Take Charge of Your Diabetes

This book is dedicated to all people living with diabetes, in honor of your struggles and your strength.

Many of us strive for a sense of balance in our lives. We want to keep our goals in harmony with our minds and souls. People with diabetes often have stories to share about their struggles for balance and harmony in their lives. We can honor people by listening to and learning from their stories to find meaning and hope for our own lives.

An old, well-loved story, told around the world, is about the turtle and a sure-footed animal, like a rabbit. In this story, the turtle tricks the other animal to win a race—simply by not giving up and by staying on its path. And it has to stick its neck out! It takes determination like that to face diabetes, day after day, reminding yourself that you can do it if you stick to it!

There are about 250 kinds of turtles, and almost all have the same pattern on their top shell—13 plates that fit together in harmony and balance to form a strong shell. The turtle and its shell can remind us of the harmony and balance we seek in all parts of our lives—including living with diabetes.

Some Words of Thanks

This guide was written by staff in the Centers for Disease Control and Prevention's (CDC's) Division of Diabetes Translation. The division is part of the National Center for Chronic Disease Prevention and Health Promotion, Department of Health and Human Services. We work with partners who share our mission to reduce the burden of diabetes in communities.

William H. Herman, MD, MPH, was the general editor of the first book, *Take Charge of Your Diabetes: A Guide for Care*, printed in 1991. We asked people with diabetes who read the first book to help us make the second book even more useful. For this fourth edition of the book, we have updated the scientific facts, resources, and art.

The American Association of Diabetes Educators did a survey among people with diabetes and diabetes educators to learn what people liked and didn't like about the first book. Focus groups made up of people with diabetes were held by the Health Promotion Council of SE Pennsylvania and Casals and Associates of Washington, DC. The groups gave us valuable input to help us make later books more useful.

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Introduction

Diabetes touches almost every part of your life. It's a serious, lifelong condition, but there's a lot you can do to protect your health. You can take charge of your health—not only for today, but for the coming years.

Diabetes can cause health problems over time. It can hurt your eyes, your kidneys, and your nerves. It can lead to problems with the blood flow in your body. Even your teeth and gums can be harmed. Diabetes in pregnancy can cause special problems. Many of these problems don't have to happen. You can do a lot to prevent them, and there are people in your community who can help. This book can help you find how to get the help you need to prevent problems.

Today and every day, strive to balance your food, physical activity, and medicine. Test your own blood glucose (also called blood sugar) to see how this balance is working out. Then make choices that help you feel well every day to protect your health.

Feeling healthy can allow you to play a big part in the life of your family and community. You may even want to join a community group in which people share their stories and help others deal with their diabetes.

Take Charge of Your Diabetes was written to help you take important steps to prevent problems caused by diabetes. You'll learn many useful things:

- What problems diabetes can cause.
- How to work with a health care team to prevent problems.
- Why it is important to get your blood glucose and blood pressure closer to normal.
- How to find out about resources in your community to help you prevent problems.

It's important to work with a primary health care provider, as well as other members of a team who care about your health. To find out about resources in your community, contact one of the groups listed below:

- Diabetes organizations.
- Local diabetes programs or hospitals.
- Your state health department's diabetes prevention and control program, which you can find by calling 800-CDC-INFO.

Ask your health care team to look over this book with you. Stay in touch with them so you will know the latest news about diabetes care.

Balance is the key word in living well with diabetes. Strive for balance in all parts of your life. With the support of your family and friends, your health care team, and your community, you can take charge of your diabetes.

Who Is This Book For?

This book was mainly written for people who found out they had diabetes as an adult. You should use it along with other information your health care providers give you.

If you've just learned you have diabetes, you'll need more details than you'll find in this book. Ask your health care provider for help. Find out as much as you can about the three most important things for controlling your diabetes: food, physical activity, and diabetes medicine.

How to Use This Book

When you're reading this book, note these points:

- Words that are linkedare explained in the glossary.
- The forms at the back of this book can help you and your health care team keep records of your care.
- There is a list of health organizations that you can call, write, or E-mail for more information about diabetes.
- When we say "health care team," we include all the people who work with you to help manage your diabetes: primary doctor, dietitian, nurse, diabetes educator, counselor, foot doctor, eye doctor, dentist, pharmacist, community health worker, and others.
- The chapters in this book deal with many topics. You may first want to read the parts that deal with your own special concerns. Take your time reading this book. There's a lot to read, but you don't have to read it all at once.

Keeping Records

You can use this book to keep some records about your health. The forms to write down details about your health begin on page 79. You can cut out these pages to take with you on your diabetes care visits. You may also want to make extra copies to use in the future. Go over these records often with your health care team. Keeping track of your health is one of the ways you can work together to control your diabetes.

On page 109, write down the names and telephone numbers of your health care team. There's enough room on these pages to write questions and other points you want to remember when you go to your visits every 4 to 6 months. On page 116, you may want to write down some contacts for community groups that deal with diabetes.

What Is Diabetes?

Most of the food we eat is turned into glucose (sugar) for our bodies to use for energy. The pancreas, an organ near the stomach, makes a hormone called insulin to help glucose get into our body cells. When you have diabetes, your body either doesn't make enough insulin or can't use its own insulin very well. This problem causes glucose to build up in your blood.

Diabetes means that a person's blood sugar is too high. Your blood always has some sugar in it because the body needs sugar for energy to keep you going. But too much sugar in the blood can cause serious damage to the eyes, kidneys, nerves, and heart.

Signs and Symptoms of Diabetes

You may recall having some of these signs before you found out you had diabetes:

- Being very thirsty.
- Urinating a lot—often at night.
- Having blurry vision from time to time.
- Feeling very tired much of the time.
- Losing weight without trying.
- Having very dry skin.
- Having sores that are slow to heal.
- Getting more infections than usual.
- Losing feeling or getting a tingling feeling in the feet.
- Vomiting.

Types of Diabetes

There are two main types of diabetes:

- Type 1.
- Type 2.

Another type of diabetes appears during pregnancy in some women. It's called gestational diabetes.

One out of 10 people with diabetes has type 1 diabetes. These people usually find out they have diabetes when they are children or young adults. People with type 1 diabetes must inject insulin every day to live. The pancreas of a person with type 1 makes little or no insulin. Scientists are learning more about what causes the body to attack its own beta cells of the pancreas (an autoimmune process) and stop making insulin in people with certain sets of genes.

Most people with diabetes—9 out of 10—have type 2 diabetes. The pancreas of people with type 2 diabetes keeps making insulin for some time, but the body can't use it very well. Most people with type 2 find out about their diabetes after age 30 or 40.

Certain risk factors make people more likely to get type 2 diabetes. Some of these are

- A family history of diabetes.
- Lack of exercise.
- Weighing too much.
- Being of African American, American Indian, Alaska Native, Hispanic/Latino, or Asian/ Pacific Islander heritage.

You can help manage your diabetes by controlling your weight, making healthy food choices, and getting regular physical activity. Ask for help from your health care team. Some people with type 2 diabetes may also need to take diabetes pills or insulin shots to help control their diabetes.

Some people with diabetes are concerned about their family members getting diabetes. A national study show's that people may be able to prevent or delay the onset of type 2 diabetes. To find out more, talk to your health care provider, visit the CDC Diabetes Web site at www.cdc.gov/diabetes, or call 1-800-CDC-INFO.

Controlling Your Diabetes

There's good news for people with diabetes. Studies show that keeping your blood glucose (also called blood sugar) close to normal helps prevent or delay some diabetes problems.

Through careful control, many problems such as eye disease, kidney disease, heart disease, nerve damage, and serious foot problems can be prevented or slowed. People who have type 1 diabetes, as well as people who have type 2 diabetes can also benefit by keeping their blood glucose levels closer to normal.

You can learn more about diabetes and ways to help you control your blood sugar by calling National Diabetes Education Program (NDEP) at 1-800-438-5383.

