

Living Well

with

Diabetes



A Self-Care Workbook

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KRAMES
PATIENT EDUCATION

In collaboration with:

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Diabetes
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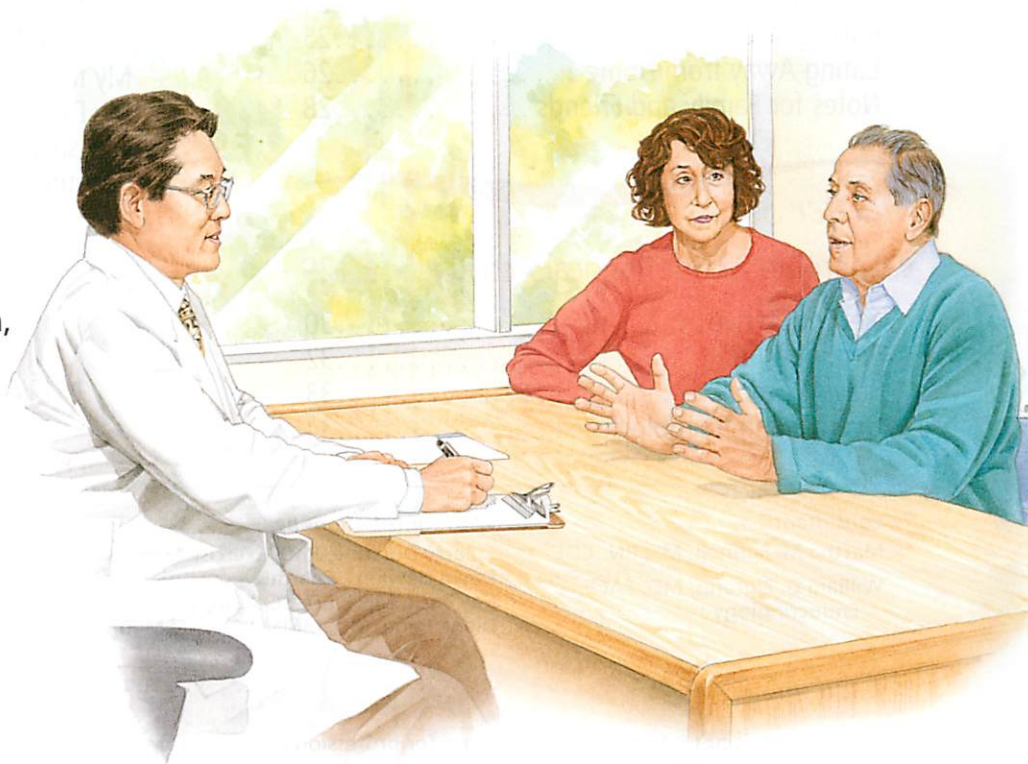
You Can Live Well with Diabetes!

You've been given this workbook because you have diabetes. Diabetes is a **chronic** (lifelong) condition. Without treatment, it can result in serious health problems, including high blood pressure and cholesterol. But you can learn to manage diabetes and live a healthier life. This workbook will help you understand what diabetes is and how it affects your health. It will also help you make daily decisions to manage your diabetes. Read on to find tips and tools you can use to live well with diabetes.

What Is Diabetes?

When you have diabetes, your body has trouble using a sugar called **glucose**. As a result, the glucose level in your blood becomes too high. (See page 5 to learn how this happens.) Over time, high blood glucose causes health problems, including high blood pressure and cholesterol. Anyone can develop diabetes. It can affect people of all ages and backgrounds. But there are some common risk factors for diabetes. These include:

- Family history of diabetes
- Lack of physical activity
- Being overweight
- Being over age 40
- Being African American, Native American, Hispanic, Asian American, Asian Indian, or Pacific Islander



Your Role in Managing Diabetes

Living with a chronic condition can be a challenge. Everyday life can distract you from diabetes management. But you don't have to go it alone. You'll work with healthcare providers who can support and advise you in creating a management plan. Remember, *you're* the expert on *you*. Make sure your plan is one that works for you.



How This Workbook Can Help

This book is not homework. It's full of tools to help you create a diabetes management plan you can stick with. Start by learning how healthy eating, physical activity, and medication can help you manage your blood glucose, blood pressure, and cholesterol. Then use the spaces provided in this book to write down your management plan and blood glucose goals. Doing this will help you stay on top of your health. Keep this book handy so you can refer to it whenever you need to.

To Get the Most from This Workbook

Look for the following symbols throughout the workbook:

Notes for Family and Friends: This symbol appears in places that have advice for family members and friends of people with diabetes.



Toolkit: This symbol means that you can find a full-sized chart for your own use in chapter 6 of the workbook.



Checkboxes and Fill-Ins: This symbol marks places where you can write in your own goals and management plans.

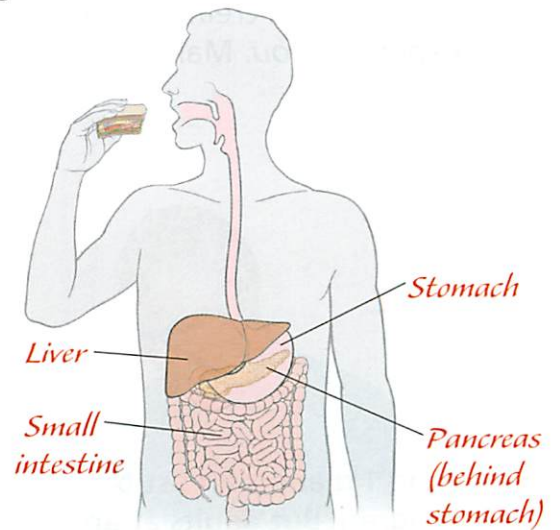


Understanding Diabetes

The food you eat is digested to be used as fuel. This fuel supplies energy to your body's cells. When you have diabetes, the fuel has a hard time entering most cells.

