a day. People usually take the extended-release tablet once a day with their evening meal.

As discussed above, the best way to take metformin is with your meal or just after you've finished eating to minimize the gastrointestinal side effects.

Talk to your healthcare provider or pharmacist for guidance on how and when you should take your metformin tablets.

Any other safety concerns?

Metformin has been associated with lactic acidosis. Although this is a rare situation, it is potentially life-threatening and therefore worth mentioning here.

Less than ten out of every 10,000 people on metformin experience lactic acidosis. You are at higher risk if you have impaired liver or kidney function. You are also at higher risk of lactic acidosis if you have congestive heart failure.

If you have ever had an allergic reaction to a medicine, you must tell your doctor this. Any other allergies to foods, preservatives, animals, or dyes are worth mentioning as well.

In terms of metformin contraindications, this drug is contraindicated if you have diabetic ketoacidosis.

Other potential side effects of metformin include the following:

- Diarrhea
- Nausea
- Vomiting
- Abdominal pain
- Gas
- Vitamin B12 deficiency

How to reduce the side effects of metformin

The best way to reduce the side effects of metformin is to take it with food. The most common side effects of metformin are nausea ad diarrhea, and they happen most often if you take it on an empty stomach.

Since metformin therapy impairs your body's ability to absorb glucose (through its effects on the gut microbiota), you may have diarrhea after eating carbs if you are on metformin.

You need to balance your dose of metformin with the foods you eat and the exercise you do.

If you change your diet, exercise habits, or make other lifestyle interventions, you will want to test your blood sugar to ensure it doesn't go too low. If this does happen, your healthcare provider will be able to help you out.

A word from Ben's Natural Health

At Ben's Natural Health, we believe that natural options are the way to go. Given the above side effects of metformin, many people prefer natural alternatives such as herbs and supplements, which can treat type 2 diabetes without side effects.

Talk to your healthcare provider about natural diabetes treatments to see which ones may be suitable for you.

Conclusion

If you're taking metformin, foods to avoid include high fiber foods, trans and saturated fats, sodium, and simple and refined carbs. Get most of your carbs from vegetables, fruits, and whole grains.

Eat nonstarchy vegetables, healthy high fat foods, lean proteins, and a moderate amount of fiber. If you're taking metformin, it's worth talking with your health care provider about a metformin diet.

Metformin is usually the first-line drug of choice for patients with type 2 diabetes mellitus.

If you're taking metformin for diabetes, you probably want to know if it has any drug interactions.

What is metformin?

Metformin is a popular medication used to treat type 2 diabetes. Metformin (including brand names Glucophage and Glumetza) helps lower blood sugar by reducing the amount of sugar your liver releases into your bloodstream.

The most common cause of type 2 diabetes mellitus is insulin resistance. Insulin is a hormone that helps lower blood glucose levels. With insulin

resistance, your body doesn't respond to insulin effectively, which causes high blood sugar levels. Metformin helps improve insulin sensitivity which helps lower blood sugar levels.

One of the benefits of metformin is that it doesn't cause low blood sugar. That means that you can safely take metformin with other types of medication for diabetes, including insulin and sulfonylureas.

Metformin dosages range from 500 milligrams to a maximum of 2,550 milligrams per day. It's usually recommended to split the dose among meals, typically three times per day. There is also an extended-release version of metformin that is designed to be taken once daily.

RELATED: Metformin Recall: Is Your Medication Affected?

Medications and drugs to avoid while taking metformin

Fortunately, there aren't many serious metformin drug interactions. But taking these medications alongside metformin could lead to a serious drug interaction:

Contrast media

Also called X-ray dye or just "contrast", this dye is injected before certain medical scans such as CTs and MRIs. Iodinated contrast dye can seriously interact with metformin so should be avoided. The use of iodinated contrast dyes increases the risk of lactic acidosis.

