

# Taking Control: Living well with diabetes

***“You have diabetes.”***

**What now?**

**“You have diabetes.”**

6% of Americans (approximately 16 million) HAVE DIABETES

It's news no one is ever ready to hear. They are words that will change your life. Yes, it's a serious disease. And no, it's not easy to accept. But now that you've been diagnosed, you have the power to take positive steps to do something about it.

First, you must realize that you are not alone in facing the daily challenge of diabetes. Six percent of Americans – approximately 16 million – have it too. Five million have diabetes but don't realize it.

While there is no cure, the understanding of what causes diabetes and how to treat it has never been better. And you can reach out to doctors, health care teams and other resources that can help you better understand and adjust to this disease.

Next, you must educate yourself. Knowledge is power. As you read on, you will learn more about what diabetes is. You will discover how taking control of your diet, physical activity, stress and medication can dramatically improve the outcome of your diabetes. You will also find that a realistic, one-day-at-a-time approach to living with diabetes will help you cope with it better in the long run.

Finally, recognize that, while diabetes means big changes in your life, it doesn't have to change your style. With education, planning, the support of others and determination, you'll be armed with the power you need to take control, be healthy and live well.

You have diabetes. But you also have the power. Now, it's up to you to take control.

## **What is diabetes?**

Diabetes is a disease that makes it difficult for your body to convert food into the energy your cells need to survive and thrive. This results in the sugar, or glucose, in your bloodstream rising to higher levels than normal.

Here's how it works. When you eat, your body breaks down sugars, starches and other foods into a fuel called glucose, or blood sugar. This sugar then enters the bloodstream where it travels to tissue cells in all parts of the body. The glucose is either used for immediate energy or stored in the liver, muscle or fat for later use.

However, in order for this sugar to get into the body's tissue cells and be used, it needs insulin. Normally, the body senses the rising level of sugar in the blood during digestion. The pancreas, a gland behind the stomach, then releases insulin into the bloodstream. The insulin enables the sugar to enter the cells, keeping the level of sugar in the blood normal.

In people with diabetes, food is still digested into sugar, but because insulin is absent or too low, sugar has trouble getting into the cells. As a result, sugar builds up to higher-than-normal levels. Even worse, the body's cells do not get the energy they need. This can cause the following symptoms, some of which you've probably experienced:

### ***symptoms***

- Feeling weak, tired or dizzy
- Blurred vision
- Excessive thirst
- Frequent urination
- Sudden weight loss
- Lack of ability to concentrate
- Increased hunger
- Sexual problems
- Slow-healing skin infections, cuts or sores
- Loss of coordination
- Numbness or tingling in the feet or hands
- Excessive weight

### **The types of diabetes**

There are two common forms of diabetes, called type 1 and type 2 diabetes. In either case, your cells can't make enough of the energy your body needs to keep running smoothly, and the unused sugar builds up in the bloodstream.

**Type 1 diabetes** is most often diagnosed around the time of puberty and results from the destruction of the insulin-producing cells in the pancreas by the body's own immune system. This means the pancreas can't produce enough insulin to handle the sugar in the bloodstream. People with type 1 diabetes must rely on daily insulin shots to stay alive.

With **type 2 diabetes**, the pancreas may make insulin, but the body's cells have trouble using it properly. People with type 2 diabetes generally rely on nutrition, physical activity and weight loss to help their bodies better use the insulin that's produced. Pills and/or insulin shots are also often used to treat the disease.

**10% of people diagnosed with diabetes HAVE TYPE 1 DIABETES the other 90% HAVE TYPE 2 DIABETES**

Another type of diabetes, called gestational diabetes, sometimes affects women who are pregnant but usually goes away after they deliver. Women who experience gestational diabetes are at greater risk for developing type 2 diabetes later in life.

### **The rewards of control**

When your blood sugar is under control, you'll feel better. You'll have a brighter mood, fewer body aches, better weight maintenance and more consistent blood sugar levels. By living with diabetes realistically – with the proper lifestyle and activities – you can continue to experience this joy of being in control of your health.

