

Patient Education Sheet

Insulin for Controlling Blood Sugar

Who needs to take insulin?

Individuals with type 1 diabetes are unable to make insulin, a hormone produced by the pancreas, that is essential for life. They must take insulin to control blood glucose levels.

Individuals with type 2 diabetes may require insulin if oral diabetes medications inadequately control their blood glucose level or if their pancreas no longer can make sufficient insulin to keep blood glucose well controlled.

Also, your physician may order insulin for you temporarily while in the hospital for tighter blood sugar control

How do I take insulin?

Insulin is generally injected subcutaneously (into the fat layer under the skin). This may be done using a needle and syringe, an insulin pen, a jet injector or an insulin pump. Your physician or diabetes educator will discuss which insulin delivery device is best for you.

How much insulin do I take?

Your physician will prescribe the type and amount of insulin you need to maintain good blood glucose control. Insulin doses are measured in units.

You will be given directions on when to take your insulin and, if necessary, how you can adjust your dose based on blood glucose results, meals and physical activity.

What is the difference between "basal" and "bolus" insulin?

Normally, the pancreas makes and secretes insulin into the blood continuously. The small amount of insulin the pancreas secretes between meals and overnight is called the **basal** or background insulin.

The spurt of insulin the pancreas makes when we eat is called **bolus** insulin. Your physician prescribes insulin to replace this basal and bolus insulin to mimic the pancreas as closely as possible. You may need to take different kinds of insulin to achieve good blood glucose control.

Are there any side effects from insulin?

The most common side effect is hypoglycemia or low blood glucose. To avoid or prevent hypoglycemia, your physician will tell you when and how often you need to monitor or test your blood glucose.

What kinds of insulin are available?

Generic Name	Brand Name	Onset of Action	Peak Action	Duration
Rapid-acting insulin <ul style="list-style-type: none"> • Insulin lispro • Insulin aspart • Glulisine 	Humalog Novolog Apidra	Less than 15 minutes	1 - 2 hours	3 - 4 hours
Regular	Humulin R Novolin R	0.5 - 1 hour	2 - 3 hours	3 - 6 hours
Intermediate-acting NPH	Humulin N Novolin N	2-4 hours	4-10 hours	10-16 hours
Long-acting Insulin glargine Insulin detemir	Lantus Levemir	2-4 hours	no peak	20-24 hours
Mixtures 70% NPH/30% Regular 75% lispro protamine/25% lispro 70% aspart protamine/30% aspart	Humulin 70/30 Novolin 70/30 Humalog Mix 75/25 NovoLog Mix 70/30			

****While in the hospital, your physician may change the insulin you normally take at home depending upon the type and brand.**

Source: Diabetes Forecast, January 2007

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