







Insulin

How does Insulin work?

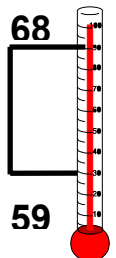
Insulin lowers blood sugar by helping move sugar from your bloodstream into your cells. **If you have Type 1 Diabetes, your body does not make insulin and you must take insulin shots.** If you have **Type 2 Diabetes**, your **body** either **makes too little insulin**, or your body **can not use the insulin you make**. When you first find out you have diabetes, a meal plan and exercise may help lower your blood sugar. If these do not work, your doctor may add one or more type of diabetes pills to lower your blood sugar. After a few years, **you may need to take insulin shots with your diabetes pills.**

Types of Insulin

<p>Rapid-Acting Humalog (Lispro) and Novolog (Aspart)</p> <ul style="list-style-type: none"> ◆ Onset is 15-30 minutes ◆ Peak time is 30 minutes to 3 hours ◆ Duration is 2-6 hours 		<p>Short Acting Regular (R)</p> <ul style="list-style-type: none"> ◆ Onset is 30-60 minutes ◆ Peak time is 1-5 hours ◆ Duration is 3-10 hours 	<p>Intermediate-Acting NPH (N) or Lente (L)</p> <ul style="list-style-type: none"> ◆ Onset is 1-4 hours ◆ Peak time is 4-14 hours ◆ Duration is 10-24 hours
<p>NPH and Regular Insulin Mixture (70/30)</p> <ul style="list-style-type: none"> ◆ Onset is 30-60 minutes ◆ Peak time is 1-12 hours ◆ Duration is 3-24+ hours 			
<p>Aspart and Aspart Protamine Suspension (70/30 Mixture)</p> <ul style="list-style-type: none"> ◆ Onset is 15-30 minutes ◆ Peak time is 30 minutes to 6.5 hours ◆ Duration is 2-24 hours 	<p>Long-Acting Ultralente (U)</p> <ul style="list-style-type: none"> ◆ Onset is 4-10 hours ◆ Peak time is 8-20 hours ◆ Duration is 18-28 hours 	<p>Long-Acting Lantus (Glargine)</p> <ul style="list-style-type: none"> ◆ Onset is 2-5 hours ◆ No Peak time ◆ Duration is 24+ hours 	
<p>NPL and Lispro Insulin Mixture (75/25)</p> <ul style="list-style-type: none"> ◆ Onset is 15 minutes ◆ Peak time is 1.6- 5 hours ◆ Duration is 2-24 hours 			

How should you store insulin?

- After you open a new vial of insulin be sure and write the date you open it on the vial.
- Insulin can be stored at room temperature (between 59° to 68°) for 28 days.
- After 28 days, throw away the rest of the insulin, even if there is insulin left in the vial. It loses its strength and will not lower your blood sugar like it should.
- If insulin gets too hot or too cold, it breaks down and does not work. So, do not keep insulin in very cold places (like the freezer) or in hot places (like the glove compartment of your car).
- Do not store insulin in direct light.



Please call **1-800-SENTARA (736-8272)** to sign up for the **“Healthy Living with Diabetes”** classes.

When should you take your insulin?

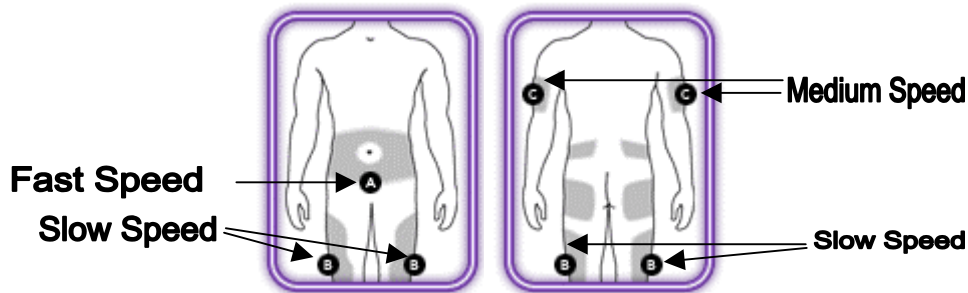
- Take your insulin before you eat. If you take Lantus, take it at bedtime.
- Take Humalog or Novolog 15 minutes before you eat.
- Take all other insulins 30 minutes before you eat.
- Take your insulin and eat your meals at about the same time each day. This helps keep your blood sugar levels more stable.



Where should you inject your insulin?

You can inject insulin several places on your body:

- Insulin works fastest when you inject in your abdomen (stomach area). Avoid a 2 inch circle around your navel when you inject in your abdomen.
- Insulin injected in the arm works at medium speed.
- Insulin injected in the thigh works slowest.
- Rotate your injection sites (within the same site) so you don't injure the skin and fatty tissue. Don't inject within a one-inch area around the last injection site.
- See the picture below for sites to inject your insulin:



What are the side effects of insulin?

- A low blood sugar reaction.
- Weight gain.

Insulin Tips:

- Always look at your insulin before you use it. Regular insulin should be clear and have no color. Do not use Regular insulin if it is cloudy.
- Do not use cloudy insulin if it has clumps or crystals in the bottle, or it divides in layers.
- **Never mix Lantus (Glargine) with any other type of insulin.**
- Keep an extra, unopened bottle of insulin in your refrigerator.
- Avoid heat to the injection area right after taking insulin (like a hot bath or heating pad). This will make the insulin work too quickly.
- Avoid using an injection area that you will use during exercise – for example, do not use your thigh if you plan to walk, jog or run.
- Throw away your insulin syringes in a safe Home Sharps Disposal Container.
- When you buy insulin, always check the following to be sure you have the medicine your doctor ordered:
 - Expiration Date
 - Type (Regular, NPH, etc.)
 - Brand Name (Humulin, Novolin)

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