On the other hand, without proper control, diabetes can take a heavy toll. Complications such as blindness, kidney disease, heart disease and stroke, nerve damage and sexual problems can occur if blood sugar levels are too high for an extended length of time.

## **Gaining and keeping control**

Keeping your blood sugar in the healthy range will require a lot of work and changes. It may mean dropping old habits and picking up new ones. And it may even seem overwhelming at times. But with knowledge, support of others and a realistic outlook, you can put diabetes in its place.

To control your diabetes you'll need to understand and balance the following activities, which we will discuss in the remainder of this brochure:

- Keep track of your blood sugar
- Eat healthy
- Get regular physical activity
- Cope with stress
- Take medication, if needed

Your first step is to join up with a personal health care team. Your team may include your doctor, nurse, diabetes educator, pharmacist, dietitian, eye doctor, dentist and other specialists. As "team leader," your role is to be honest, ask questions, and keep your team informed about your diabetes and your concerns. With their care, knowledge and skill you will learn more about your diabetes and how to take control of it by balancing these five basic tools. A schedule of regular visits with your health care team will help you work toward your treatment goal.

Your team should also include the support of others around you, like your family and your friends. But remember – it's up to you to educate them about your diabetes and keep them aware of your current condition, as well as your needs and feelings.

## **Keeping track of your blood sugars**

Although type 1 and type 2 diabetes are sometimes treated by different methods and medications, the main goal is the same: to control your body's blood sugar and keep it at healthy levels. When your blood sugar is under control, you'll be more healthy and have more energy. You'll also reduce the risk of serious health problems.

The first step to control is testing your blood sugar on a regular basis to determine if it is within the healthy range. Blood sugar is determined by measuring the number of milligrams of glucose per deciliter of your blood, abbreviated as mg/dL. For most people with diabetes, the American Diabetes Association (ADA) considers a healthy range for blood sugar to be between 80 and 120 mg/dL before meals and between 100 and 140 mg/dL at bedtime.

**80-120 mg/dL**  
**Before meals**

**100-140 mg/dL**  
**At bedtime**

Make sure your diabetes care team helps you acquire and use a blood glucose monitor to test your blood sugar. These blood sugar tests should then become a routine part of your daily life. Don't get discouraged if your blood sugar doesn't always fall in the healthy range. It may take time for your body to adjust to the changes you're making. Just keep working toward wellness.

Another key to the long-term control of your blood sugar is getting what is called a glycosylated hemoglobin (HbA<sub>1c</sub>) test at least twice a year. Here's how it works: Sugar in your bloodstream attaches to red blood cells. The greater the amount of sugar in your blood and the longer the sugar level remains high, the more sugar attaches to the red blood cells. The HbA<sub>1c</sub> test measures this amount of sugar and gives you an overall "snapshot" of how well you've been controlling your blood sugar for the past three months. For most people with diabetes, the ADA recommends an HbA<sub>1c</sub> of less than 7%. You will need to have this blood test performed at your doctor's office. Your individual treatment goals for blood glucose and HbA<sub>1c</sub> should be determined by your health care professional.

Always remember, your short-term goal should be to keep your blood sugar within a healthy range on a daily basis. This will, in turn, help you keep your HbA<sub>1c</sub> level where it needs to be – reducing the risk of serious health problems.

### **HbA<sub>1c</sub>** **Less than 7%**

#### **Eating healthy**

As you've read, the food you eat directly affects your blood sugar. The types of food, the amount of food and the times you eat also affect your blood sugar in different ways. Keeping your blood sugar under control means carefully planning your meals and snacks, as well as the times you eat them.

Be sure to see a dietitian or nutritionist to help you plan meals and snacks. He or she will help you make decisions based on your weight, physical activity, blood sugar levels and types of foods you like to eat. You won't have to eliminate all the foods you enjoy, just learn to enjoy them in moderation as part of a balanced plan. If you take pills or insulin as part of your treatment, you'll learn how to space your eating throughout the day so your medication will work well with what you eat and how active you are. You may also need snacks in addition to your regular meals.

