

## 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 **cannot use the insulin you make**. When you first find out you have Type 2 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 along with your diabetes pills.**

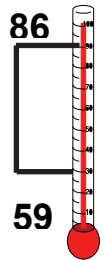
## Types of Insulin

If you didn't have diabetes, your body would make different amounts of insulin at different times. It would give you **small steady amounts between meals and overnight**. This is sometimes called "**basal**" or "**background**" insulin. It would give you **larger amounts when you eat a meal or snack**. That is sometimes called "**bolus**" or "**mealtime**" insulin. Together, both types of insulin work to keep your blood sugar in control all the time.

Because your body doesn't make or use insulin, you may need to take more than one type of insulin to get the same effect as the body's natural basal and bolus insulin. The different types work at different rates and for different amounts of time.

## 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 86°).
- Consult package insert for disposal instructions
- 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 your car in the Summer).**
- Do not store insulin in direct light.



## How is insulin taken?

- Common ways to take insulin are a syringe and needle, an insulin pen, or insulin pump.



## When should you take your insulin?

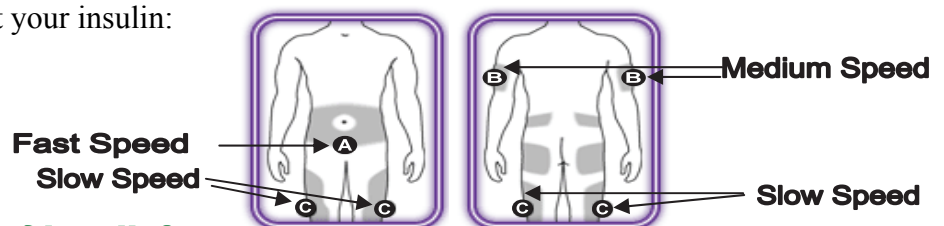
- **Take Lantus or Levemir the same time, each day.**
- **Take Humalog, Novolog or Apidra 15 minutes before you eat.**



## Where should you inject your insulin?

You can inject insulin several places in your body:

- Insulin works fastest when you inject in your abdomen (stomach area). Avoid a 2-inch circle around your navel.
- Avoid scars or parts of your body where you had surgery.
- 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 for sites to inject your insulin:



## What are the side effects of insulin?

- A low blood sugar reaction.
- Weight gain

# Survival Skills.....Insulin and Injectables



Category	Name	Action Time				Tips
		Onset	Peak	Duration	Use	
Rapid Acting	Humalog/Lispro	15-30 minutes	30 minutes to 2.5 hours	2 - 6 hours	Mealtime	<ul style="list-style-type: none"> <li>Always look at your insulin before use and check expiration date. Do not use clear insulin if it is cloudy.</li> <li>Do not use cloudy insulin if it has clumps or crystals in the bottle.</li> <li>Avoid heat to the injection area right after taking insulin (hot bath/heating pad).</li> <li>Avoid using an injection area that you will use during exercise.</li> <li>Read manufacturers guidelines &amp; pharmacy educational brochure for more detailed information</li> <li><b>Never mix in same syringe with any other type of insulin.</b></li> <li>Dispose of insulin syringes/pen needles in a safe Home Sharps Disposal Container.</li> <li>Dispose of opened insulin after 28 days.</li> <li>Levemir should be disposed of after 42 days</li> </ul>
	Novolog/Aspart		1-3 hours	3 – 5 hours		
	Apidra/Glulisine	20 minutes	< 1 hour	5 - 6 hours	Mealtime	
Short Acting	Regular [R]	30-60 minutes	1 - 5 hours	3 - 10 hours	Mealtime	
Intermediate Acting	NPH [N]	1 - 4 hours	4-14 hours	10-24 hours	Background	
Long Acting	Levemir/Detemir	1-2 hours	Small peak 6- 8 hours	6-24 hours	Basal	
	Lantus/Glargine	2-5 hours	No Peak	24 hours	Basal	
Pre-Mixed	70/30	30-60 minutes	1-12 hours	Up to 24 hours	Combinations of intermediate and short or rapid	
	Humalog75/25 Novolog 70/30 Humalog 50/50	15-30 minutes	30 minutes – 6.5 hours	Up to 24 hours		
Injectables Non-insulin	Byetta (pen device contains 1 month supply)	Within minutes	2 hours	5 hours	Type 2 DM only	
	Victoza (liraglutide)	Slow due to self-association	8 – 12 hours	Reaches steady state over 24 hours		
	Symlin (pramlintide)	15 - 30 minutes	30 minutes	3 hours		Type 1 Type 2



**Please call 1-800- Sentara(736-8272) to register for “Healthy Living with Diabetes” classes”**