How the Body Gets Energy

The digestive system breaks down food, resulting in a variety of nutrients including a sugar called **glucose** **G**. Some of the glucose is stored in the liver. Most of it enters the bloodstream and travels to cells to be used as fuel. Glucose needs the help of a hormone (chemical messenger) called **insulin** **I** to enter most cells. Insulin is made in the **pancreas**. It is released into the bloodstream in response to meals and the presence of glucose in the blood. Think of insulin as a key. When insulin reaches a cell, it unlocks a doorway into the cell that allows glucose to enter the cell.



Your body breaks down the food you eat into glucose.

1. Glucose enters the bloodstream from the liver or intestine.

2. Insulin enters the bloodstream from the pancreas.

Blood vessel

3. Insulin binds to a cell that needs energy.

4. Insulin opens the cell to glucose.

Cell

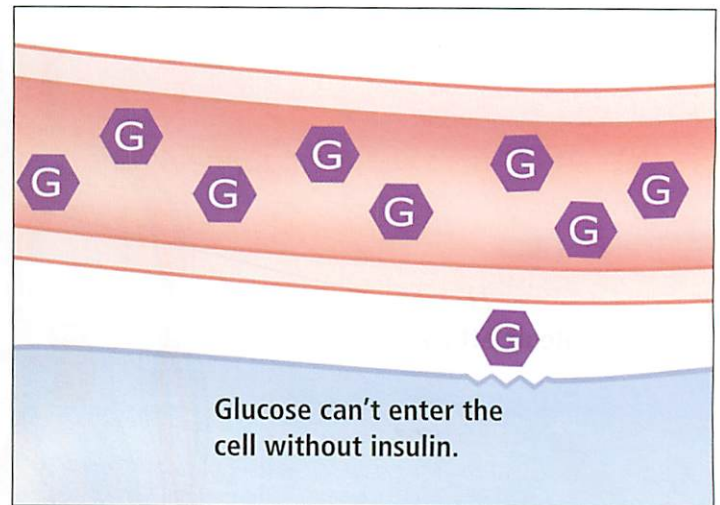
5. Glucose enters the cell and is used for fuel.

When You Have Diabetes

Your body may not make enough insulin, or may make none at all. And/or your cells may not respond the right way to insulin in the blood. Either way, this means that glucose has trouble entering the cells. If it can't enter the cells, it builds up to a harmful level in the bloodstream. This is called high blood glucose (**hyperglycemia**). There are two types of diabetes. Both are discussed below.

Type 1 Diabetes

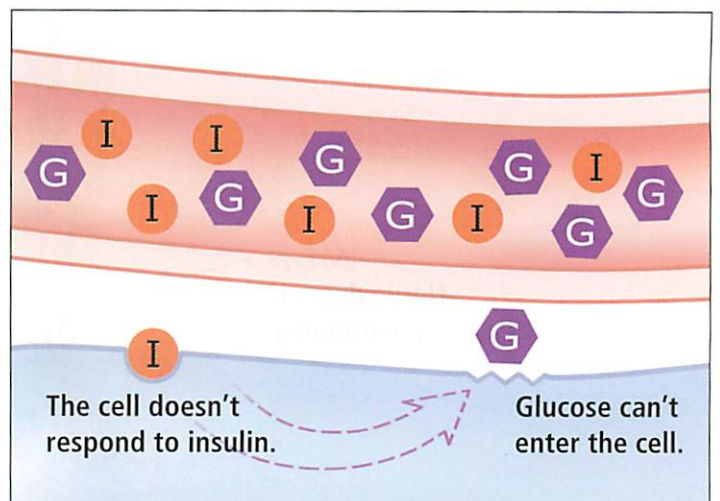
When you have type 1 diabetes, the pancreas is not making any insulin at all. Type 1 diabetes most often develops in children. But adults at any age can also get it. People with type 1 usually must take insulin every day in order to get fuel into most cells.



With type 1 diabetes, there is no insulin in the bloodstream. As a result, glucose can't enter most cells and builds up in the blood.