This interaction is very rare and would only happen if the contrast dye itself caused renal impairment (kidney damage). If contrast damages your kidneys, then they can't clear metformin out of your system, and levels would build up and potentially cause lactic acidosis.

Gymnema

This is a plant native to India and Africa used in Ayurvedic medicine. Gymnema is used to treat conditions like obesity and diabetes.

According to animal studies, Gymnema may reduce the efficacy of metformin and lead to high blood glucose levels.

Gatifloxacin

This medication is a type of antibiotic to treat pink eye. It can cause both high and low blood sugar and isn't recommended for people with diabetes.

Tafenoquine

This drug is can treat malaria. When taken together with metformin, your kidneys might not be able to clear the metformin, which can result in lactic acidosis.

Over the counter medications to avoid while taking metformin

There aren't any known significant metformin drug interactions for over-the-counter medications.

You should always consult with your health care provider and/or pharmacist when you are taking other prescription medications since they might interact with over-the-counter drugs.

Potential serious side effects associated with taking metformin

Very rarely, a condition called lactic acidosis may occur while taking metformin. Lactic acidosis is a serious condition where your body creates more lactic acid than your body can clear.

The symptoms of lactic acidosis usually set in quickly and include abdominal discomfort, fast, shallow breathing, muscle pain and cramping, and unusual fatigue.

Metformin overdose is the main risk factor for developing lactic acidosis. According to a position statement in the American Diabetes Association's *Diabetes Care,* "When metformin is used as labeled, the increased risk of lactic acidosis is either zero or so close to zero that it cannot be factored into ordinary clinical decision making."

If you have severe renal impairment or kidney disease, you might also be at greater risk of developing lactic acidosis because your kidneys can't clear the lactic acid from your system.

Conclusion

Metformin has very few drug interactions but shouldn't be taken with iodinated contrast media, which is the most common interaction. Metformin is safe to take with most types of over-the-counter medication, but the patient should always consult with their health care provider for guidance and further medical advice if they have questions.

Descriptions

Metformin is used to treat high blood sugar levels that are caused by a type of diabetes mellitus or sugar diabetes called type 2 diabetes. With this type of diabetes, insulin produced by the pancreas is not able to get sugar into the cells of the body where it can work properly. Using metformin alone, with a type of oral antidiabetic medicine called a sulfonylurea, or with insulin, will help to lower blood sugar when it is too high and help restore the way you use food to make energy.

Many people can control type 2 diabetes with diet and exercise. Following a specially planned diet and exercise will always be important when you have diabetes, even when you are taking medicines. To work properly, the amount of metformin you take must be balanced against the amount and type of food you eat and the amount of exercise you do. If you change your diet or exercise, you will want to test your blood sugar to find out if it is too low. Your doctor will teach you what to do if this happens.

Metformin does not help patients who have insulin-dependent or type 1 diabetes because they cannot produce insulin from their pancreas gland. Their blood glucose is best controlled by insulin injections.

This medicine is available only with your doctor's prescription.

This product is available in the following dosage forms:

- Tablet, Extended Release
- Suspension, Extended Release
- Tablet
- Solution
- Tablet, Extended Release, 24 HR

Before Using

In deciding to use a medicine, the risks of taking the medicine must be weighed against the good it will do. This is a decision you and your doctor will make. For this medicine, the following should be considered:

Allergies

Tell your doctor if you have ever had any unusual or allergic reaction to this medicine or any other medicines. Also tell your health care professional if you have any other types of allergies, such as to foods, dyes, preservatives, or animals. For non-prescription products, read the label or package ingredients carefully.

Pediatric

Appropriate studies performed to date have not demonstrated pediatric-specific problems that would limit the usefulness of metformin oral solution, extended-release oral suspension, and tablets in children 10 to 16 years of age. However, safety and efficacy of metformin extended-release tablets in the pediatric population have not been established.