Keeping a Balance

As the turtle makes steady progress, so too must those with diabetes continue to maintain healthy lifestyles and stick to daily routines that involve regular exercise, good nutrition, glucose monitoring, and regular visits to health care providers.

To keep your glucose at a healthy level, you need to keep a balance between three important things:

- What you eat and drink.
- How much physical activity you do.
- What diabetes medicine you take (if your doctor has prescribed diabetes pills or insulin).

This book gives you only some of the facts you need. Your health care team can give you more.

A Few Things about Food

Here are some tips for making healthy eating choices:

- *Eat regular meals.* Ask your health care team to help you choose a meal plan. Your dietitian may suggest you eat three meals and a snack or two every day at about the same times. Eating every 4 to 5 hours can help control blood sugar.
- *Eat a variety of foods.* Choose a variety of foods to eat so that your body gets the nutrition it needs.
- *Eat less fat.* Avoid fried foods. Foods that are baked, broiled, grilled, boiled, or steamed are more healthy to eat. Eat meats that have little fat. When you eat dairy products (cheese, milk, yogurt, and others), choose those that have little or no fat or cream.
- *Eat less sugar.* You may find that eating less sugar helps you control your blood glucose level. Here are some things you can do to eat less sugar:
    - Eat more high-fiber foods, like vegetables, dried beans, fruit, and whole grain breads and cereals.
    - Drink water and other drinks that have no added sugar.
    - Eat fewer foods that have extra sugar, such as cookies, cakes, pastries, candy, brownies, and sugared breakfast cereals.
    - Talk with your health care team about ways to sweeten food and drinks without using sugar.

- *Eat less salt*. Eating less salt may help control your blood pressure. Here are some ways to eat less salt:
    - Use less salt when you prepare foods.
    - Cut down on processed foods, such as foods you buy in cans and jars, pickled foods, lunch meats ("cold cuts"), and snack foods, such as chips.
    - Taste your food first before adding salt. You may not need to add any.
    - Use herbs and spices instead of salt to flavor your food.
- *A word about drinking alcohol:* Alcohol can cause health problems, especially for people with diabetes. It adds calories and doesn't give your body any nutrition. Drinking alcohol may cause dangerous reactions with medicines you take. Your blood glucose can go down too low if you drink beer, wine, or liquor on an empty stomach. If you want to include a drink in your food plan once in a while, ask your health care team how to do so safely.

Few Things about Physical Activity

- *It's important to be active.* Physical activity has many benefits. It can help you control your blood glucose and your weight. Physical activity can help prevent heart and blood flow problems. Many people say they feel better when they get regular exercise.
- *Start with a little.* If you haven't been doing any physical activity, talk to your health care team before you begin. Walking, working in the yard, and dancing are good ways to start. As you become stronger, you can add a few extra minutes to your physical activity. If you feel pain, slow down or stop and wait until it goes away. If the pain comes back, talk with your health care team right away.
- *Do some physical activity every day.* It's better to walk 10 or 20 minutes each day than one hour once a week.
- *Choose an activity you enjoy.* Do an activity you really like. The more fun it is, the more likely you will do it each day. It's also good to exercise with a family member or friend.

If you're already active now, but want to become more active, talk to your health care team about a safe exercise plan.

A Few Things about Diabetes Medicine

If you take diabetes pills or insulin injections to control your diabetes, ask your health care provider to explain how these work. It's important to know how and when to take diabetes medicine. If you take other medicines that are sold with or without a prescription, ask your doctor how these can affect your diabetes control. When you take insulin injections or diabetes pills, your blood glucose levels can get too low.

If you inject insulin, your health care team should be able to tell you

- How to give yourself injections.
- When you need to change your insulin dose.

Keeping Track of Your Blood Glucose

It's important to your health to control your blood glucose (also called blood sugar). Keeping your glucose level close to normal helps prevent or delay some diabetes problems, such as eye disease, kidney disease, and nerve damage. One thing that can help you control your glucose level is to keep track of it. You can do this by

- Testing your own glucose a number of times each day (self-monitoring blood glucose). Many people with diabetes test their glucose 2 to 4 times a day.
- Getting an A1C test from your health care provider about every 3 months.

You'll learn more about these tests on the next pages. These tests can help you and the rest of your diabetes health care team—doctor, diabetes educator, and others—work together to help you control your blood glucose.

Checking Your Blood Glucose Each Day

You can do a test to find out what your blood glucose is at any moment. Your health care team can show you how to do the test yourself. Using a finger prick, you place a drop of blood on a special coated strip, which "reads" your blood glucose. Many people use an electronic meter to get this reading.

Blood glucose testing can help you understand how food, physical activity, and diabetes medicine affect your glucose levels. Testing can help you make day-to-day choices about how to balance these things. It can also tell you when your glucose is too low or too high so that you can treat these problems.

Ask your health care team to help you set a goal for your glucose range and show you how to record your glucose readings in a logbook or record sheet. If you need a daily logbook, ask your health care provider for one. Or you can make copies of the records page. A sample log sheet is filled out to show you how to use each.

Be sure to write down each glucose reading and the date and time you took it. When you review your records, you can see a pattern of your recent glucose control. Keeping track of your glucose on a day-to-day basis is one of the best ways you can take charge of your diabetes.

Getting a Summary Lab Test (A1C)

By performing an A1C test, health provides can sum up your diabetes control for the past few months. An A1C test measures how much glucose has been sticking to your red blood cells. Since each red blood cell is replaced by a new one every 3 to 4 months, this test tells you how high the glucose levels have been during the life of the cells.

If most of your recent blood glucose readings have been near normal (70 to 140 milligrams per deciliter or mg/dL, with the higher reading mainly after meals), the A1C test will be near normal (usually about 6%–7%). If you've had many readings above normal, the extra glucose sticking to your red blood cells will make your A1C test read higher.

You should get an A1C test every 3 months if your test results are not yet at goal. You should get an AIC test at least 2 times a year if your AIC results are at goal. Ask your health care provider for the results and record them on the records page.

Ask your team to tell you the normal range of values and help you set a goal for yourself. Write your goal down on the records page of this guide. If your A1C test results are high, work with your team to adjust your balance of food, physical activity, and diabetes medicine. When your A1C test result is near your goal, you'll know you've balanced things well.

Having Problems with Low Blood Glucose

In general, a blood glucose reading lower than 70 mg/dL is too low. If you take insulin or diabetes pills, you can have low blood glucose (also called hypoglycemia). Low blood glucose is usually caused by eating less or later than usual, being more active than usual, or taking too much diabetes medicine. Drinking beer, wine, or liquor may also cause low blood glucose or make it worse.

Low blood glucose happens more often when you're trying to keep your glucose level near normal. This is no reason to stop trying to control your diabetes. It just means you have to watch more carefully for low levels. Talk this over with your health care team.

Signs of Low Blood Glucose

Some possible signs of low blood glucose are feeling nervous, shaky, or sweaty. Sometimes people just feel tired.

The signs may be mild at first. But a low glucose level can quickly drop much lower if you don't treat it. When your glucose level is very low, you may get confused, pass out, or have seizures.

If you have any signs that your glucose may be low, test it right away. If it's less than 60 to 70 mg/dL, you need to treat it right away.

Treating Low Blood Glucose

If you feel like your blood glucose is getting too low but you can't test it right then, play it safe—go ahead and treat it. Eat 10 to 15 grams of carbohydrate right away.

Foods and Liquids for Low Blood Glucose

(each item equals about 10 to 15 grams of carbohydrate)

- Sugar Packets → 2 to 3
- Fruit Juice → ½ cup (4 ounces)
- Soda/Pop → ½ cup (4 ounces)
- Hard Candy → 3-5 pieces
- Sugar or Honey → 4 teaspoons
- Glucose tablets → 3 to 4

Check your blood glucose again in 15 minutes. Eat another 10 to 15 grams of carbohydrate every 15 minutes until your blood glucose is above 70 mg/dL.

