GREENWICH HOSPITAL
YALE NEW HAVEN HEALTH

INSULIN FOR CONTROLLING DIABETES

PATIENT/FAMILY INFORMATION SHEET

Who needs to take insulin?

Individuals with type 1 diabetes are unable to make insulin, a hormone produced by the pancreas, which is essential for health. 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 they no longer make sufficient insulin themselves to keep blood glucose well controlled.

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 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 (U). 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.

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.

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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 your blood glucose. (See the Patient Education Fact Sheet on hypoglycemia).

What kinds of insulin are available?

Generic Name	Brand Name	Onset of Action	Peak Action	Duration
Rapid-acting insulin • Insulin lispro • Insulin aspart • Glulisine	 Humalog NovoLog Apidra	Less than 15 minutes	1 - 2 hours	3 - 4 hours
Short-acting Regular	Humulin R Novolin R	½ - 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			

Source: Diabetes Forecast, January 2011

For more Patient Fact Sheets, see the Greenwich Hospital web site at www.greenwichhospital.org and click on Patient Education

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