Type 2 Diabetes

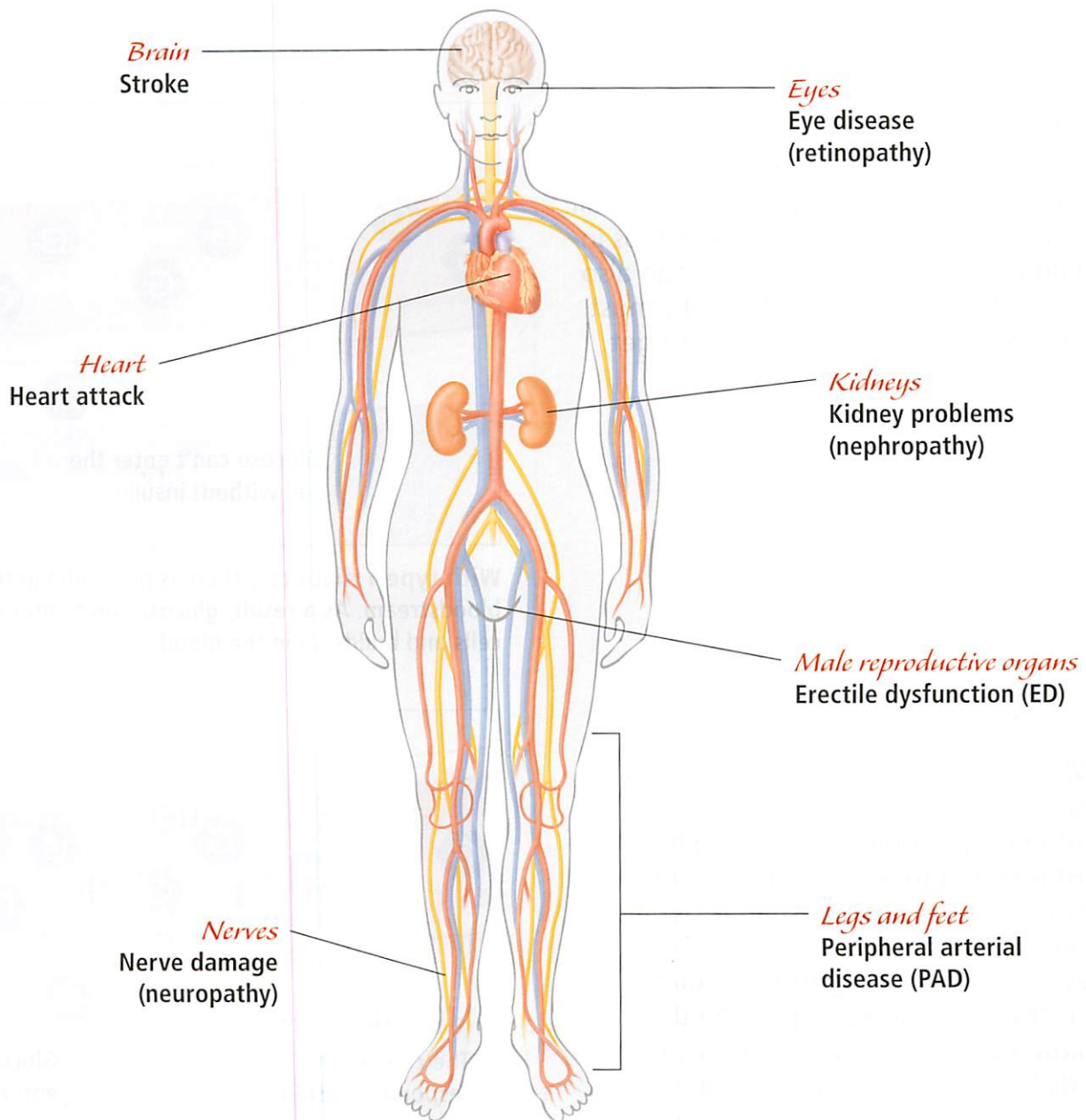
When you have type 2 diabetes, the pancreas may still be making some but not enough insulin. And the cells may not respond to insulin the way they should. This is called **insulin resistance**. The pancreas may try to overcome resistance by making more insulin. But the pancreas can't provide the extra insulin needed. People with type 2 diabetes may also need to take insulin. (But taking insulin does not mean that type 2 has become type 1.)



With type 2 diabetes, glucose can't enter most cells easily, so glucose builds up in the bloodstream.

Why High Blood Glucose Is a Problem

Over time, high blood glucose damages your blood vessels, both large and small. This damage leads to complications that affect the whole body. Complications include heart attack, stroke, kidney damage, blindness, nerve damage, and risk of limb loss (amputation). But, by managing your blood glucose as directed, you can help reduce your risk of complications.

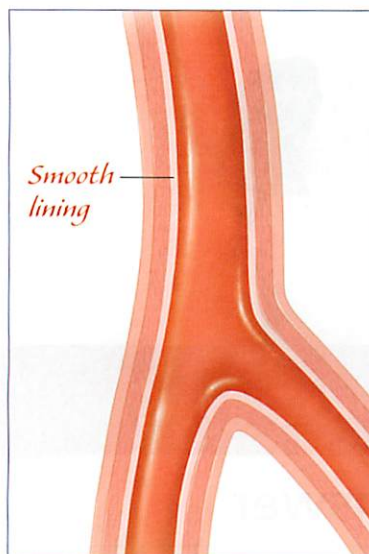


Diabetes Increases Cardiovascular Risk

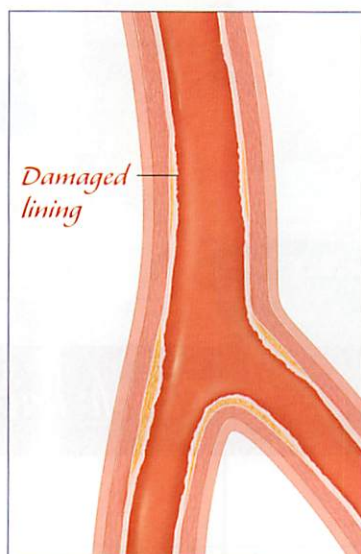
Over time, high blood glucose can increase your risk for **cardiovascular** (heart and blood vessel) disease, including heart attack or stroke. People with long-term high blood glucose are especially at risk. They have an increased chance of dying of, or being disabled by, heart attack or stroke.

High Blood Glucose Damages Artery Walls

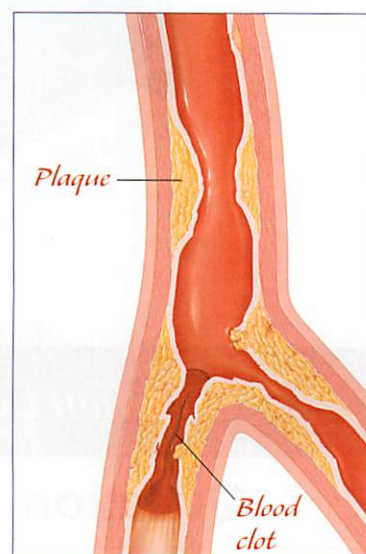
The buildup of glucose in the blood affects the lining of **artery** walls. (An artery is a type of blood vessel. A vein is another type.) Arteries carry blood from the heart to the rest of the body. When arteries are healthy, the lining is smooth. But when you have high blood glucose, the artery lining becomes damaged over time. This allows the buildup of **plaque** (fatty materials, such as cholesterol) in the arteries.



When the lining is smooth, blood flows easily through the arteries.



Over time, high blood glucose damages the lining.



Plaque builds up in the artery walls, making it hard for blood to get through.