Eating or drinking an item from the list on this page will keep your glucose up for only about 30 minutes. So if your next planned meal or snack is more than 30 minutes away, you should go ahead and eat something like crackers and a tablespoon of peanut butter.

In your glucose logbook or record sheet, write down the numbers and the times when low levels happen. Think about what may be causing them. If you think you know the reason, write it beside the numbers you recorded. You may need to call your health care provider to talk about changing your diet, activity, or diabetes medicine.

Tell family members, close friends, teachers, and people at work that you have diabetes. Tell them how to know when your blood glucose is low. Show them what to do if you can't treat yourself. Someone will need to give you fruit juice, soda pop (not diet), or sugar.

If you can't swallow, someone will need to give you a shot of glucagon and call for help. Glucagon is a prescription medicine that raises the blood glucose and is injected like insulin. If you take insulin, you should have a glucagon kit handy. Teach family members, roommates, and friends when and how to use it.

Waiting to treat low blood glucose is not safe. You may be in danger of passing out. If you get confused, pass out, or have a seizure, you need emergency help. Don't try to drive yourself to get help. Be prepared for an emergency.

Preventing Low Blood Glucose

Keep a balance

Try to stay close to your usual schedule of eating, activity, and medicine. If you're late getting a meal or if you're more active than usual, you may need an extra snack.

Check your blood glucose

Keeping track of your blood glucose is a good way to know when it tends to run low. Show your logbook or record sheet to your health care providers. Be sure to let them know if you're having a number of low glucose readings a week.

To be safe, always check your glucose before doing any of these things:

- Driving a vehicle.
- Using heavy equipment.
- Being very physically active.
- Being active for a long time.

Ask your health care team whether you should test your glucose before (or during) any other activities.

Be prepared

Always carry some type of carbohydrate sugar food or drink with you so you'll be ready at any time to treat a low glucose level.

Always wear something (like an identification bracelet) that says you have diabetes. Carry a card in your wallet that says you have diabetes and tells if you use medicine to treat it.

Having Problems with High Blood Glucose

For most people, blood glucose levels that stay higher than 140 mg/dL (before meals) are too high. Talk with your health care team about the glucose range that is best for you.

Eating too much food, being less active than usual, or taking too little diabetes medicine are some common reasons for high blood glucose (or hyperglycemia). Your blood glucose can also go up when you're sick or under stress.

Over time, high blood glucose can damage body organs. For this reason, many people with diabetes try to keep their blood glucose in control as much as they can.

Some people with type 2 diabetes may not feel the signs of high blood glucose until their blood glucose is higher than 300. People with blood glucose higher than 300 are more likely to have dehydration. Dehydration can become a serious problem if not treated right away.

Your blood glucose is more likely to go up when you're sick—for example, when you have the flu or an infection. You'll need to take special care of yourself during these times. The Taking Care of Yourself When You're Sick can help you do this.

Signs of High Blood Glucose

Some common signs of high blood glucose are having a dry mouth, being thirsty, and urinating often. Other signs include feeling tired, having blurred vision, and losing weight without trying. If your glucose is very high, you may have stomach pain, feel sick to your stomach, or even throw up. This is an emergency and you need to go to the hospital right away.

If you have any signs that your blood glucose is high, check your blood. In your logbook or on your record sheet, write down your glucose reading and the time you did the test. If your glucose is high, think about what could have caused it to go up. If you think you know of something, write this down beside your glucose reading.

Preventing High Blood Glucose

Keep a balance

Try to stay with your food and activity plan as much as you can. Drink water. Take your diabetes medicine about the same time each day. Work with your health care team to set goals for weight, blood glucose level, and activity.

Test your blood glucose

Keep track of your blood glucose and go over your records often. You'll learn how certain foods or activities affect your glucose.

Show your records to your health care team. Ask how you can change your food, activity, and medicine to avoid or treat high blood glucose. Ask when you should call for help.

Taking Care of Yourself When You're Sick

Keep Taking Medicine

Be sure to keep taking your diabetes pills or insulin. Don't stop taking them even if you can't eat. Your health care provider may even advise you to take more insulin during sickness.

Keep Eating

Try to eat the same amount of fruits and breads as usual. If you can, eat your regular diet. If you're having trouble doing this, use carbohydrate choices or servings: eat enough soft foods or drink enough liquids to take the place of the fruits and breads you usually eat.

What to Eat or Drink When You're Sick

Foods that have 15 grams carbohydrate or one carbohydrate serving

- Fruit juice → ½ cup
- Fruit-flavored drink → ½ cup
- Soda/Pop → ½ cup
- *Jell-O® (regular, not sugar-free) → ½ cup
- *Popsicle® (regular, not sugar-free) → ½ twin
- Sherbet → ½ cup
- Saltine crackers → 6 squares
- Bread → 1 slice
- Milk → 1 cup
- Soup → 1 cup
- Ice cream (regular) → ½ cup
- Apple sauce → ½ cup
- Pudding (regular) → ¼ cup
- Macaroni, noodles, rice → 1/3 cup (cooked)
- Potatoes, beans, cereal → ½ cup (cooked)

* Use of trade names is for identification only and does not imply endorsement by the U.S. Department of Health and Human Services.

Drink Liquids

Drink extra liquids. Try to drink at least 1/2 cup (4 ounces) to 3/4 cup (6 ounces) every half-hour to hour, even if you have to do this in small sips. These liquids should not have calories. Water, diet soda pop, or tea without sugar are good choices.

Check for Changes

- Weigh yourself every day. Losing weight without trying is a sign of high blood glucose.
- Check your temperature every morning and evening. A fever may be a sign of infection.
- Every 4 to 6 hours, check how you're breathing and decide how alert you feel. Having trouble breathing, feeling more sleepy than usual, or not thinking clearly can be danger signs.

Keep Records

Use "Records for Sick Days" Ask a family member or friend to help if you need it.

Call for Help

Ask your health care provider when you should call. During your sick times, you may need to call every day for advice.
You should call your health care provider or go to an emergency room if any of the following happens:

- You feel too sick to eat normally and for more than 6 hours can't keep food or liquids down.
- You have severe diarrhea (loose bowel movement).
- You lose 5 pounds or more without trying to.
- Your temperature is over 101°F.
- Your blood glucose level is lower than 60 mg/dL or stays over 300 mg/dL.
- You're having trouble breathing.
- You feel sleepy or can't think clearly.

Managing Your Diabetes at Work, School, and During Travel

Staying in charge of your diabetes no matter what your day holds—work, school, travel, or special events—takes planning ahead. Many days will go smoothly, but some days will hold surprises, such as extra activity or delays that throw your schedule off.

Plan ahead for these times by always keeping a treatment for low blood glucose. If you have any signs that your glucose may below, go ahead and treat it right away.

Stay as close to your eating, activity, and medicine schedule as you can. Keep track of your blood glucose so you can pick up changes early. Always wear or carry identification that says you have diabetes.

Talk with your health care team about your planned schedule and activities. Ask for help in planning ahead for work, school, travel, and special events. When you read the rest of this section, you may think of more questions to ask.

At Work and School

Talk with your health care team about the type of activity you do at work or at school. From time to time, you and your health care team may need to make changes in your activity, medicine, or eating.

Many people take supplies for checking their glucose to school or work so they can check if at regular break times. Some people choose to show their fellow workers, their teachers, or their classmates how to help if they should ever have a problem. They teach them how to tell when their glucose is low and how to treat it. Some people like to have written steps on file at their place of work or with their teacher.

During Travel

When you plan a trip, think about your day-to-day schedule and try to stay as close to it as you can. For example, if you usually check your blood glucose at noon and then eat lunch, plan to do this on your trip, as well. Trips can hold surprises—in delays and changes. Even the types of food and supplies you can buy on your trip may not be the same as those you get at home.