By working with your dietitian or nutritionist you will discover the importance of including a variety of foods in your meal plan. Your diet should include plenty of vegetables, fruits and grains. In addition, you should avoid a diet high in fat, saturated fat and cholesterol. You'll also learn to use sugar, salt and sodium in moderation.

For you to take control of your blood sugar, it is important that you stick to the plan. You should eat the right amounts of food at the right time and avoid skipping meals or snacks.

#### **Physical activity**

Regular physical activity is a vital part of keeping healthy and staying in control of your diabetes. Exercise helps an active body burn blood sugar faster and may make the body more sensitive to insulin – which helps you reduce the amount of sugar in your blood.

Physical activity also has a number of other overall health benefits for people with diabetes. It helps control weight, reduces risk of heart disease, improves blood flow and blood pressure, increases energy level and lowers cholesterol and stress. To get the most benefit from your program, you should exercise at least three times per week for at least 20 to 30 minutes each time.

Be sure and talk with your doctor before beginning an exercise program. Working with your health care team will help you create a safe, healthy program that is designed around your needs and interests. Your program may include walking, bicycling, swimming or many other activities.

### **Coping with stress**

Stress is an emotion everyone experiences from time to time. When you're working to control your blood sugar, it's important to know that your body usually responds to stress by raising blood sugar levels. Finding healthy ways to cope with stress helps keep your blood sugar on track.

When you realize that you're stressed out, try to take a "time out." Here are a few things you can do:

- Relax and take deep breaths for a few minutes
- Look for a humorous side to the situation
- Listen to music
- Take a warm bath

It's also important to get your feelings out in the open. Talk to someone you trust, like a counselor or friend. This will help you keep your feelings from getting bottled up, which can lead to even more stress.

### **Medication**

Insulin and oral medications are powerful tools that doctors prescribe to help many people control their diabetes. In people with type 1 diabetes, insulin *must* be taken daily. In many people with type 2 diabetes, doctors may prescribe pills and/or insulin in addition to diet and physical activity to help keep your blood sugar under control.

Diabetes is a progressive disease. This means that as you go through life, your diabetes will change. So will the ways it needs to be treated. Moving to new types of treatments, such as medication, doesn't mean that you've done something wrong. It just means that your doctor has chosen to equip you with the powerful tools necessary to keep your blood sugar levels healthy.

Pills prescribed for type 2 diabetes help you control your blood sugar by making your insulin work better or by delaying the breakdown of the sugars and starches you eat. Some of these pills, either alone or when used with other treatments, may lower your blood sugar too much. Be sure to test your blood sugar regularly and let your doctor know if you often have blood sugar that is too low.

If you have type 2 diabetes, your doctor may also prescribe insulin injections to keep your blood sugar from getting too high. The extra insulin helps lower your blood sugar to where it should be. Be sure to ask your doctor, or another member of your health care team to show you how to give yourself an insulin shot.

### **Low blood sugar**

If you use insulin or pills to help you control your blood sugar, your blood sugar level may drop too low from time to time. This “low blood sugar” may happen because you’re taking too much medication, skipping or delaying a meal or exercising a lot. If low blood sugar is not treated, you can pass out or have a seizure. Low blood sugar can make you feel shaky, sleepy, sweaty, irritable, confused, hungry, dizzy or restless during nighttime sleep.

If you think you have low blood sugar, test first, if possible. If your blood sugar is below 70 mg/dL, your doctor may want you to treat it with fast-acting sugar and food, such as **four to six ounces of fruit juice or soda (not diet drinks), 10 to 15 grams of glucose tablets or gel, or three pieces of hard (not sugar-free) candy.** You may be instructed to eat crackers, half a sandwich, or other solid food. Always be sure to test your blood sugar again after 15 minutes. If it’s still too low, eat or drink more fast-acting foods.

