

# My insulin guide

Insulin is a hormone that lowers the amount of sugar in your blood. In diabetes, the body does not produce any or enough insulin or does not respond to it properly. People with type 1 diabetes require insulin injections. People with type 2 diabetes may require medication, insulin injections, or both. This is done to prevent complications of high blood sugar, such as blindness, heart disease, nerve damage, or stroke.

There are many types of insulin and your physician or primary health care provider will help choose a regimen best suited to you. Here are the insulin types available in Canada:

Insulin type, appearance, and action	Brand names (generic name in brackets)	Dosing
<b>Rapid-acting analogue</b> <ul style="list-style-type: none"> <li>▶ clear appearance</li> <li>▶ Onset: 10 to 15 minutes</li> <li>▶ Duration: 3 to 5 hours</li> </ul>	<b>Apidra®</b> (insulin glulisine) <b>Humalog®</b> (insulin lispro) <b>NovoRapid®</b> (insulin aspart)	Usually taken up to 15 minutes before eating, or to lower high blood glucose.
<b>Short-acting</b> <ul style="list-style-type: none"> <li>▶ clear appearance</li> <li>▶ Onset: 30 minutes</li> <li>▶ Duration: 6.5 hours</li> </ul>	<b>Humulin®-R</b> <b>Novolin®ge Toronto</b>	Usually taken about 30 minutes before eating, or to lower high blood glucose
<b>Intermediate-acting</b> <ul style="list-style-type: none"> <li>▶ cloudy appearance</li> <li>▶ Onset: 1 to 3 hours</li> <li>▶ Duration: up to 18 hours</li> </ul>	<b>Humulin®-N</b> <b>Novolin®ge NPH</b>	Usually taken at bedtime, or twice a day (morning and bedtime)
<b>Long-acting analogue</b> <ul style="list-style-type: none"> <li>▶ clear and colourless appearance</li> <li>▶ Onset: 90 minutes</li> <li>▶ Duration: Lantus 24 hours Levemir 16 to 24 hours</li> </ul>	<b>Lantus®</b> (insulin glargine) <b>Levemir®</b> (insulin detemir)	Usually taken once or twice a day. This product should not be mixed with other insulin products.
<b>Premixed regular insulin – NPH</b> <ul style="list-style-type: none"> <li>▶ Onset: 30 minutes</li> <li>▶ Duration: up to 24 hours</li> </ul> <small>Each vial or cartridge contains a fixed ratio of insulin</small>	<b>Humulin®</b> (30/70) <b>Novolin®ge</b> (30/70, 40/60, 50/50)  <small>The ratio of fast-acting or rapid-acting insulin to intermediate-acting is in brackets, i.e., 30/70 means the insulin is made up of 30% of fast- or rapid-acting insulin and 70% intermediate-acting insulin.</small>	Ask your physician, pharmacist, or other primary health care provider how to take your combination product.
<b>Premixed insulin analogues</b> <ul style="list-style-type: none"> <li>▶ Onset: 10 to 20 minutes</li> <li>▶ Duration: up to 24 hours</li> </ul>	<b>Humalog® Mix25</b> and <b>Mix50</b> <b>NovoMix®30</b>	

## Did you know?

- ▶ Smoking triples your risk of heart attack compared to a person with diabetes who doesn't smoke. If you're a smoker, quit!
- ▶ Most people with diabetes should keep their blood pressure below 130/80 mm Hg to prevent complications such as stroke and kidney failure.
- ▶ You should get at least 150 minutes of moderate-intensity exercise a week—if you're just starting to exercise, check with your physician or primary health care provider first.

## Check it

What	When
A1C blood work	Every 3 months
LDL-C cholesterol test	Once a year
Kidneys	Every 6 to 12 months
Eyes/vision	Every 1 to 2 years <small>(more often if you have eye disease)</small>
Ingrown toenails or unhealed cuts	As soon as possible

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## Low blood sugar!

Low blood sugar occurs when the amount of sugar in your blood drops to below 4 mmol/L. Symptoms: anxiety, irritability, confusion, drowsiness, hunger, trembling, weakness, nausea. What to do: take 15 grams of carbohydrates - glucose tablets are preferred, but a tablespoon of honey, or  $\frac{3}{4}$  cup of juice will also do. Test your blood sugar in 10 to 15 minutes and take another dose of carbohydrates if levels are still below 4.0 mmol/L. In case of emergency, such as when your blood sugar drops very low and you lose consciousness or have a seizure, you will need help from another person who should seek prompt medical attention.

## What should I do if I am...

### ...going out:

If you're going to be eating or drinking more than usual, ask your health care professional if you need to adjust your insulin. Make sure you keep your insulin and rapid-acting carbohydrates (glucose tablets) on you.

### ...sick:

Get plenty of rest and sugar- and caffeine-free fluids. Try to get 15 grams of carbohydrates per hour. You may need to adjust your insulin, but don't stop taking it—check with your health care professional.

### ...exercising:

You'll probably need to adjust your intake of insulin and carbohydrates - it's best to ask your doctor, but a general rule is 15 g to 30 g of carbohydrates for every 30 to 60 minutes of moderate-intensity exercise. Avoid injecting insulin into an area you'll be exercising. Keep rapid-acting carbohydrates (e.g., glucose tablets) with you in case your blood sugar goes too low. Monitor your blood sugar before, during, and many hours after exercising—this will help you get a picture of how much insulin or carbohydrates you should take for next time.

**Learn more about your condition to help you manage it.  
If you have any questions, ask your health care professional.**

## My insulin

Ask your health care professional about when and how to take your insulin. Keep a log of how to use your insulin, and monitor your blood sugar on a regular basis.

Name	Dosing	Other information

Unopened (not in use) insulin should be stored at 2°C to 10°C (preferably in a refrigerator) but should not be allowed to freeze. When in use, insulin can be kept at room temperature for up to 28 days.