Before you travel, work with your health care provider to plan your timing for medicine, food, and activity. Talk about what to do if you find changes in your glucose readings.

Plan ahead for trips:

- Keep snacks with you that could be used to prevent—or treat—low blood glucose.
- Carry extra food and drink supplies with you, such as cracker packs and small cans of juices or bottled water.
- Carry glucose testing supplies with you.
- Take along all the diabetes medicine you'll need. Keep medicines in the original pharmacy container with the printed label that clearly identifies the medicine.

When you travel, be sure to

- Test your glucose often and keep track of it.
- Wear identification that says you have diabetes.
- Let others know how they can help you.
- Check new airline travel tips by contacting the Federal Aviation Administration (FAA) or 800-322-7873.

If you're traveling in a different time zone, you may need to change your timing of food, medicine, and activity. Ask your health care provider to help you with this. Talk about the food and drink choices that would be healthy for you. If you'll be in another country, ask your doctor to write a letter explaining that you have diabetes. It's also a good idea to get your doctor to write a prescription for you to get insulin or supplies if needed.

Feelings about Having Diabetes

Living with diabetes isn't easy. It's normal to feel troubled about it. Tell your health care team how you feel. Point out any problems you have with your diabetes care plan. Your diabetes educator or other health care provider may be able to help you think of ways to deal with these problems.

Talk about the stresses you feel at home, school, and work. How do you cope with these pressures? If your feelings are getting in the way of taking care of yourself, you need to ask for help.

Support Groups

It helps to talk with other people who have problems like your own. You may want to think about joining a diabetes support group. In support groups, people who have just found out they have diabetes can learn from people who have lived with it for a long time. People can talk about and share how they deal with their diabetes. They can also talk about how they take care of their health, how they prepare food, and how they get physical activity. Family members who do not have diabetes may want to join a support group, too. Ask your health care team about support groups for people with diabetes and their families and friends.

If there is not a support group in your area, you may want to call a diabetes organization (see list of organizations) about starting a group.

Counseling

One-on-one and family counseling sessions may also help. Be sure to see a counselor who knows about diabetes and its care. Ask your health care provider to help you find a counselor.

Eye Problems

Diabetic eye disease (also called diabetic retinopathy) is a serious problem that can lead to loss of sight. There's a lot you can do to take charge and prevent such problems. A recent study shows that keeping your blood glucose level closer to normal can prevent or delay the onset of diabetic eye disease. Keeping your blood pressure under control is also important. Finding and treating eye problems early can help save sight.

Signs of Diabetic Eye Disease

Because diabetic eye disease may be developing even when your sight is good, regular dilated eye exams are important for finding problems early. Some people may notice signs of vision changes. If you're having trouble reading, if your vision is blurred, or if you're seeing rings around lights, dark spots, or flashing lights, you may have eye problems. Be sure to tell your health care team or eye doctor about any eye problems you may have.

Protecting Your Sight

Keep Your Blood Glucose under Control

High blood glucose can damage your eyes with time. Work with your health care team to keep your blood glucose levels in the target range.

Keep Your Blood Pressure under Control

High blood pressure can damage your eyes. Have your health care provider check your blood pressure at least 4 times a year. If your blood pressure is higher than 130/80, ask your health care provider how to keep your blood pressure at a healthy level. You may need medicine to keep your blood pressure at a healthy level.

Even if you're seeing fine, you need regular, complete dilated eye exams to protect your sight. Ask your health care provider to help you find an eye doctor who cares for people with diabetes. Before the exam, a doctor or nurse will put drops in your eyes to dilate the pupils.

You should have your eyes dilated and examined once a year. Keep track of these exams by using the records. Even if you've lost your sight from diabetic eye disease, you still need to have regular eye care. If you haven't already had a complete eye exam, you should have one now if any of these conditions apply to you—

- You've had type 1 diabetes for 5 or more years.

- You have type 2 diabetes.
- You're going through puberty and you have diabetes.
- You're pregnant and you have diabetes.
- You're planning to become pregnant and you have diabetes.

If you can't afford an eye exam, ask about a payment plan or a free exam. If you're 65 or older, Medicare may pay for diabetic eye exams (but not glasses). Ask your eye doctor to accept the Medicare fee as full payment.

Discuss Your Physical Activity Plan

If you have diabetic eye disease, talk with your health care provider about the kind of physical activity that is best for you.

Treating Diabetic Eye Disease

Treating eye problems early can help save sight. Laser surgery may help people who have advanced diabetic eye disease. An operation called a vitrectomy may help those who have lost their sight from bleeding in the back of the eye.

If your sight is poor, an eye doctor who is an expert in low vision may be able to give you glasses or other devices that can help you use your limited vision more fully. You may want to ask your health care provider about support groups and job training for people with poor vision.

Kidney Problems

Diabetes can cause diabetic kidney disease (also called diabetic nephropathy), which can lead to kidney failure. There's a lot you can do to take charge and prevent kidney problems. A recent study shows that controlling your blood glucose can prevent or delay the onset of kidney disease. Keeping your blood pressure under control is also important.

The kidneys keep the right amount of water in the body and help filter out harmful wastes. These wastes, called urea, then pass from the body in the urine. Diabetes can cause kidney disease by damaging the parts of the kidneys that filter out wastes. When the kidneys fail, a person has to have his or her blood filtered through a machine (a treatment called dialysis) several times a week or has to get a kidney transplant.

Testing Your Kidneys

Your health care provider can learn how well your kidneys are working by testing for microalbumin (a protein) in the urine. Microalbumin in the urine is an early sign of diabetic kidney disease. You should have your urine checked for microalbumin every year.

Your health care provider can also do a yearly blood test to measure your kidney function. If the tests show microalbumin in the urine or if your kidney function isn't normal, you'll need to be checked more often.

On the records page, write down the dates and the results of these tests. Ask your health care provider to explain what the results mean.

Protecting Your Kidneys

Keep Your Blood Glucose under Control

High blood glucose can damage your kidneys as time goes by. Work with your health care team to keep your glucose levels as close to normal as you can.

Keep Your Blood Pressure In Balance

High blood pressure (or hypertension) can damage your kidneys. You may want to check your blood pressure at home to be sure it stays lower than 130/80. Have your health care provider check your blood pressure at least 4 times a year. Your doctor may have you take a blood pressure pill, called an ACE inhibitor, to help protect your kidneys.

To Lower Your Blood Pressure:

1. Practice these steps:
    - Maintain a healthy weight.
    - Be active every day.
    - Eat fewer foods high in salt and sodium.
    - Eat more fruits and vegetables, whole grain breads and cereals, and lowfat dairy products.
2. Take your medicine the way your doctor tells you.
3. Have your blood pressure checked often.

Call your health care provider right away if you have any of these signs of kidney infections:

- Back pain.
- Chills.
- Fever.
- Ketones in the urine.

Your health care provider will test your urine. If you have a bladder or kidney infection, you'll be given medicine to stop the infection. After you take all the medicine, have your urine checked again to be sure the infection is gone.

Know the Effects of Some Medicines and X-Ray Dyes

If you have kidney disease, ask your health care provider about the possible effects that some medicines and X-ray dyes can have on your kidneys.

Heart and Blood Vessel Problems

Heart and blood vessel problems are the main causes of sickness and death among people with diabetes. These problems can lead to high blood pressure, heart attacks, and strokes. Heart and blood vessel problems can also cause poor circulation (blood flow) in the legs and feet.

You're more likely to have heart and blood vessel problems if you smoke cigarettes, have high blood pressure, or have too much cholesterol or other fats in your blood. Talk with your health care team about what you can do to lower your risk for heart and blood vessel problems. Ask about taking a daily aspirin to help prevent heart and blood vessel problems.

Signs of Heart and Blood Vessel Problems

If you feel dizzy, have sudden loss of sight, slur your speech, or feel numb or weak in one arm or leg, you may be having serious heart and blood vessel problems. Your blood may not be getting to your brain as well as it should.

