

Nateglinide

Why should I use this medication?

- You should take this medication if you are having trouble keeping your blood sugars down to a normal level. You should use nateglinide if you can't take other medications like metformin or glyburide, if you are taking other medications like metformin or glyburide but they are not working their best to keep your blood sugars close to the normal level or if you are having trouble with high blood sugars 2 hours after you eat.
- Taking this medication will decrease your blood sugars, make you feel better, and decrease your risk of complications.
- Taking nateglinide and/or other medications is only one part of a 3 point plan in the battle against diabetes. You should also make positive lifestyle changes and manage stress.

How will it make my life better?

- In the first month or two, it will be a trade-off. If you are going to have side-effects, it tends to happen in the beginning or with changes in dose. After a while, you will experience fewer side-effects.
- Nateglinide may make your life better in that it allows for more flexible dosing and may cause fewer low blood sugars compared to other medications. Since this medication works best at the time you are eating, it gives you more flexibility in when you take the dose. If you find yourself skipping a meal, this is the best medication to take. If you skip a meal, you skip the medication. If you add a meal, you add the medication.

How do I know it's working?

This medication should start to work right away but you may not see its full effect for a couple weeks.

You can tell if the drug is working by:

1. Checking your blood sugar on a regular basis. If the drug is working, you should start to see the numbers come down. This medication can decrease your blood sugar by up to 2 units (mmol/l), but typically around 0.5-1 units. Your own results depend on many things so it's not possible to say for sure how well this drug will work for you.

Example: If your blood sugar after a meal is 13 mmol/l, you may see a decrease to 11-12 mmol/l.

2. You start to feel better. Once your blood sugars come down, you'll feel less tired and not so thirsty all the time. You'll also stop going to the bathroom so often.

Your doctor or healthcare provider can tell if the drug is working by:

1. Reviewing your day to day blood sugars with you (it is very helpful if you can jot down your numbers regularly and bring them with you to the clinic).
2. Ordering a blood test called your Hemoglobin A1C. Your A1C is the best "big picture" test for your blood sugar control. It looks at your blood sugar control over the last 2 to 3 months. Nateglinide can usually decrease this number by about 0.5%

Dr. Mike's Key Points

- If you are like most of my patients, you don't really like taking medications. Taking pills is easier when you can see an immediate benefit. For example, if you take a pill for arthritis, you feel better within an hour. Taking nateglinide lowers your overall blood sugar levels (and therefore your A1C) but you may not feel all that different. But make no mistake; lowering your A1C is critical for your long term quality of life.

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Is there any reason why I shouldn't take this drug?

You should not use this drug if you are allergic to nateglinide. This drug should not be used and will not work if you have type-1 diabetes. Before taking this medication, tell your doctor specifically if you have or have ever had:

- problems with your liver or kidney
- low blood sugar (hypoglycemia)
- difficulty eating 2-3 meals per day

What about possible side effects?

The most common side effects to nateglinide are low blood sugar (hypoglycemia) and weight gain. Low blood sugar has been shown to occur in about 3 % of people although the rate is probably higher and some form of weight gain (about 1 kg) usually occurs in the majority of those who take nateglinide. However, these side effects tend to be fewer when compared to some other medications, like glyburide.

Both side effects are related to the dose but the frequency and severity of low blood sugar is often dependent on other factors such as age, diet, exercise, alcohol and other drugs or medical conditions. As well, your chances for low blood sugar will be less if the medication is taken properly.

Talk to your doctor or pharmacist about whether you have any risk factors that may make you more sensitive to low blood sugar.

Other side effects that occur less often are:

- Nausea & diarrhea (less than 5%) and rash (rare: case reports)
- In rare cases, nateglinide may also cause abnormalities in liver function tests. Routine monitoring is not usually required

This is not a complete list of side effects. If you are concerned about these or other unusual symptoms while taking this medication, ask your doctor and/or pharmacist for more information and advice.

What if I am taking other drugs?

Always provide your doctor with a list of all other drugs you are taking (including over-the-counter medications and herbal/natural products) as they may interact and may change the safety or effectiveness of either drug. Tell your doctor specifically if you are taking any of these drugs as he/she may need to make changes or check you more closely:

- Prednisone, dexamethasone, cortisone, high dose hydrochlorothiazide (>25mg), albuterol, pseudoephedrine, olanzapine, risperidone, niacin. (These drugs may increase your blood sugar and decrease the effectiveness of nateglinide.)
- Other diabetes medications (metformin, insulin, rosiglitazone, pioglitazone, glyburide and other sulfonylureas, acarbose)
- Erythromycin, itraconazole, ketoconazole: may increase the amount of nateglinide in the blood
- Rifampin, carbamazepine, phenobarbital: may decrease the amount of nateglinide in the blood
- Fenugreek, licorice, bitter melon, eucalyptus, ginseng, St. John's Wort
- Atenolol, metoprolol, propranolol and other beta-blockers: may decrease your ability to feel the symptoms of low blood sugar

This is not a complete list of drug interactions. Ask your doctor or pharmacist to review your list of medications.

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Dr. Christine's Pharmacist Tips:

- This medication works very fast and works best for decreasing high blood sugars that occur after a meal. The best time to take this medication is about 15 minutes before you start eating your meal. But you can take it anywhere from 30 minutes to immediately before you start eating.
- If you skip a meal for whatever reason, then skip your medication. Otherwise, you might increase your chances for having low blood sugar
- If you add a meal for whatever reason, then add an extra dose. This will help to keep your blood sugars from getting too high from the extra food.
- If you do develop symptoms of low blood sugar (shaking hands, fast heartbeat, sweating, confusion, dizziness, feeling hungry, feeling tired and drowsy) then take any of the following:
 - 3 glucose tablets, 6 life-savers, 3 teaspoons or packets of tablet sugar in water, 3/4 cup juice
 - Recheck your blood sugar again in 15 minutes, if it is still $< 4\text{mmol/l}$ then repeat the above.
 - Once the blood sugar is normalized (and not too high), you should have a small snack or a meal if it is around that time. This will help prevent another low blood sugar episode.
- This medication may not work as well if you are sick or you may have a greater chance for low blood sugar if you have diarrhea, vomiting or can't eat because of illness. It is best to check your blood sugars more frequently when you are sick. Call your doctor or pharmacist if you have any questions.
- The maximum amount of this medication is usually 120mg three times per day. If you have not seen an improvement in your blood sugars after a month of being at your current dose, then you should go see your doctor. He/she may need to make changes.

Dr. Mike's Key Points

- Think of taking medications to lower your blood sugar like an investment: it requires some effort and commitment but it will provide large returns in the long run.