Geriatric

Although appropriate studies on the relationship of age to the effects of metformin have not been performed in the geriatric population, geriatric-specific problems are not expected to limit the usefulness of metformin in the elderly. However, elderly patients are more likely to have age-related kidney problems, which may require caution in patients receiving metformin. This medicine is not recommended in patients 80 years of age and older who have kidney problems.

Breastfeeding

There are no adequate studies in women for determining infant risk when using this medication during breastfeeding. Weigh the potential benefits against the potential risks before taking this medication while breastfeeding.

Drug Interactions

Although certain medicines should not be used together at all, in other cases two different medicines may be used together even if an interaction might occur. In these cases, your doctor may want to change the dose, or other precautions may be necessary. When you are taking this medicine, it is especially important that your healthcare professional know if you are taking any of the medicines listed below. The following interactions have been selected on the basis of their potential significance and are not necessarily all-inclusive.

Using this medicine with any of the following medicines is not recommended. Your doctor may decide not to treat you with this medication or change some of the other medicines you take.

- Acetrizoic Acid
- Diatrizoate
- Ethiodized Oil
- Iobenzamic Acid
- Iobitridol
- Iocarmic Acid
- Iocetamic Acid
- Iodamide
- Iodipamide
- Iodixanol
- Iodohippuric Acid
- Iodopyracet
- Iodoxamic Acid
- Ioglicic Acid
- Ioglycamic Acid
- Iohexol
- Iomeprol
- Iopamidol
- Iopanoic Acid
- Iopentol
- Iophendylate
- Iopromide
- Iopronic Acid
- Ioseric Acid
- Iosimide
- Iotasul
- Iothalamate
- Iotrolan
- Iotroxic Acid
- Ioxaglate
- Ioxitalamic Acid

- Ipodate
- Metrizamide
- Metrizoic Acid
- Tyropanoate Sodium

Using this medicine with any of the following medicines is usually not recommended, but may be required in some cases. If both medicines are prescribed together, your doctor may change the dose or how often you use one or both of the medicines.

- Aspirin
- Bexagliflozin
- Bupropion
- Capmatinib
- Chloroquine
- Ciprofloxacin
- Dasabuvir
- Delafloxacin
- Dofetilide
- Dolutegravir
- Enoxacin
- Fexinidazole
- Gatifloxacin
- Gemifloxacin
- Grepafloxacin
- Hydroxychloroquine
- Ioversol
- Lanreotide
- Levofloxacin
- Levoketoconazole
- Lomefloxacin
- Moxifloxacin
- Norfloxacin
- Octreotide
- Ofloxacin
- Ombitasvir
- Paritaprevir
- Pasireotide
- Pioglitazone
- Semaglutide
- Sitagliptin
- Sparfloxacin
- Tafenoquine

- Thioctic Acid
- Trovafloxacin
- Vandetanib

Using this medicine with any of the following medicines may cause an increased risk of certain side effects, but using both drugs may be the best treatment for you. If both medicines are prescribed together, your doctor may change the dose or how often you use one or both of the medicines.

- Acebutolol
- Atenolol
- Betaxolol
- Bisoprolol
- Bitter Melon
- Carteolol
- Carvedilol
- Celiprolol
- Colesevelam
- Esmolol
- Fenugreek
- Furazolidone
- Glucomannan
- Guar Gum
- Iproniazid
- Isocarboxazid
- Labetalol
- Levobunolol
- Linezolid
- Methylene Blue
- Metipranolol
- Metoprolol
- Moclobemide
- Nadolol
- Nebivolol
- Nialamide
- Oxprenolol
- Patiromer
- Penbutolol
- Phenelzine
- Pindolol
- Practolol
- Procarbazine

- Propranolol
- Psyllium
- Ranolazine
- Rasagiline
- Rifampin
- Safinamide
- Selegiline
- Sotalol
- Timolol
- Tranylcypromine
- Verapamil

Other Interactions

Certain medicines should not be used at or around the time of eating food or eating certain types of food since interactions may occur. Using alcohol or tobacco with certain medicines may also cause interactions to occur. The following interactions have been selected on the basis of their potential significance and are not necessarily all-inclusive.

Other Medical Problems

The presence of other medical problems may affect the use of this medicine. Make sure you tell your doctor if you have any other medical problems, especially:

- Alcohol, excessive use or
- Underactive adrenal glands or
- Underactive pituitary gland or
- Undernourished condition or
- Weakened physical condition or
- Any other condition that causes low blood sugar—Patients with these conditions may be more likely to develop low blood sugar while taking metformin.

- Anemia (low levels of red blood cells) or
- Vitamin B12 deficiency—Use with caution. May make these conditions worse.

- Congestive heart failure, acute or unstable or
- Dehydration or
- Heart attack, acute or
- Hypoxemia (decreased oxygen in the blood) or
- Kidney disease or
- Liver disease or
- Sepsis (blood poisoning) or
- Shock (low blood pressure, blood circulation is poor)—A rare condition called lactic acidosis can occur. Talk with your doctor if you have concerns about this.

- Diabetic ketoacidosis (ketones in the blood) or
- Kidney disease, severe or
- Metabolic acidosis (extra acids in the blood) or
- Type 1 diabetes—Should not be used in patients with these conditions.

- Fever or
- Infection or
- Surgery or
- Trauma—These conditions may cause temporary problems with blood sugar control and your doctor may want to treat you with insulin.

Proper Use

This medicine usually comes with a patient information insert. Read the information carefully and make sure you understand it before taking this medicine. If you have any questions, ask your doctor.

Carefully follow the special meal plan your doctor gave you. This is a very important part of controlling your condition, and is necessary if the medicine is to work properly. Also, exercise regularly and test for sugar in your blood or urine as directed.

Metformin should be taken with meals to help reduce stomach or bowel side effects that may occur during the first few weeks of treatment.

Swallow the tablet or extended-release tablet whole with a full glass of water. Do not crush, break, or chew it.

While taking the extended-release tablet, part of the tablet may pass into your stool after your body has absorbed the medicine. This is normal and nothing to worry about.

Measure the oral liquid with a marked measuring spoon, oral syringe, or medicine cup. The average household teaspoon may not hold the right amount of liquid.

Use the supplied dosing cup to measure the mixed extended-release oral suspension. Ask your pharmacist for a dosing cup if you do not have one.

Use only the brand of this medicine that your doctor prescribed. Different brands may not work the same way.

You may notice improvement in your blood glucose control in 1 to 2 weeks, but the full effect of blood glucose control may take up to 2 to 3 months. Ask your doctor if you have any questions about this.

Dosing

The dose of this medicine will be different for different patients. Follow your doctor's orders or the directions on the label. The following information includes only the average doses of this medicine. If your dose is different, do not change it unless your doctor tells you to do so.

The amount of medicine that you take depends on the strength of the medicine. Also, the number of doses you take each day, the time allowed between doses, and the length of time you take the medicine depend on the medical problem for which you are using the medicine.

- For type 2 diabetes:
  - For oral dosage form (extended-release tablets):
    - Adults—
      - Metformin alone (Fortamet®): At first, 1000 milligrams (mg) once a day taken with the evening meal. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 2500 mg per day.
      - Metformin alone (Glucophage® XR): At first, 500 mg once daily with the evening meal. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 2000 mg per day.
      - Metformin alone (Glumetza®): At first, 500 mg once a day taken with the evening meal. Then, your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 2000 mg per day.
      - Metformin with a sulfonylurea: Your doctor will determine the dose of each medicine.
      - Metformin with insulin: At first, 500 mg once a day. Then, your doctor may increase your dose by 500 mg every week if needed until your blood sugar is controlled. However, the dose is usually not more than 2500 mg per day.
    - Children—Use and dose must be determined by your doctor.
  - For oral dosage form (extended-release suspension):
    - Adults—At first, 5 milliliters (mL) once a day taken with the evening meal. Your doctor may increase your dose by 5 mL weekly if needed until your blood sugar is controlled. However, the dose is usually not more than 20 mL per day.
    - Children 10 to 16 years of age—At first, 5 mL once a day taken with the evening meal. Your doctor may increase your dose by 5 mL weekly if needed until your blood sugar is controlled. However, the dose is usually not more than 20 mL per day.
    - Children younger than 10 years of age—Use and dose must be determined by your doctor.
  - For oral dosage form (solution):
    - Adults—
      - Metformin alone: At first, 5 milliliters (mL) two times a day, or 8.5 mL once a day with meals. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 25.5 mL per day.
      - Metformin with a sulfonylurea: Your doctor will determine the dose of each medicine.
      - Metformin with insulin: At first, 5 mL once a day. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 25 mL per day.

        - Children 10 to 16 years of age—At first, 5 mL two times a day with meals. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 20 mL per day.
        - Children younger than 10 years of age—Use and dose must be determined by your doctor.
    - For oral dosage form (tablets):
        - Adults—
            - Metformin alone: At first, 500 milligrams (mg) two times a day taken with the morning and evening meals, or 850 mg a day taken with the morning meal. Your doctor may increase your dose if needed until your blood sugar is controlled. Later, your doctor may want you to take 500 or 850 mg two to three times a day with meals. However, the dose is usually not more than 2550 mg per day.
            - Metformin with a sulfonylurea: Your doctor will determine the dose of each medicine.
            - Metformin with insulin: At first, 500 mg a day. Your doctor may increase your dose by 500 mg every week if needed until your blood sugar is controlled. However, the dose is usually not more than 2500 mg per day.
        - Children 10 to 16 years of age—At first, 500 mg two times a day taken with the morning and evening meals. Your doctor may increase your dose if needed until your blood sugar is controlled. However, the dose is usually not more than 2000 mg per day.
        - Children younger than 10 years of age—Use and dose must be determined by your doctor.

Missed Dose

If you miss a dose of this medicine, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

Storage

Store the medicine in a closed container at room temperature, away from heat, moisture, and direct light. Keep from freezing.

Keep out of the reach of children.

Do not keep outdated medicine or medicine no longer needed.

Ask your healthcare professional how you should dispose of any medicine you do not use.

Precautions

It is very important that your doctor check your or your child's progress at regular visits, especially during the first few weeks that you take this medicine. Blood and urine tests may be needed to check for unwanted effects.

This medicine may interact with the dye used for an X-ray or CT scan. Your doctor should advise you to stop taking it before you have any medical exams or diagnostic tests that might cause less urine output than usual. You may be advised to start

taking the medicine again 48 hours after the exams or tests if your kidney function is tested and found to be normal.

Make sure any doctor or dentist who treats you knows that you are using this medicine. You may need to stop using this medicine several days before having surgery or medical tests.

It is very important to carefully follow any instructions from your health care team about:

- Alcohol—Drinking alcohol may cause severe low blood sugar. Discuss this with your health care team.
- Other medicines—Do not take other medicines unless they have been discussed with your doctor. This especially includes nonprescription medicines such as aspirin, and medicines for appetite control, asthma, colds, cough, hay fever, or sinus problems.
- Counseling—Other family members need to learn how to prevent side effects or help with side effects if they occur. Also, patients with diabetes may need special counseling about diabetes medicine dosing changes that might occur with lifestyle changes, such as changes in exercise or diet. Counseling on birth control and pregnancy may be needed because of the problems that can occur in pregnancy for patients with diabetes.
- Travel—Keep a recent prescription and your medical history with you. Be prepared for an emergency as you would normally. Make allowances for changing time zones and keep your meal times as close as possible to your usual meal times.
- In case of emergency—There may be a time when you need emergency help for a problem caused by your diabetes. You need to be prepared for these emergencies. It is a good idea to wear a medical identification (ID) bracelet or neck chain at all times. Also, carry an ID card in your wallet or purse that says that you have diabetes and a list of all of your medicines.

Under certain conditions, too much metformin can cause lactic acidosis. The symptoms of lactic acidosis are severe and quick to appear, and usually occur when other health problems not related to the medicine are present and are very severe, such as a heart attack or kidney failure. Symptoms of lactic acidosis include abdominal or stomach discomfort, decreased appetite, diarrhea, fast or shallow breathing, a general feeling of discomfort, severe muscle pain or cramping, and unusual sleepiness, tiredness, or weakness.

If symptoms of lactic acidosis occur, you should get immediate emergency medical help.

This medicine may cause some premenopausal women who do not have regular monthly periods to ovulate. This can increase the chance of pregnancy. If you are a woman of childbearing potential, you should discuss birth control options with your doctor.

This medicine may cause hypoglycemia (low blood sugar). This is more common when this medicine is taken together with certain medicines. Low blood sugar must be treated before it causes you to pass out (unconsciousness). People feel different symptoms of low blood sugar. It is important that you learn which symptoms you usually have so you can treat it quickly. Talk to your doctor about the best way to treat low blood sugar.

Hyperglycemia (high blood sugar) may occur if you do not take enough or skip a dose of your medicine, overeat or do not follow your meal plan, have a fever or infection, or do not exercise as much as usual. High blood sugar can be very serious and must be treated right away. It is important that you learn which symptoms you have in order to treat it quickly. Talk to your doctor about the best way to treat high blood sugar.

High blood sugar may occur if you do not exercise as much as usual, have a fever or infection, do not take enough or skip a dose of your diabetes medicine, or overeat or do not follow your meal plan.

Side Effects

Along with its needed effects, a medicine may cause some unwanted effects. Although not all of these side effects may occur, if they do occur they may need medical attention.

Check with your doctor immediately if any of the following side effects occur:

More common

- Abdominal or stomach discomfort
- cough or hoarseness
- decreased appetite
- diarrhea
- fast or shallow breathing
- fever or chills
- general feeling of discomfort
- lower back or side pain
- muscle pain or cramping
- painful or difficult urination
- sleepiness

Less common

- Anxiety
- blurred vision
- chest discomfort
- cold sweats
- coma
- confusion
- cool, pale skin
- depression
- difficult or labored breathing
- dizziness
- fast, irregular, pounding, or racing heartbeat or pulse
- feeling of warmth

- headache
- increased hunger
- increased sweating
- nausea
- nervousness
- nightmares
- redness of the face, neck, arms, and occasionally, upper chest
- seizures
- shakiness
- slurred speech
- tightness in the chest
- unusual tiredness or weakness

Rare

- Behavior change similar to being drunk
- difficulty with concentrating
- drowsiness
- lack or loss of strength
- restless sleep
- unusual sleepiness

Some side effects may occur that usually do not need medical attention. These side effects may go away during treatment as your body adjusts to the medicine. Also, your health care professional may be able to tell you about ways to prevent or reduce some of these side effects. Check with your health care professional if any of the following side effects continue or are bothersome or if you have any questions about them:

More common

- Acid or sour stomach
- belching
- bloated
- excess air or gas in the stomach or intestines
- full feeling
- heartburn
- indigestion
- loss of appetite
- metallic taste in the mouth
- passing of gas
- stomachache
- stomach upset or pain
- vomiting
- weight loss

Less common

- Abnormal stools
- bad, unusual, or unpleasant (after) taste
- change in taste
- difficulty with moving
- discoloration of the fingernails or toenails
- flu-like symptoms
- joint pain
- rash
- sneezing
- stuffy or runny nose
- swollen joints

Other side effects not listed may also occur in some patients. If you notice any other effects, check with your healthcare professional.