Danger signs of circulation problems to the heart include chest pain or pressure, shortness of breath, swollen ankles, or irregular heartbeats. If you have any of these signs, go to an emergency room or call your health care provider right away.

Signs of circulation problems to your legs are pain or cramping in your buttocks, thighs, or calves during physical activity. Even if this pain goes away with rest, report it to your health care provider.

Preventing and Controlling Heart and Blood Vessel Problems

Eat Right and Get Physical Activity

Choose a healthy diet, low in salt. Work with a dietitian to plan healthy meals. If you're overweight, talk about how to safely lose weight. Ask about a physical activity or exercise program for you. See A Few Things About Food to read more about healthy choices for food and physical activity.

Don't Use Tobacco

Smoking cigarettes causes hundreds of thousands of deaths each year. When you have diabetes and also use tobacco, the risk of heart and blood vessel problems is even greater. One of the best choices you can make for your health is to never start smoking—or if you smoke, to quit.

At least once a year, your health care provider will ask you about tobacco use. If you smoke, talk to your provider about ways to help you stop.

Check Your Blood Pressure

Get your blood pressure checked at each visit. Record these numbers on the record sheets. If your blood pressure is higher than 130/80, ask what steps to take to reach your goal.

If your blood pressure is still high after 3 months, you may need medicine to help control it. Many medicines are available to treat high blood pressure. If you have side effects from the medicine, ask your health care provider to change it. Talk to your health care team about whether you need medicine to take charge of your blood pressure.

Check Your Cholesterol

Get your cholesterol checked once a year. Record the results in the records section. Your total cholesterol should be lower than 200 mg/dL (milligrams per deciliter). Ask your health care team to explain what your HDL and LDL levels are.

If your cholesterol is higher than 200 mg/dL on two or more checks, you can do several things to lower it. You can work with your health care team to improve your blood glucose control, you can lose weight (if you're overweight), and you can cut down on foods that are high in fat and cholesterol. Ask your health care team about foods that are low in fats. Also ask about a physical activity program.

Ask your health care provider what steps to take to reach your LDL cholesterol goal. You may need a medicine to help control it. Ask if you need aspirin to prevent heart attack or stroke.

Ask If You Need an Electrocardiogram (EKG)

If you're having heart and blood circulation problems, an EKG may help you and your health care provider know if you need to change your treatment.

Nerve Damage

Diabetic nerve damage (also called diabetic neuropathy) is a problem for many people with diabetes. Over time, high blood glucose levels damage the delicate coating of nerves. This damage can cause many problems, such as pain in your feet. There's a lot you can do to take charge and prevent nerve damage. A recent study shows that controlling your blood glucose can help prevent or delay these problems. Controlling your blood glucose may also help reduce the pain from some types of nerve damage.

Some Signs of Diabetic Nerve Damage

Some signs of diabetic nerve damage are pain, burning, tingling, or loss of feeling in the feet and hands. It can cause you to sweat abnormally, make it hard for you to tell when your blood glucose is low, and make you feel light-headed when you stand up.

Nerve damage can lead to other problems. Some people develop problems swallowing and keeping food down. Nerve damage can also cause bowel problems, make it hard to urinate, cause dribbling with urination, and lead to bladder and kidney infections. Many people with nerve damage have trouble having sex. For example, men can have trouble keeping their penis erect, a problem called impotence (erectile dysfunction). If you have any of these problems, tell your health care provider. There are ways to help in many cases.

Protecting Your Nerves From Damage

Keep Your Blood Glucose in Control

High blood glucose can damage your nerves as time goes by. Work with your health care team to keep your glucose levels as close to normal as you can.

Have a Physical Activity Plan

Physical activity or exercise may help keep some nerves healthy, such as those in your feet. Ask your health care team about an activity that is healthy for you.

Get Tested for Nerve Damage

Nerve damage can happen slowly. You may not even be aware you're losing feeling in your feet. Ask your health care provider to check your feet at each visit. At least once a year, your provider should test how well you can sense temperature, pinprick, vibration, and position in your feet. If you have signs of nerve damage, your provider may want to do more tests. Testing can help your provider know what is wrong and how to treat it. Keep track of your foot exams.

For more information on foot care, call the National Diabetes Information Clearinghouse at 1-800-860-8747.

Check Your Feet for Changes

If you've lost feeling in your feet, you'll need to take special care of them. Check your feet each day. Wear shoes that fit well. You'll read more about foot care in the next chapter.

Foot Problems

Nerve damage, circulation problems, and infections can cause serious foot problems for people with diabetes. There's a lot you can do to prevent problems with your feet. Controlling your blood glucose and not smoking or using tobacco can help protect your feet. You can also take some simple safeguards each day to care for and protect your feet. Over half of diabetes-related amputations can be prevented with regular exams and patient education.

It's helpful to understand why foot problems happen. Nerve damage can cause you to lose feeling in your feet. Sometimes nerve damage can deform or misshape your feet, causing pressure points that can turn into blisters, sores, or ulcers. Poor circulation can make these injuries slow to heal.

Signs of Foot Problems

Your feet may tingle, burn, or hurt. You may not be able to feel touch, heat, or cold very well. The shape of your feet can change over time. There may even be changes in the color and temperature of your feet. Some people lose hair on their toes, feet, and lower legs. The skin on your feet may be dry

and cracked. Toenails may turn thick and yellow. Fungus infections can grow between your toes. Blisters, sores, ulcers, infected corns, and ingrown toenails need to be seen by your health care provider or foot doctor (podiatrist) right away.

Protecting Your Feet

Get Your Health Care Provider to Check Your Feet at Least 4 Times a Year

Ask your health care provider to look at your feet at least 4 times a year. As a reminder, take off your shoes and socks when you're in the exam room. Have your sense of feeling and your pulses checked at least once a year. If you have nerve damage, deformed or misshaped feet, or a circulation problem, your feet need special care. Ask your health care provider to show you how to care for your feet. Also ask if special shoes would help you.

Check Your Feet Each Day

You may have serious foot problems yet feel no pain. Look at your feet every day to see if you have scratches, cracks, cuts, or blisters. Always check between your toes and on the bottoms of your feet. If you can't bend over to see the bottoms of your feet, use a mirror that won't break. If you can't see well, ask a family member or friend to help you. Call your health care provider at once if you have a sore on your foot. Sores can get worse quickly

Wash Your Feet Daily

Wash your feet every day. Dry them with care, especially between the toes. Don't soak your feet—it can dry out your skin, and dry skin can lead to infections. Rub lotion or cream on the tops and bottoms of your feet—but not between your toes. Moisture between the toes will let germs grow that could cause an infection. Ask your health care provider for the name of a good lotion or cream.

Trim Your Toenails Carefully

Trim your toenails after you've washed and dried your feet—the nails will be softer and safer to cut. Trim the nails to follow the natural curve of your Be sure to dry between your toes. Don't cut into the corners. Use an emery board to smooth the edges.

If you can't see well, or if your nails are thick or yellowed, get them trimmed by a foot doctor or another health care provider. Ask your health care provider for the name of a foot doctor. If you see redness around the nails, see your health care provider at once.

Treat Corns and Calluses Gently

Don't cut corns and calluses. Ask your health care provider how to gently use a pumice stone to rub them. Don't use razor blades, corn plasters, or liquid corn or callus removers—they can damage your skin.

Protect Your Feet from Heat and Cold

Hot water or hot surfaces are a danger to your feet. Before bathing, test the water with a bath thermometer (90° to 95°F is safe) or with your elbow. Wear shoes and socks when you walk on hot surfaces, such as beaches or the pavement around swimming pools. In summer, be sure to use sunscreen on the tops of your feet.