How Heart Attack and Stroke Happen

The buildup of plaque narrows arteries. This means that any blockage, such as a blood clot, can cut off blood flow. When this happens, heart attack and stroke can occur. Many people with diabetes also have other cardiovascular risk factors, such as high blood pressure or high cholesterol. These problems increase the chance of heart attack or stroke even further. But managing your risk factors, including your blood glucose, blood pressure, and cholesterol, can help delay or prevent these problems. Read on to learn about managing your blood glucose, blood pressure, and cholesterol.

Adjusting to Life with Diabetes

You know that managing your blood glucose can help you stay healthy and live your life. Still, some people find that daily diabetes management feels like a lot to handle. Diabetes affects your daily routine, at home, school, and work. Change isn't always easy. But with practice, diabetes management can become a habit. As you get started, you'll likely have questions or concerns. See the box below for some common questions about diabetes and where in this workbook to find answers.



Common Concerns for People with Diabetes

Question	Answer
Does having diabetes mean I can't have any sugar?	All foods can fit into a healthy meal plan. See page 20.
Do I have to join a gym?	You don't have to spend money to be active. See page 31.
Will I have to give myself shots every day?	Not necessarily. See page 39.
What if I feel overwhelmed?	Taking care of your emotional health is a priority, too. See page 46.

Get Support!

Managing your blood glucose is mostly up to you. But you don't have to go it alone. A team of healthcare experts will teach you how to manage diabetes and the health risks it brings. Your family and friends can also provide support. Think about what kind of help you will need. Then decide whom to ask for that support.

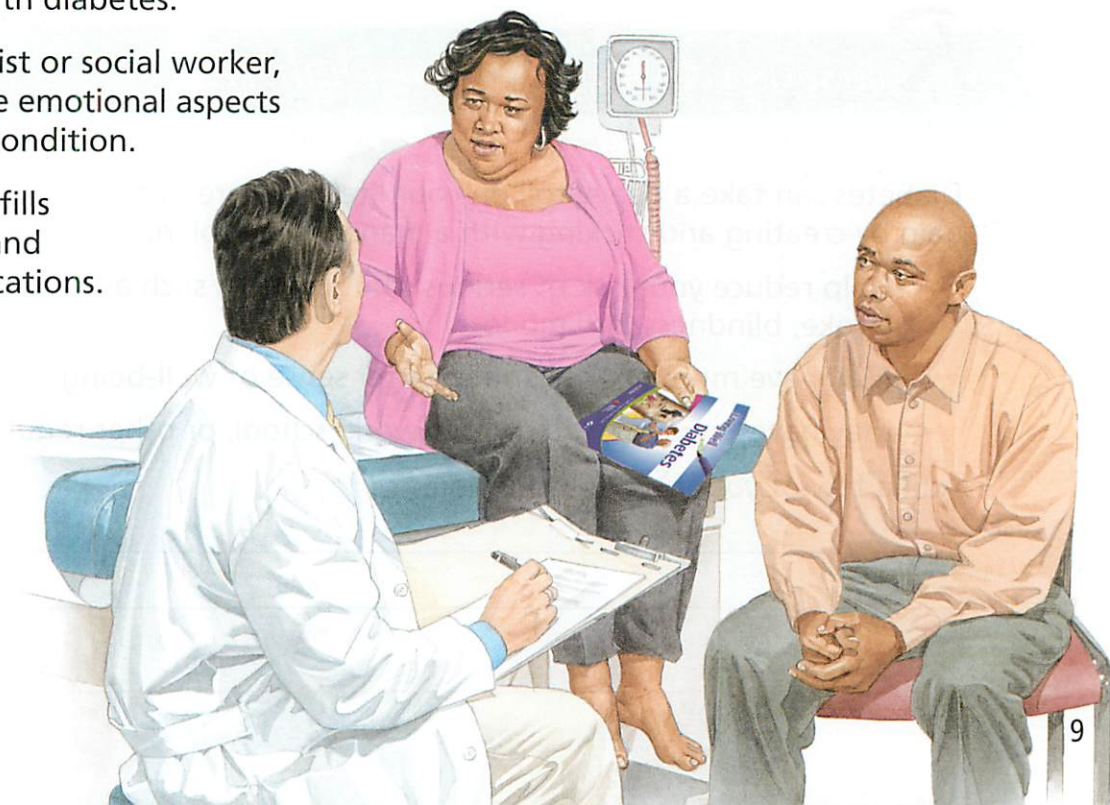
Your Healthcare Team

Your diabetes healthcare team will work with you to create a management plan. Team members may include:

- A primary care provider, often your regular doctor, who can refer you to specialists as needed.
- An endocrinologist, a doctor who specializes in diabetes.
- A registered dietitian, an expert in food and nutrition, to teach you how food affects your blood glucose.
- A diabetes educator to teach you to manage and live with diabetes.
- A health psychologist or social worker, to help you with the emotional aspects of managing your condition.
- A pharmacist, who fills your prescriptions and explains your medications.

Your Family and Friends

Family and friends can support your efforts to take care of your health. They may be concerned about your condition and worried about complications. Or, it may be hard for them to understand all the changes you are making. But the important people in your life can help you succeed. People who care about you want to help. Think about the people who can support you, and the specific ways they can help. Then ask for the support you need. Your family and friends can help you stay focused and confident as you learn to manage diabetes.



You're In Charge

Your healthcare team may be experts on diabetes, but *you* are the expert on *you*. No one else can manage your blood glucose for you. So work closely with your healthcare team to create a management plan that you can stick with. Remember: As your life changes, your plan will need to change too. In fact anytime your plan isn't working as intended, it may be time to change the plan. This can help to protect your health, now and in the future.

Designing a Management Plan

The rest of this workbook focuses on what you'll need to create your diabetes, blood pressure, and cholesterol management plan. Each section gives you information and tips you can use every day. Use the fill-ins and checkboxes to mark ideas that you would like to try. In chapter 6, you'll find your diabetes toolkit. It contains a blank blood glucose log, a chart to record your health goals, and a medication chart. You'll also find a glossary of diabetes terms and resources for learning more about diabetes management.



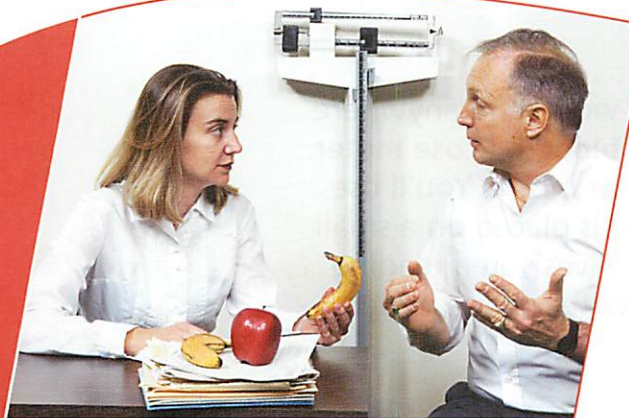
Reasons to Manage Your Diabetes

Diabetes can take a heavy toll on your life. Here are just a few of the benefits you gain by creating and sticking with a management plan:

- ➔ Help reduce your risk of serious complications such as heart attack, stroke, blindness, or limb loss
- ➔ May have more energy and a better sense of well-being
- ➔ May have fewer missed days of work, school, or other regular activities

Add a few of your own reasons here:

Chapter 1



Monitoring Your Blood Glucose

Monitoring your blood glucose is the basis of diabetes management. In this section you will learn:

1. The importance of checking your blood glucose.
2. How to know if your treatment plan is keeping your blood glucose where you want it to be.
3. What to do when your blood glucose is too high or too low.

Checking Blood Glucose

The first step in managing diabetes is learning to check (**monitor**) the level of glucose (sugar) in your blood. This will help you make daily decisions about diabetes management. Monitoring isn't hard to do. Your diabetes team will show you how. You will also learn how to keep a record of your numbers (**readings**). Your readings show you how food, activity, stress, and medication affect your blood glucose every day.

Using a Blood Glucose Meter

You can check your blood glucose at home, at work, and anywhere else. Your diabetes team will help you select a **blood glucose meter**. A meter measures the amount of glucose in your blood. You'll use a **lancet** to draw a tiny drop of blood. The drop is placed on a small strip that goes into the meter. The meter then gives you a reading that tells you the level of your blood glucose. With today's meters, you can test just about anywhere you go.

Aim for Your Target Range

Your blood glucose should be in your **target range** as often as possible. This means not too high and not too low. Staying in this range as often as possible helps reduce your risk of complications. Your diabetes team will help you figure out your ideal target range. Fill in your numbers in the box below.

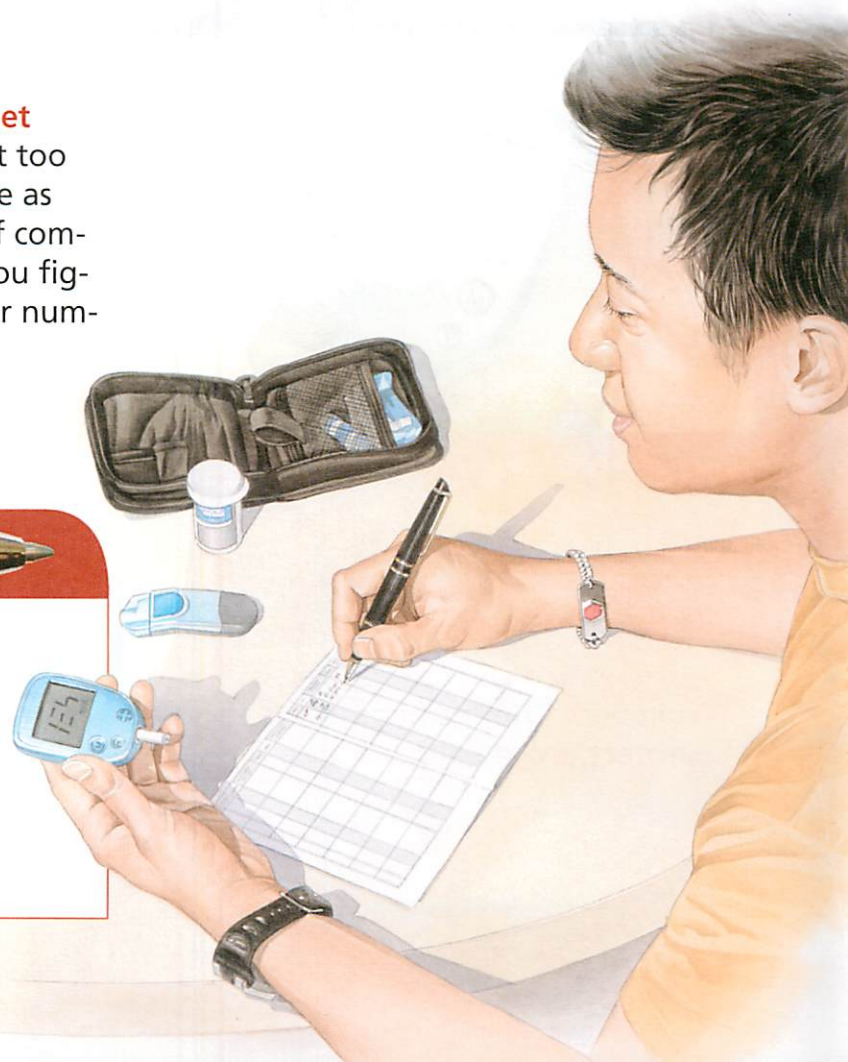
My Target Range

Before a Meal

➔ Between _____ and _____.

2 Hours After a Meal

➔ Between _____ and _____.



Blood Glucose Log

	Breakfast		Lunch		Dinner		Nighttime (if needed)	
	Before	2 hours after	Before	2 hours after	Before	2 hours after	Bedtime	Middle of night
Sunday								
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								

Comments: _____

Track Your Readings

Every time you check your blood glucose, use a log to keep track of your readings. You may check in the morning, at bedtime, and before and after meals. Be sure to write down all your numbers. Use your log to record things that might have affected your blood glucose. This may include being sick, being very active, stressed, or eating special foods on a holiday.

See page 58

What Do the Readings Mean for You?

Keeping track of your blood glucose readings helps you identify patterns. These patterns tell you how your actions affect your blood glucose. For example, you may notice high or low numbers after eating certain foods. Use these patterns to make decisions about steps you can take to keep your blood glucose in your target range. Be sure to take your log book with you every time you see the doctor. And be honest! There are no "good" or "bad" numbers. The readings just tell you if you need to make changes in order to protect your health.

The A1C Test: Understanding Average Glucose

You use a meter to track your blood glucose every day. But you also need to know if your treatment plan is keeping you healthy over time. An **A1C (glycated hemoglobin)** test can help. This test measures your average blood glucose level over the previous 2 to 3 months. In fact, A1C can also be reported as an estimated average glucose value, or eAG. If your level stays too high, your treatment plan may need to be adjusted. This could mean a change in your medication.

Your A1C Goal

An A1C test result can be reported as a percentage. It can also be reported as a number, called an estimated Average Glucose or **eAG**. Your healthcare provider will help you figure out your target goal. Many people aim for an A1C lower than 7%. This is an eAG of less than 154 mg/dL.* Your goal will depend on your age, general health, and other factors.

The A1C Test

The A1C is a blood test. It measures how much glucose is stuck to a protein (called **hemoglobin**) inside the red blood cells. You will likely have an A1C test every 3 to 6 months.

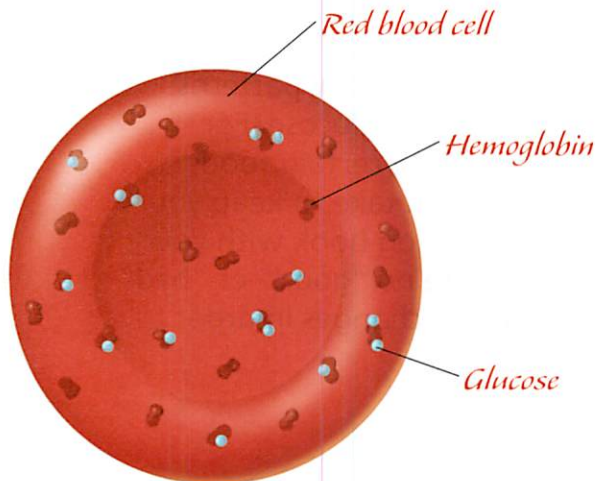
*Less stringent A1C goals may be appropriate for other patients, especially those with a history of hypoglycemia (low blood glucose).

A1C to eAG Conversion Chart

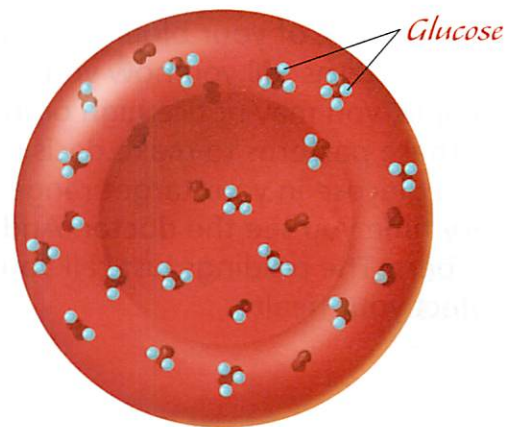
This table shows the relationship between A1C and eAG, estimated average glucose.

A1C %	eAG mg/dl
5	97
5.5	111
6	126
6.5	140
7	154
7.5	169
8	183
8.5	197
9	212
9.5	226
10	240
10.5	255
11	269

An eAG of 154 mg/dl is the goal for most people with diabetes



A normal A1C result means that a healthy amount of glucose is inside red blood cells.



A high A1C result means that too much glucose is inside red blood cells.

Treating High and Low Blood Glucose

Many things (including food, physical activity, and medication) can raise or lower blood glucose—sometimes too much. Extreme highs and lows can be dangerous! Some people connect how they feel with having a high or low blood glucose. Others may not. That's why you have to check. Ask your healthcare provider which numbers outside your target range are dangerous for you.

High Blood Glucose

Hyperglycemia means that your blood glucose may be around 200 or higher. You may have no symptoms or you might experience:

- Increased thirst
- Increased need to urinate
- Increased tiredness
- Blurred vision

If You Feel Symptoms

Always check your blood glucose right away.

If it's too high:

1. Drink water or other sugar-free liquids to stay hydrated.
2. If you take insulin, you may need to take an extra dose. Ask your healthcare provider for instructions about taking extra insulin.
3. Check at least every 4 hours to make sure your blood glucose is going down. Call your healthcare provider if it doesn't go down after two checks, or if symptoms get worse.

Low Blood Glucose

Hypoglycemia means that your blood glucose is under 70. A drop in blood glucose can happen very quickly. You might have:

- Sweating or cold, clammy skin
- Dizziness, shakiness, or tingling feeling
- Hard, fast heartbeat, or headache
- Confusion or irritability

Ask your doctor when to call in case of emergency.

If you don't notice symptoms of low blood glucose or if you have had episodes of severe hypoglycemia, your healthcare provider may tell you to raise your target blood glucose.

If You Feel Symptoms

Always check your blood glucose right away.

If it's too low:

1. Eat or drink 15 grams of **fast-acting sugar**. This could be 3 or 4 glucose tablets or ½ cup (4 oz) of fruit juice or regular soda (not diet).
2. Check your blood glucose again after 15 minutes. If it's still low, repeat step 1. Check again after another 15 minutes. If it's still too low, call your healthcare provider right away.
3. Once your blood glucose rises, eat a small snack if your next planned meal is over half an hour away.

Make Checking a Priority

You can't always have perfect blood glucose control. But make the effort to keep your blood glucose in your target range as often as possible. Check your blood glucose as directed. And make sure you get an A1C test every 3 to 6 months. This will help you decide if you need to change your management plan to reach your blood glucose goals.

Overcoming Barriers



Are you remembering to check your blood glucose as often as you planned? If not, what's stopping you? Write down your barriers. Be specific. For each barrier, think of a solution that you can stick with. Write it down in the space provided. Then refer back to this chart whenever you need a reminder.

Example

Change I want to make: Remember to test my blood glucose 2 hours after eating.

What's stopping me: I forget when I get too busy at work.

Solutions: Set an alarm to go off when I need to check my blood glucose. Or, pick an activity I do every day and always check at that time, such as during a break.

Change I want to make: _____

What's stopping me: _____

Solutions: _____

Change I want to make: _____

What's stopping me: _____

Solutions: _____

Chapter 2



Creating a Meal Plan

Eating healthy foods every day is key to managing your blood glucose. In this section you will learn:

1. How different foods affect blood glucose levels.
2. How to create a meal plan and put it into action.
3. How to stick to your meal plan away from home.

Setting Healthy Eating Goals

A key part of managing blood glucose is eating healthy foods every day. You *don't* have to stop eating the foods you like. But you *do* need to know how food affects your blood glucose, blood pressure, and cholesterol. Ask to meet with a **registered dietitian** (an expert on food and nutrition). The dietitian will teach you the skills you need to plan healthy meals.

Getting Started

Before you see the dietitian, you may be asked to keep a food diary for a week or two. Write down all the foods you eat and when you eat them. Bring this list with you when you see the dietitian. It will help the dietitian get to know your eating habits.

Working with the Dietitian

The dietitian will work with you to design a meal plan. The meal plan will be based on your likes and dislikes. The dietitian will teach you how the foods you eat affect blood glucose. You'll learn how to judge serving and portion sizes of the foods you eat. Creating a plan you can live with will help you keep your blood glucose in your target range.



You may work with the dietitian one-on-one or in a group class.

Learning About Serving Sizes

A serving size is a fixed amount of a food that provides a certain amount of nutrients. Learning about serving sizes will help you decide how much of a food to eat at a meal. The dietitian may show you how to use measuring cups or spoons. This can help you get used to the size of a serving. Once you feel comfortable, you can learn to “eyeball” the serving sizes of the foods you eat.



Ounces

2 to 3 ounces are about the size of your palm.



1 Cup

1 cup (or a medium-sized piece) is about the size of your fist.

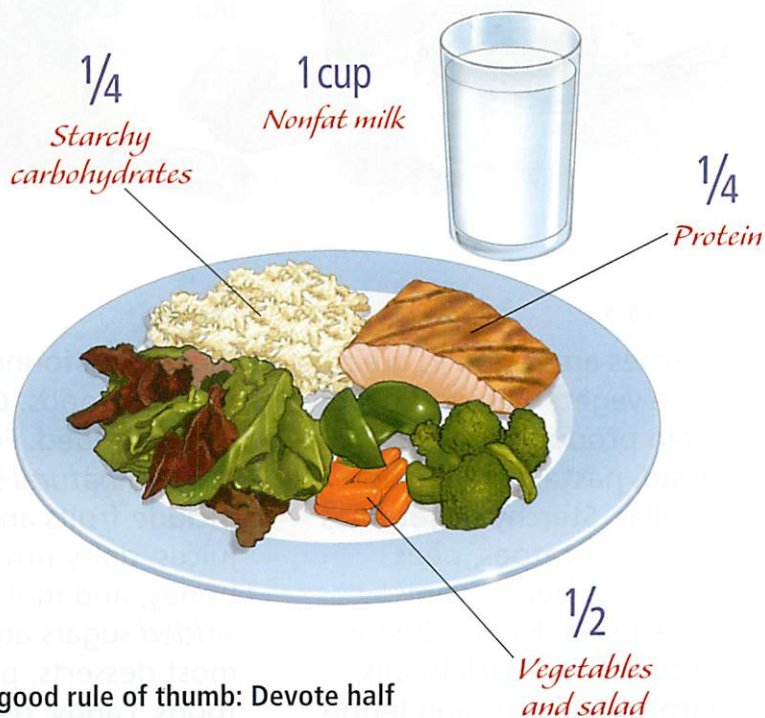


1/2 Cup

1/2 cup is about the size of your cupped hand.

Learning About Portion Sizes

If your weight is a concern, reducing your portions can help. You can eat more than one serving of a food at one meal. But to keep from eating too much, learn how to manage your portions. A portion is the amount of each *type* of food on your plate. The plate diagram at right is an example of balanced portions. See page 24 to learn more.



A good rule of thumb: Devote half your plate to vegetables and green salad. Split the other half between protein and starchy carbohydrates. Fruit makes a good dessert.

How Carbohydrates Affect Blood Glucose

Just as a car needs the right type of fuel (gas) to run, you need the right kind of fuel (food) to function. To sustain energy, your body needs food that contains **carbohydrates**. But carbohydrates raise blood glucose levels higher and faster than other kinds of food.

What Foods Contain the Most Carbohydrates?

You need to eat carbohydrates every day. But the more you eat, the higher your blood glucose may rise. To help keep your blood glucose in your target range, learn which foods contain carbohydrates. Then decide how these foods fit into your meal plan. The main types of carbohydrates are: starches, sugars, and fiber (a type of carbohydrate that doesn't raise blood glucose).



Starches

Starches are found in grains, some vegetables, and beans. Grain products include bread, pasta, cereal, and tortillas. Starchy vegetables include potatoes, peas, corn, lima beans, yams, and squash. Kidney beans, pinto beans, black beans, garbanzo beans, and lentils also contain starches.

Sugars

Sugars are found naturally in many foods. Or sugar can be added. Foods that contain *natural* sugar include fruits and fruit juices, dairy products, honey, and molasses. *Added* sugars are found in most desserts, processed foods, candy, regular soda, and fruit drinks.

Fiber

Fiber comes from plant foods. Most fiber isn't digested by the body. Instead of raising blood glucose levels like other carbohydrates, it actually keeps blood glucose from rising too fast. Fiber is found in fruits, vegetables, whole grains, beans, peas, and many nuts.

Learn About Carb Counting

You can learn to figure out how many carbohydrates you are eating every day. Ask your dietitian to teach you a technique called “carb counting.” This system helps you keep track of the carbohydrates you eat at each meal. There are different ways to do carb counting. See the chart below to learn more.

Basic Carb Counting: Carbohydrate Servings

- When you count carbohydrate servings, one serving of a starch, fruit, or dairy product counts as one “carb.”
- Each carb is about 15 grams of carbohydrate.
- For example:
 - 1 slice of bread = 1 starch serving = 15 grams of carbohydrate
 - 1 apple = 1 fruit serving = 15 grams of carbohydrate
 - 1 cup milk = 1 dairy serving = 15 grams of carbohydrate
- The dietitian will help you determine how many carbohydrate servings to have at each meal and snack.
- This method is a good way to get started with carb counting.

Advanced Carb Counting: Carbohydrate Grams

- When you count carbohydrate grams, you use the “Nutrition Facts” label on packaged foods. The label tells you the actual carbohydrate amount (in grams) in a food.
- A dietitian can help you determine how many grams of carbohydrate to have at each meal. You may also learn how to adjust your mealtime insulin based on your carbohydrate intake.
- This is the most accurate method of counting carbs. But it may be a little harder than counting carbohydrate servings.

Carb Counting Quick Reference

The "Nutrition Facts" label on packaged food tells you how many carbohydrates are in the food. (See page 25 to learn about reading food labels.) But some foods, such as fresh vegetables, don't have labels. Or you may be eating away from home, where food is already removed from its packaging. If you are counting carbs, learn the serving sizes of carbohydrate-containing foods that you eat often. Use this chart to look up the serving sizes of many common foods. Remember:

1 serving of these foods = 1 carbohydrate serving = about 15 grams of carbohydrate = 1 carb.

Food Group

Serving Size

Grains (starches)

Bagel	1/4 (1 oz)
Bread (white, whole-wheat, pumpernickel, rye)	1 slice (1 oz)
Crackers (white flour)	6 crackers
Doughnut (small, glazed).....	1/2 doughnut
Graham crackers (2 1/2 inches sq)	3 crackers
Muffin (small)	1/5 muffin (1 oz)
Oats (cooked).....	1/2 cup
Pasta.....	1/3 cup
Pita bread (6 inch)	1/2 pita
Popcorn (low-fat).....	3 cups
Pretzels.....	3/4 oz
Rice (white or brown).....	1/3 cup
Tortilla (6 inch, corn or flour)	1 tortilla
Tortilla chips	9–13 chips (3/4 oz)

Starchy Vegetables and Beans

Beans (garbanzo, pinto, kidney, white) and peas (split, black-eyed)	1/2 cup
Baked beans.....	1/3 cup
Corn.....	1/2 cup
Lentils.....	1/2 cup
Peas (green)	1/2 cup
Potato (baked or boiled).....	1/2 cup or 1 medium (3 oz)
Potato (mashed)	1/2 cup
Winter squash.....	1 cup



Food Group

Serving Size

Fruits

Apple (small, unpeeled).....	1 apple (4 oz)
Applesauce (unsweetened)	½ cup
Apple juice.....	½ cup
Banana (small)	1 banana (4 oz)
Blueberries or blackberries	¾ cup
Cantaloupe (small)	⅓ melon (11 oz)
Fruit cocktail	½ cup
Grapes (small)	17 (3 oz)
Orange (small)	1 orange (6½ oz)
Orange juice	½ cup
Peach.....	1 medium (6 oz)
Peaches (canned in syrup or juice).....	½ cup
Pear (large)	½ (4 oz)
Pineapple (canned)	½ cup
Raisins	2 Tbsp
Raspberries	1 cup
Strawberries.....	1¼ cup whole berries

Dairy Products

Ice cream.....	½ cup
Milk (skim, 1%, 2%, whole)	1 cup
Pudding (fat-free or whole).....	½ cup
Soy milk (fat-free or low-fat)	1 cup
Yogurt (fat-free, plain, or fruit-flavored)	6 oz
Yogurt (frozen, fat-free)	⅓ cup

Source: *Exchange Lists for Meal Planning*. American Diabetes Association, Inc., and the American Dietetic Association, 2003.

Planning Your Meals

You'll work with a dietitian to design a meal plan. Your plan needs to fit with your eating habits and schedule. Planning what and when you eat helps keep your blood glucose in your target range. Aim to eat foods from all the food groups every day.

Eat from All the Food Groups

Eating from all the food groups gives your body the nutrients it needs to work properly. The six food groups are: grains, vegetables, fruits, meat and beans, dairy, and oils. Work with the dietitian to include a **variety** (many types) of foods from each group. Variety can keep you from getting bored with your plan.



If You Want to Lose Weight

If you want to lose some weight, reduce the amount of calories you take in. Reducing your portion sizes will help (review the plate method on page 19). Two more ways to cut calories are eating less fat and drinking fewer sugary beverages:

- Cut fat by using only small amounts of liquid oil for cooking (instead of butter, shortening, or lard). Avoid packaged foods with trans fats.
- Reduce the amount of regular soda, sports drinks, and fruit juice that you drink. Instead, drink plenty of water and other sugar-free liquids.

How Often Should You Eat?

When it comes to blood glucose management, *when* you eat is as important as *what* you eat. You may want to eat several small meals spaced evenly through the day to stay in your target range. Pay attention to what keeps your blood glucose steady. And don't wait until late in the day to get most of your calories. