*Your health care provider has given you this patient education handout to further explain or remind you about an issue related to your health. This handout is a general guide only. If you have specific questions, discuss them with your doctor.*

**NOTES:**

# Diabetes: Dangerous But Treatable

## Patient Information

Nearly 16 million Americans have a dangerous disease, and they might not even know it. Diabetes is one of the leading causes of death in the United States, killing almost 190,000 people a year. It can affect the young or the old of both sexes and all races. But the good news is that when caught early enough and treated right, the prognosis is most often for normal healthy lives.

**Type 1 Diabetes**

The condition has two main types. Type 1 diabetes affects as many as 1 million Americans and results from the body's inability to produce insulin, the hormone that unlocks the cells of the body, thereby allowing glucose to enter cells and fuel them.

In the healthy pancreas, special cells called beta cells make insulin and release it with each meal to help the body use or store the glucose it gets from food. But with type 1 diabetes, the pancreas can't make enough insulin because beta cells have been destroyed.

Type 1 diabetes first occurs most often during puberty. Symptoms of type 1 diabetes can mimic the flu in children.

**Type 2 Diabetes**

As many as 95% of Americans with the condition have type 2 diabetes. Type 2 differs from type 1 and results from insulin resistance (when the body can't make enough insulin, or can't properly use it) and insulin deficiency.

Unlike the usual childhood onset of type 1 diabetes, people with type 2 typically develop the disease after 45. Usually, people aren't aware they have diabetes until severe symptoms surface or one of its serious complications requires treatment.

Some possible diabetes complications include blindness, kidney disease, heart disease, stroke and nerve injury and amputations. Because of these complications, diabetes is the seventh-leading cause of death in the United States.

**Controlling Diabetes**

To prevent diabetes complications, proper treatment is imperative. Often, type 2 diabetes can be controlled through weight loss, proper diet and exercise alone. But some type 2 patients need diabetes pills or insulin shots to help their bodies use glucose for energy. Patients with type 1 diabetes need to have daily insulin shots to allow cells to take in glucose.

**Kinds of Insulin**

Four forms of insulin are available:

• **Rapid-acting insulin ("Lispro")** starts to work within 15 minutes after injection. It peaks 30 to 90 minutes later and may last as long as five hours.

• **Short-acting (regular) insulin** usually starts to work within 30 minutes after injection. It peaks two to four hours later and stays in the blood for as long as eight hours.

• **Intermediate-acting ("NPH" and "lente") insulin** starts to work two to six hours after injection and peaks four to 14 hours later. These insulin varieties stay in the blood for as long as 20 hours.

• With almost no peak 10 to 16 hours after injection, **long-acting (ultralente) insulin** takes six to 14 hours to start working. This form stays in the blood between for as long as 24 hours

**Other Diabetes Drugs**

In addition to insulin, many patients with type 2 diabetes take oral medications (such as Glucotrol, Amaryl and Prandin) that cause beta cells to release more insulin. Glucophage, Avandia and Actos are other diabetes drugs that sensitize the body to its own insulin. Still others, such as Precose and Glyset, slow or block the breakdown of starches and certain sugars.

**You Can Help Your Diabetes**

Proper diet, exercise and weight loss are staples of diabetes treatment. The best diet is low in fat, includes only moderate amounts of protein and is high in complex carbohydrates, such as those in beans, vegetables and grains. Most importantly, you need a *consistent* diet. Be sure to eat about the same number of calories each day, plan your meals and snacks for the same times each day and never skip meals.

To help your cells take in blood sugar, you must exercise. Talk with your OT about setting up an exercise plan. About 30 minutes a day is often recommended. This may sound like a lot, but it might be able to be broken into several shorter sessions throughout the day.

Weight loss also is important to help your body use insulin better. The best way to lose weight is to exercise and follow a healthy meal plan.

*Adapted from information from the American Diabetes Association.*