You also need to protect your feet from the cold. In winter, wear socks and footwear such as fleece-lined boots to protect your feet. If your feet are cold at night, wear socks. Don't use hot water bottles, heating pads, or electric blankets—they can burn your feet. Don't use strong antiseptic solutions or adhesive tape on your feet.

Always Wear Shoes and Socks

Wear shoes and socks at all times. Don't walk barefoot—not even indoors.

Wear shoes that fit well and protect your feet. Don't wear shoes that have plastic uppers, and don't wear sandals with thongs between the toes. Ask your health care provider what types of shoes are good choices for you.

New shoes should be comfortable at the time you buy them—don't expect them to stretch out. Slowly break in new shoes by wearing them only 1 or 2 hours a day.

Always wear socks or stockings with your shoes. Choose socks made of cotton or wool—they help keep your feet dry.

Before you put on your shoes each time, look and feel inside them. Check for any loose objects, nail points, torn linings, and rough areas—these can cause injuries. If your shoes aren't smooth inside, wear other shoes.

Be Physically Active

Physical activity can help increase the circulation in your feet. There are many ways you can exercise your feet, even during times you're not able to walk. Ask your health care team about things you can do to exercise your feet and legs.

For more information on foot care, call the National Diabetes Information Clearinghouse at 1-800-860-8747.

Dental Disease

Because of high blood glucose, people with diabetes are more likely to have problems with their teeth and gums. There's a lot you can do to take charge and prevent these problems. Caring for your teeth and gums every day can help keep them healthy. Keeping your blood glucose under control is also important. Regular, complete dental care helps prevent dental disease.

Healthy teeth and gums depend on regular care and controlling your blood glucose levels.

Signs of Dental Disease

Sore, swollen, and red gums that bleed when you brush your teeth are a sign of a dental problem called gingivitis. Another problem, called periodontitis, happens when your gums shrink or pull away from your teeth. Like all infections, dental infections can make your blood glucose go up.

Preventing Dental Problems

Keep Your Blood Glucose Under Control

High blood glucose can cause problems with your teeth and gums. Work with your health care team to keep your glucose levels as close to normal as you can.

Brush Your Teeth Often

Brush your teeth at least twice a day to prevent gum disease and tooth loss. Be sure to brush before you go to sleep. Use a soft toothbrush and toothpaste with fluoride. To help keep bacteria from growing on your toothbrush, rinse it after each brushing and store it upright with the bristles at the top. Get a new toothbrush at least every 3 months.

Floss Your Teeth Daily

Besides brushing, you need to floss between your teeth each day to help remove plaque, a film that forms on teeth and can cause tooth problems. Flossing also helps keep your gums healthy. Your dentist or dental hygienist will help you choose a good method to remove plaque, such as dental floss, bridge cleaners, or water spray. If you're not sure of the right way to brush or floss, ask your dentist or dental hygienist for help.

Get Regular Dental Care

Get your teeth cleaned and checked at your dentist's office at least once every 6 months. If you don't have a dentist, find one or ask your health care provider for the name of a dentist in your community.

See your dentist right away if you have trouble chewing or any signs of dental disease, including bad breath, a bad taste in your mouth, bleeding or sore gums, red or swollen gums, or sore or loose teeth.

Give your dentist the name and telephone number of your diabetes health care provider. Each time you visit, remind your dentist that you have diabetes.

Plan dental visits so they don't change the times you take your insulin and meals. Don't skip a meal or diabetes medicine before your visit. Right after breakfast may be a good time for your visit.

Vaccinations

If you have diabetes, take extra care to keep up-to-date on your vaccinations (also called immunizations). Vaccines can prevent illnesses that can be very serious for people with diabetes. This section talks about some vaccines you need to know about.

Influenza Vaccine

Influenza (often called the flu) is not just a bad cold. It's a serious illness that can lead to pneumonia and even death. The flu spreads when influenza viruses pass from one person to the nose or throat of others. Signs of the flu may include sudden high fever, chills, body aches, sore throat, runny nose, dry cough, and headache.

People with diabetes who come down with the flu may become very sick and may even have to go to a hospital. If you get the flu, you'll need to take special care of yourself You can help keep yourself from getting the flu by getting a flu shot every year. Everyone with diabetes—even pregnant women—should get a yearly flu shot. The best time to get one is between October and mid-November, before the flu season begins. This vaccine is fully covered under Medicare Part B.

Pneumococcal Vaccine

Pneumococcal disease is a major source of illness and death. It can cause serious infections of the lungs (pneumonia), the blood (bacteremia), and the covering of the brain (meningitis). Pneumococcal polysaccharide vaccine (often called PPV) can help prevent this disease.

PPV can be given at the same time as the flu vaccine—or at any time of the year. Most people only have to take PPV once in their life. Ask your health care provider whether you might need a second vaccination. This vaccine is fully covered under Medicare Part B.

Tetanus/Diphtheria (Td) Toxoid

Tetanus (or lockjaw) and diphtheria are serious diseases. Tetanus is caused by a germ that enters the body through a cut or wound. Diphtheria spreads when germs pass from one person to the nose or throat of others.

You can help prevent tetanus and diphtheria with a combined shot called Td toxoid. Most people get Td toxoid as part of their routine childhood vaccinations, but all adults need a Td booster shot every 10 years. Other vaccines may be given at the same time as Td toxoid.

Other Vaccines

You may need vaccines to protect you against other illnesses. Ask your health care provider if you need any of these:

- Measles/Mumps/Rubella vaccine.
- Hepatitis A and B vaccines.

- Varicella (chicken pox) vaccine.
- Polio vaccine.
- Vaccines for travel to other countries.

How to Get More Information

Call the immunization program in your state health department to find out where you can get vaccinations in your area. Keep your vaccination records up-to-date so you and your health care provider will know what vaccines you may need. You can record this information on the record sheets.

For more information on vaccination, call the CDC National Immunization Hotline at 1-800-CDC-INFO (English and Spanish). This is a toll-free call.

Pregnancy and Women's Health

Becoming Pregnant When You Have Diabetes

Women with diabetes can have healthy babies, but it takes planning ahead and effort. Pregnancy can make both high and low blood glucose levels happen more often. It can make diabetic eye disease and diabetic kidney disease worse. High glucose levels during pregnancy are dangerous for the baby, too.

If you don't want to become pregnant, talk with your health care provider about birth control.

Protecting Your Baby and Yourself

Keeping your glucose levels near normal before and during pregnancy can help protect you and your baby. That's why it's so important to plan your pregnancies ahead of time.

If you want to have a baby, discuss it with your health care provider. Work with your diabetes care team to get and keep your blood glucose in the normal or near-normal range before you become pregnant. Your glucose records and your A1C test results will show when you have maintained a safe range for a period of time.

You may need to change your meal plan and your usual physical activity, and you may need to take more frequent insulin shots. Testing your glucose several times a day will help you see how well you're balancing things. shots. Record the test results in your logbook or on a log sheet.

Get a complete check of your eyes and kidneys before you try to become pregnant. Don't smoke, drink alcohol, or use drugs—doing these things can harm you and your baby.

All women who could become pregnant should get folic acid (400 micrograms) every day. An easy way to be sure you're getting enough folic acid is to take a vitamin with folic acid in it.

Think about breast feeding your baby. Breast feeding has many benefits for you and your baby.

Having Diabetes During Pregnancy

Some women have diabetes only when they're pregnant. This condition, which is called gestational diabetes, can be controlled just like other kinds of diabetes. Glucose control is the key. Your health care team can help you take charge of gestational diabetes. You are more likely to develop type 2 diabetes. Check again for diabetes at least 6 weeks after your baby is born and at regular times for the rest of your life.

Controlling Diabetes for Women's Health

Some women with diabetes may have special problems, such as bladder infections. See Protecting Your Kidneys to find out about the signs of bladder and kidney infections. If you have an infection, it needs to be treated right away. Call your doctor.

Some women get yeast infections in their vagina, especially when their blood glucose is high. A sign of a yeast infection may be itching in the vagina. If you notice vaginal itching, tell your health care provider, who can tell you about medicines you can buy at the drugstore and about how to prevent yeast infections.

Some women with diabetes may have trouble with sexual function. Discomfort caused by vaginal itching or dryness can be treated.

Ask your doctor how often you should get a Pap smear and a mammogram (breast X-ray). Regular Pap smears and mammograms help detect cervical and breast cancer early. All women—whether or not they have diabetes—need to have these tests regularly.

Records

Record for Sick Days

How often: Every day, Every evening, Every morning and every evening

Reminders for Sick Days

Call your health care provider if any of these happen to you:

- You feel too sick to eat normally and are unable to keep down food for more than 6 hours.
- You're having severe diarrhea.
- You lose 5 pounds or more.
- Your temperature is over 101 degrees F.
- Your blood glucose is lower than 60 mg/dL or remains over 300 mg/dL.
- You have moderate or large amounts of ketones in your urine.
- You're having trouble breathing.

- You feel sleepy or can't think clearly.

If you feel sleepy or can't think clearly, have someone call your health care provider or take you to an emergency room.

Checks and Goals for Each Visit

Things to Do at Each Visit with Your Health Care Provider

- Bring your blood glucose record book and go over the readings with your provider.
- Get an A1C test every 3 months. Write down the result and set a target goal for your next test. (See the sample form)
- Get your weight checked and write it down. You may want to set a goal for your next visit.
- Get your blood pressure checked and write it down. You may want to set a goal for your next visit.
- Get your feet checked at every visit as needed.
- Bring a list of questions or other things you want to talk about.
- Bring your reminder sheet about "Things to Do at Least Once a Year" to help keep track of these.

Have your health care provider do these tests and set goals with you. Record dates and the results in the boxes below.

Checks and Goals for Each Year

Things to Do At Least Once a Year

- Get a flu shot (October to mid-November).
- Get a pneumonia shot (if you've never had one) and every 5 years.
- Get a dilated-eye exam.
- Get a foot exam (including check of circulation and nerves).
- Get a kidney test.
    - Have your urine tested for microalbumin.
    - Have your blood tested for chemicals that measure your kidney function.
    - Get a 24-hour urine test (if your doctor advises).
- Get your blood fats checked for
    - Total cholesterol.
    - High-density lipoprotein (HDL).
    - Low-density lipoprotein (LDL).
    - Triglycerides.
- Get a dental exam (at least twice a year).
- Talk with your health care team about
    - How well you can tell when you have low blood glucose.
    - How you are treating high blood glucose.
    - Tobacco use (cigarettes, cigars, pipes, smokeless tobacco).
    - Your feelings about having diabetes.
    - Your plans for pregnancy (if a woman).
    - Other _____

Have your health care provider do these tests and other services for you. You may want to set some goals for these. Record the dates and results in the boxes below.

Glucose Log Sheets

Glucose Log Sheet for People Who Do Not Use Insulin

Use this log sheet—or one like it that your health care provider may give you—to keep a record of your daily blood glucose levels.

Week Starting: *May 26, 2001*

Personal target Goal: Fasting 90-130/After meals less than 180
Medicine: Glyburide 10 mg twice a day. glucophage 1000 mg twice a day.

Your Health Care Team

Primary Doctor or Health Care Provider

Name: _____

Telephone number: _____

Your questions:
_____
_____

Important points:
_____
_____
_____
_____

Eye Doctor (Ophthalmologist, Optometrist)

Name: _____

Telephone number: _____

Your questions:
_____
_____

Important points:

_____

_____

_____

_____

Foot Doctor (Podiatrist)

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Dentist

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Dietitian (Registered Dietitian, Nutritionist)

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Diabetes Educator (Certified Diabetes Educator)

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Counselor

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Other

Name: _____

Telephone number: _____

Your questions:

_____

_____

Important points:

_____

_____

_____

_____

Diabetes Information Resource List

The following is a list of organizations that can provide information on diabetes. Ask your health care team to help you find other resources for information or support.

American Association of Diabetes Educators
100 West Monroe, Suite 400
Chicago, Illinois 60603-1901
800-832-6874
800-338-3633 (for names of diabetes educators)

American Diabetes Association
1701 N. Beauregard Street
Alexandria, Virginia 22311
703-549-1500
800-ADA-ORDER to order publications toll free
800-342-2388 (800-DIABETES) for diabetes information

Academy of Nutrition and Dietetics, formerly the American Dietetic Association
216 West Jackson Boulevard, Suite 800
Chicago, Illinois 60606-6995
800-745-0775
800-366-1655 (Consumer Nutrition Hotline, Spanish speaker available)

American Heart Association National Center
7272 Greenville Avenue
Dallas, Texas 75231
214-373-6300

Centers for Disease Control and Prevention (CDC)
Division of Diabetes Translation
Public Inquiries and Publications

P. O. Box 8728
Silver Spring, Maryland 20910
800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348

Department of Veterans Affairs

- Veterans Health Administration
  810 Vermont Avenue, N.W.
  Washington, D.C. 20420
  VA Health Benefits
  Toll-free: 877-222-8387

- The Foundation of the American Academy of Ophthalmology Diabetes Project
  P.O. Box 429098
  San Francisco, California 94142-9098
  800-222-EYES (3937)

Indian Health Service Diabetes Program
5300 Homestead Road, N.E.
Albuquerque, New Mexico 87110
505-248-4182

Juvenile Diabetes Research Foundation International
The Diabetes Research Foundation
120 Wall Street, 19th Floor
New York, New York 10005-4001
800-JDF-CURE or 800-223-1138
212-785-9595 (fax)
E-mail: info@jdrf.org

National Diabetes Education Program

- **Program information:**
  Mail requests to NDEP, c/o CDC Diabetes Program
  Public Inquiries
  P.O. Box 8728
  Silver Spring, Maryland 20910
  877-CDC-DIAB
  800-438-5383
  E-mail: diabetes@cdc.gov

- Campaign materials and publications:
  Mail requests to NDEP, c/o National Diabetes Information Clearinghouse

1 Information Way
Bethesda, Maryland 20892-3560
800-438-5383
E-mail: berryt@extra.niddk.nih.gov

National Diabetes Information Clearinghouse
1 Information Way
Bethesda, Maryland 20892-3560
800-860-8747
301-654-3327
Fax 301-907-8906
E-mail: ndic@aerie.com

National Eye Institute
National Eye Health Education Program
Diabetic Eye Disease Public Education Program
2020 Vision Place
Bethesda, Maryland 20892-3655
800-869-2020 (to order materials)

Appendix

A

A1C: A test that sums up how much glucose has been sticking to part of the hemoglobin during the past 3–4 months. Hemoglobin is a substance in the red blood cells that supplies oxygen to the cells of the body. The AIC goal for patients in general is an AIC goal of less than 7%. The AIC goal for the individual patient is an AIC as close to 6% as possible without a considerable amount of low blood glucose.

ACE inhibitor: A type of drug used to lower blood pressure. Studies indicate that it may also help prevent or slow the progression of kidney disease in people with diabetes. ACE is an acronym for angiotensin-converting enzyme.

Autoimmune process: A process where the body's immune system attacks and destroys body tissue that it mistakes for foreign matter.

B

Beta cells: Cells that make insulin. Beta cells are found in areas of the pancreas called the Islets of Langerhans.

Bladder: A hollow organ that urine drains into from the kidneys. From the bladder, urine leaves the body.

Blood glucose: The main sugar that the body makes from the food we eat. Glucose is carried through the bloodstream to provide energy to all of the body's living cells. The cells cannot use glucose without the help of insulin.

Blood pressure: The force of the blood against the artery walls. Two levels of blood pressure are measured; the highest, or systolic, occurs when the heart pumps blood into the blood vessels, and the lowest, or diastolic, occurs when the heart rests.

Blood sugar—See blood glucose.

