

# Diabetes: What You Need to Know

## Diabetes Overview

Over sixteen million people in the United States have diabetes. About 90-95% of people with diabetes develop it as an adult. We call this Type 2 diabetes. Less than 10% of people with diabetes have Type 1 or insulin dependent diabetes. Diabetes is a chronic illness that will not go away. While we cannot cure diabetes, we can **control** diabetes. The best way to cope with diabetes is to learn as much as you can about taking care of yourself.



## What is Diabetes?

Diabetes is a disease in which the body cannot properly use the energy it gets from food. Normally, most of the food we eat is broken down or digested into sugar or glucose. Glucose provides the body's cells with the energy they need. Insulin, a hormone produced in the pancreas, helps the glucose get inside the cells where the glucose is burned for energy. In diabetes the body cannot make enough insulin or is resistant to the insulin it makes. As a result, your blood glucose can become much higher than usual. A *normal fasting blood glucose* range is about **65 -100**. When your blood sugar is **126** or higher after fasting for eight hours, the diagnosis of diabetes is made.

## Types of Diabetes:

**Type 1 Diabetes:** This type of diabetes usually occurs before the age of 40. Since the pancreas has stopped making insulin, people with this type of diabetes must take insulin injections to keep blood sugar levels in a normal range.

**Type 2 Diabetes:** This type of diabetes usually occurs after the age of 40. The pancreas still makes insulin, but it is not making enough and the body is resistant to the insulin it makes. This results in high blood glucose levels. The treatment for this type of diabetes is diet, exercise, and sometimes, diabetes medication. People with Type 2 diabetes may take pills, injections of insulin or both to control their blood glucose. If you are overweight, weight loss can increase your body's sensitivity to insulin and decrease your need for medication.

## Signs of Diabetes

- More thirsty than usual
- Frequent urination (going to the bathroom more than usual)
- Blurry vision
- Weight loss without trying
- Being tired
- Infections that are slow to heal

These symptoms are the result of high blood sugar (glucose) levels.

## What About Complications....?

Research has demonstrated that good blood glucose control can delay and possibly prevent the long term complications of diabetes. Work closely with your health care team to learn how to control your diabetes and reduce your risk of complications. Good control is usually a blood sugar of **90-130** in the morning or before meals, and **110-150** at bedtime with a plasma calibrated meter. Be sure to discuss your specific glucose goals with your physician or diabetes team. They will help you set realistic goals that make sense for you. Long term control is evaluated by the **Hemoglobin A1c** (A1c) test every 3-4 months. An A1c of **7% or lower** is the goal. Discuss the results of your A1c with your physician and create a plan for achieving and maintaining good control.

## Four Steps to Living Healthy with Diabetes

**1. Nutrition** - If you haven't met with a registered dietitian in the last year, see one soon. Every person with diabetes should have a *personal meal plan*. The dietary guidelines for diabetes have changed, and now offer much more flexibility in food planning. The American Diabetes Association and the American Dietetic Association are both excellent resources for nutritional information.



### The Food Groups Revisited:

- **Carbohydrates (Starches):** Should make up about 40-50% of your diet. Examples include: breads, potatoes, fruit, fruit juice, rice, pasta and beans.
- **Protein:** Meat and dairy products: Should make up 10 - 20% of your diet.
- **Fat:** "Good fats" like olive oil, canola oil and nuts can make up to 25-35% of calories.

### In general:

- Remember, the "diabetes meal plan" is just a well-balanced diet!
- Eat a wide variety of foods everyday
- Eat high fiber foods, such as fruits, vegetables, grains and beans
- Use less added fat, sugar, and salt.
- Limit how much carbohydrates you eat and spread the carbohydrates evenly throughout the day.
- If you want to lose weight, cut down on your portion size. If you skip a meal, you may eat too much at your next meal.

Ask for a referral to meet with a **Registered Dietitian** for an *individualized meal plan*. Call **(650) 725-4005** to schedule an appointment.

**2. Exercise:** Develop an exercise plan with your physician and diabetes educator. Walking is a perfect "getting started exercise". Try walking 10-15 minutes three days a week and gradually build up. Regular exercise helps control blood sugar and cholesterol, improves blood pressure and contributes to weight loss. If you have health problems that keep you from walking, consider stationary cycling, swimming or chair exercises. Exercise is an important part of diabetes control. Find an activity you like and get started. If you are already exercising regularly, keep up the good work!

**3. Blood Glucose Testing:** We encourage everyone with diabetes to have a glucose meter at home. Meters are easy to use and give you immediate feedback on your blood

glucose level. Depending on your glucose control, you may want to check your blood glucose one to four times a day, before meals and before bedtime. Try testing two hours after meals to see if your diabetes plan controls your glucose. If you're taking diabetes medications, it's a good idea to check your blood glucose before and after exercise in order to prevent low blood sugar. Knowing what your blood sugars are at any given moment will improve your feelings of *being in control* of your diabetes. If your blood glucose usually runs over 200, that's too high. Most patients try to keep their blood glucose "*near normal*", about **90-130** in the morning when fasting, and **less than 180** one to two hours after meals. Discuss what glucose goals would be right for you with your physician.

**4. Medications:** Many people with diabetes take pills or insulin to control their blood glucose. In the last few years, several new oral medications (Glucophage, Avandia, Actos, Glucovance, and Prandin) have become available for patients with Type 2 diabetes. Diabetes pills can be taken alone, with other diabetes pills or with insulin. People with Type 1 diabetes need to take insulin injections since their body cannot make any insulin. The most effective treatments for Type 1 diabetes are multiple insulin injections (3-4 a day) or an insulin pump. Whatever your medication plan is, it is important for you to know the *name* of your medication, the *dose* and *when* to take it.

*What are your diabetes medications?* \_\_\_\_\_

**Low Blood Glucose:** After patients begin controlling their diabetes, they sometimes experience the symptoms of low blood glucose. If your fingerstick test shows a glucose of 70 or below, you may feel the following symptoms:

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|---------------------|----------------------|
| → cold, sweaty skin | → shakiness, anxiety |
| → rapid heart beat  | → weakness           |
| → headache          | → hunger             |

You can treat low blood sugar by drinking 1/2 cup of juice or 3-4 glucose tablets. Wait 15 minutes and re-check your blood sugar again. If you are still below 70, repeat the treatment and re-test in 15 minutes. Let your health care team know that you're having low blood sugar reactions, especially if your reactions are more frequent, more severe or occur at night. Your physician may need to adjust your medications to prevent further reactions.

### Let's get started ...

- Stop by the Stanford Health Library in the Shopping Center and ask about the **Diabetes Home Video Guide** and books available for loan.
- Consider attending the **Diabetes Self-Care Clinic** and the **Blood Testing Basics** class.
- Make an appointment to see a **Dietitian** for an individual meal plan.
- Make an appointment to see a **Diabetes Nurse** for basic self-care skills, blood testing or insulin injection.

**Create a personal plan for control** and discuss it with your physician.

*Diabetes: What You Need to Know*, English version, 2/2004. Gail Rutherford, RN, CNS, CDE. Edited by K.Triebsch.

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