

# Diabetes: Just the Basics

## Diabetes Medicine: Insulin

By using insulin, you are taking a very important step in controlling your diabetes. Insulin can help you control your blood sugar, feel better, and improve your long-term health.

Insulin is a hormone made by the pancreas. It is needed to move glucose from your blood to your cells to be used as energy. People who have type 1 diabetes have to take insulin. People who have type 2 diabetes may control their diabetes with pills, but may also take insulin. Insulin can be taken by injection or pump, and sometimes by inhaler. This handout is about insulin that is injected.

### Points to know about insulin

- Take your insulin consistently
- If your insulin needs to be mixed, roll it
- Always check the appearance of your insulin before using it. Do not use it if it looks different than it usually does (if there are clumps in it, or if it looks cloudy when it should be clear)
- Keep your insulin in a cool, dry place (refrigerator, not freezer)
- Inject each insulin dose in a different spot (at least two inches from the site of the last dose)
- If you have any questions or concerns about your insulin, call your healthcare provider
- Never skip your insulin unless instructed by your healthcare provider

### Your insulin schedule

#### Basal insulin

These insulins last 8 to 24 hours. They may not need to be taken with a meal. They are frequently taken at bedtime. Ask your healthcare provider when you should take your basal insulin.

Name of Insulin	Number of units to take	When to take

#### Bolus insulin

These insulins start to work very quickly and are short-acting. They are usually taken with a meal to prevent a large rise in blood sugar. Ask your healthcare provider when you should take your bolus insulin.

Name of Insulin	Number of units to take	When to take

## Checking the effect of insulin

You cannot control your blood sugar without checking to see how your insulin is working, and how your body is responding to your activities of the day. So, *talk with your healthcare provider about when you should check your blood sugar and what your blood sugar targets should be and then fill in the charts below.*

Days and Times I will check my blood sugar			
How many days a week should I check my blood sugar? _____			
What times should I check my blood sugar? (circle times below)			
Before breakfast	Before lunch	Before supper	Before bed
2 hours after breakfast	2 hours after lunch	2 hours after supper	2 – 3 am

## Target blood sugar ranges

Time	Usual target for most people	My target (write yours here)
Before meals	80 - 120	
2 hours after start of meal	Less than 180	
Bed time	110 - 150	

## Storing your insulin

Unopened insulin:  
(vials, pens, and cartridges)

- Store in the refrigerator
- Do not freeze
- Do not use after the expiration date

Opened Insulin:

- May keep at room temperature
- Keep away from direct heat and direct light
- Throw out after 1 month

When Traveling:

- Keep with you in a carry-on bag
- Do not let insulin get too hot or cold

## Steps To Better Health

- Check your blood sugar regularly
- Call your healthcare provider if you are having trouble drawing up or injecting your insulin
- Call your healthcare provider if you see unusual ups or downs in your blood sugar levels

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## Low Blood Sugar (Hypoglycemia)

Your blood sugar can go too low if you are taking certain diabetes pills or insulin. A blood sugar reading less than 70 is too low for most people with diabetes. When you feel that your blood sugar may be low, you should check your blood sugar with your meter. However, if you can't check your blood sugar right away, treat yourself as if the blood sugar is low. Low blood sugar can happen very fast.

### Things that make your blood sugar go too low

- Missing a meal or eating later than usual
- Too much diabetes medicine
- More physical activity than usual

### What to do if you have a very low blood sugar

If you have a blood sugar reading below 70, or if you think your blood sugar is low but can't check it, you should treat your blood sugar right away.

Eat 15 grams of carbohydrates. Some examples are:

- 3 glucose tablets
- ½ cup of fruit juice or regular soda (not sugar free)
- 1 cup of low-fat milk
- 5-6 regular life savers (not sugar-free)

It takes about 15 minutes to start to feel better. Rest for 15 minutes. After 15 minutes, if you do not feel better and your blood sugar is still not over 70, treat it again with the same amount of food and rest for another 15 minutes.

Once your blood sugar is back above 70 you will need to have something else to eat. If your next meal is more than 1 hour away, have a snack such as a half-sandwich, a serving of crackers and peanut butter, or crackers and cheese. If your next meal is less than 1 hour away, eat sooner.

### You can prevent low blood sugar

Most low blood sugar reactions happen because of changes in your routine. Try to identify why a low blood sugar has occurred.

- Medicine (The timing of it, the amount you took)
- Food (Did you eat less? Was your meal later than usual?)
- Activity level (Was it more than usual?)

If you had a change, try to make a plan so the same thing won't happen again. If you have more than 2 low blood sugars in a week and you don't know why, call your doctor. You may need a change in your medicine.

If you take medicine that can cause low blood sugar (e.g. insulin, sulfonylureas, meglitinides), always have something with you such as lifesavers or glucose tablets to treat a low blood sugar.

### How you may feel when your blood sugar is too low

You may not feel anything when your blood sugar is low, however, common symptoms include feeling:

- Shaky, sweaty, weak
- Irritable, anxious
- Very hungry
- Numbness or tingling around your lips
- Confused or having a sudden mood change

### Steps To Better Health

- Eat your meals at regular times
- Call your healthcare provider if you have a lot of low blood sugars
- Have a meal or snack within 1 hour after a low blood sugar