If you often experience low blood sugar, be sure to tell your doctor, nurse or diabetes educator. They can help you adjust your medication, diet and/or exercise habits to keep your blood sugar from falling too low.

### **The importance of control: two studies**

To understand why it’s important to take control of your diabetes and blood sugar levels, let’s look at two important research studies. The Diabetes Control and Complications Trial (DCCT) and the United Kingdom Prospective Diabetes Study (UKPDS) prove that complications can be greatly reduced by carefully managing your blood sugar.

The DCCT, a 10-year study that was begun in 1983, looked at the impact of controlled blood sugar in more than 1,400 teenagers and young adults with type 1 diabetes. The results showed that lowering blood sugar levels delay the start of many complications and slow their progression. In fact, it reduced the risk of many such events by 35% to 75%.

It is also important to note that a second study found similar results in people with type 2 diabetes.

The UKPDS, a 20-year study of more than 5,000 patients with type 2 diabetes, revealed that better blood sugar control reduced the risk of major diabetic eye disease by a quarter, and early kidney damage by a third. It also showed that better blood pressure control reduced the risk of death from long-term complications by a third, strokes by more than a third and serious deterioration of vision by a third. And it showed that the use of insulin is a safe and effective way to manage type 2 diabetes.

**Better control can lower the risk of eye damage by one-quarter and reduce early kidney damage by one-third.**

Both studies prove that keeping your blood sugar in the normal range and taking good care of yourself on a daily basis can greatly improve your life in the long run. It will require a lot of hard work and lifestyle changes on your part, but it's well worth it.

**The efforts you take now to keep your blood sugar within the normal range can result in fewer complications in the future.**

### **Ways to take control of diabetes**

- Work toward keeping your blood sugar and HbA<sub>1c</sub> in the range your doctor recommends
- Increase physical activity
- Enjoy a healthy diet
- Don't forget your medication
- Work with a diabetes educator
- Have regular visits with your health care team
- Test your blood sugar regularly
- Visit [www.DiabetesWatch.com](http://www.DiabetesWatch.com)

## ***Emergency instructions***

### **LOW BLOOD SUGAR**

(hypoglycemia or insulin reaction)

#### **SYMPTOMS:**

- Sudden onset of symptoms
- Poor coordination, trouble keeping balance
- Angry, moody temper
- Pale skin coloration
- Confusion and/or disorientation
- Sudden hunger
- Unnatural sweating
- Trembling
- May result in unconsciousness

#### **ACTIONS:**

Administer high-sugar foods, such as soda, candy, milk or fruit juice

DO NOT administer diet drinks

***If not better in 15 minutes, take to hospital***

### **HIGH BLOOD SUGAR**

(hyperglycemia or acidosis)

#### **SYMPTOMS:**

- Gradual onset of symptoms
- Sleepiness
- Excessive thirst
- Frequent urination
- Flushed skin color
- Nausea, vomiting
- Fruity or winelike-smelling breath
- Heavy breathing
- May result in unconsciousness

#### **ACTIONS:**

If you're not sure whether it's high or low blood sugar, give sugar-containing food or drink

***If not better in 15 minutes, take to hospital***

**Places to turn for information:**  
**American Diabetes Association**  
Toll-free information hotline: **1-800-DIABETES**

**American Association of Diabetes Educators**  
To find a local diabetes educator: **1-800-Teamup4**  
**www.aadenet.org**

**DiabetesWatch™**  
*An on-line service that brings a world of diabetes management to your fingertips.*  
**www.DiabetesWATCH.com**

*Aventis Pharmaceuticals has been at the forefront of diabetes research for decades. In addition to our extensive research and development efforts Aventis Pharmaceuticals supports people with diabetes and their families in many different ways, including sponsorship of diabetes organizations and development of diabetes educational materials and programs.*



*Aventis Pharmaceuticals*  
Parsippany, NJ 07054

50059711/20172401/3925S0  
© 2000 Aventis Pharmaceuticals Inc.