C

Calluses: Thick, hardened areas of the skin, generally on the foot, caused by friction or pressure. Calluses can lead to other problems, including serious infection and even gangrene.

Carbohydrate: One of three main groups of foods in the diet that provide calories and energy. (Protein and fat are the others.) Carbohydrates are mainly sugars (simple carbohydrates) and starches (complex carbohydrates, found in bread, pasta, beans) that the body breaks down into glucose.

Cholesterol: A substance similar to fat that is found in the blood, muscles, liver, brain, and other body tissues. The body produces and needs some cholesterol. However, too much cholesterol can make fats stick to the walls of the arteries and cause a disease that decreases or stops circulation.

Chronic kidney disease (CKD): retains fluids and harmful wastes build up because the kidneys no longer work properly.

Corns: A thickening of the skin of the feet or hands, usually caused by pressure against the skin.

D

Dehydration: the loss of too much body fluid through frequent urinating, sweating, diarrhea, or vomiting.

Diabetes: The short name for the disease called diabetes mellitus. Diabetes results when the body cannot use blood glucose as energy because of having too little insulin or being unable to use insulin. See also type 1 diabetes, type 2 diabetes, and gestational diabetes.

Diabetes pills—Pills or capsules that are taken by mouth to help lower the blood glucose level. These pills may work for people whose bodies are still making insulin.

Diabetic eye disease: A disease of the small blood vessels of the retina of the eye in people with diabetes. In this disease, the vessels swell and leak liquid into the retina, blurring the vision and sometimes leading to blindness.

Diabetic ketoacidosis—High blood glucose with the presence of ketones in the urine and bloodstream, often caused by taking too little insulin or during illness.

Diabetic kidney disease: Damage to the cells or blood vessels of the kidney.

Diabetic nerve damage: Damage to the nerves of a person with diabetes. Nerve damage may affect the feet and hands, as well as major organs.

Dialysis: A method for removing waste from the blood when the kidneys can no longer do the job.

Dilated eye exam: Eye drops are placed in the eyes to widen the pupils to see the retina better. The eye doctor will look for changes in the retina in the back of the eyes.

Diphtheria: An acute, contagious disease that causes fever and problems for the heart and nervous system.

E

EKG: A test that measures the heart's action. Also called an electrocardiogram.

F

Flu: An infection caused by the "flu" (short for "influenza") virus. The flu is a contagious viral illness that strikes quickly and severely. Signs include high fever, chills, body aches, runny nose, sore throat, and headache.

G

Gestational diabetes: A type of diabetes that can occur in pregnant women who have not been known to have diabetes before.

GFR: glumerular filtration rate- A measure of the kidney's ability to filter and remove waste products. It is the best test to measure kidney function and stage of kidney disease.

Gingivitis: A swelling and soreness of the gums that, without treatment, can cause serious gum problems and disease.

Glucagon: A hormone that raises the blood glucose level.

Glucose: A sugar in our blood and a source of energy for our bodies.

H

Heart attack: Damage to the heart muscle caused when the blood vessels supplying the muscle are blocked, such as when the blood vessels are clogged with fats (a condition sometimes called hardening of the arteries).

HDL (or **high-density lipoprotein**): A combined protein and fatlike substance. Low in cholesterol, it usually passes freely through the arteries; sometimes called "good cholesterol."

High blood glucose: A condition that occurs in people with diabetes when their blood glucose levels are too high. Symptoms include having to urinate often, being very thirsty, and losing weight.

High blood pressure: A condition where the blood circulates through the arteries with too much force. High blood pressure tires the heart, harms the arteries, and increases the risk of heart attack, stroke, and kidney problems.

Hormone: A chemical that special cells in the body release to help other cells work. For example, insulin is a hormone made in the pancreas to help the body use glucose as energy.

Hyperglycemia: See high blood glucose.

Hypertension: See high blood pressure.

Hypoglycemia: See low blood glucose.

I

Immunization: Sometimes called vaccination; a shot or injection that protects a person from getting an illness by making the person "immune" to it.

Influenza: See flu.

Inject: To force a liquid into the body with a needle and syringe.

Insulin: A hormone that helps the body use blood glucose for energy. The beta cells of the pancreas make insulin. When people with diabetes can't make enough insulin, they may have to inject it from another source.

Insulin: dependent diabetes—See type 1 diabetes.

K

Ketones: Chemical substances that the body makes when it doesn't have enough insulin in the blood. When ketones build up in the body for a long time, serious illness or coma can result.

Kidneys: Twin organs found in the lower part of the back. The kidneys purify the blood of all waste and harmful material. They also control the level of some helpful chemical substances in the blood.

L

Laser surgery: Surgery that uses a strong ray of special light, called a laser, to treat damaged parts of the body. Laser surgery can help treat some diabetic eye diseases.

Low blood glucose: A condition that occurs in people with diabetes when their blood glucose levels are too low. Symptoms include feeling anxious or confused, feeling numb in the arms and hands, and shaking or feeling dizzy.

LDL (or **low-density lipoprotein**): A combined protein and fatlike substance. Rich in cholesterol, it tends to stick to the walls in the arteries; sometimes called "bad cholesterol."

M

Meal plan: A guide to help people get the proper amount of calories, carbohydrates, proteins, and fats in their diet.

Microalbumin: A protein found in blood plasma and urine. The presence of microalbumin in the urine can be a sign of kidney disease.

N

Nephropathy: See diabetic kidney disease.

Neuropathy: See diabetic nerve damage.

Non-insulin-dependent diabetes: See type 2 diabetes.

P

Pancreas: An organ in the body that makes insulin so that the body can use glucose for energy. The pancreas also makes enzymes that help the body digest food.

Periodontitis: A gum disease in which the gums shrink away from the teeth. Without treatment, it can lead to tooth loss.

Plaque: A film of mucus that traps bacteria on the surface of the teeth. Plaque can be removed with daily brushing and flossing of teeth.

Pumice stone: A special foot care tool used to gently file calluses as instructed by your health care team.

R

Retinopathy: See diabetic eye disease.

Risk factors: Traits that make it more likely that a person will get an illness. For example, a risk factor for getting type 2 diabetes is having a family history of diabetes.

S

Self-monitoring blood glucose: A way for people with diabetes to find out how much glucose is in their blood. A drop of blood from the fingertip is placed on a special coated strip of paper that “reads” (often through an electronic meter) the amount of glucose in the blood.

Stroke: Damage to a part of the brain that happens when the blood vessels supplying that part are blocked, such as when the blood vessels are clogged with fats (a condition sometimes called hardening of the arteries).

Support group: A group of people who share a similar problem or concern. The people in the group help one another by sharing experiences, knowledge, and information.

T

Type 1 diabetes: A condition in which the pancreas makes so little insulin that the body can't use blood glucose as energy. People with type 1 diabetes need to take insulin every day.

Type 2 diabetes: A condition in which the body either makes too little insulin or can't use the insulin it makes to use blood glucose as energy. All people with diabetes need to eat healthy foods stay at a healthy weight and be active everyday. People with type 2 often need to diabetes have to take diabetes pills or insulin. type 2 diabetes is the most common from of diabetes.

Ulcer: A break or deep sore in the skin. Germs can enter an ulcer and may be hard to heal.

Urea: One of the chief waste products of the body. When the body breaks down food, it uses what it needs and throws the rest away as waste. The kidneys flush the waste from the body in the form of urea, which is in the urine.

V

Vaccination: A shot given to protect against a disease.

Vagina: A canal in females from the external genitalia (vulva) to the cervix of the uterus.

Vitrectomy: An operation to remove the blood that sometimes collects at the back of the eyes when a person has eye disease.

Y

Yeast infection: A vaginal infection that is usually caused by a fungus. Women who have this infection may feel itching, burning when urinating, and pain, and some women have a vaginal discharge. Yeast infections occur more frequently in women with diabetes.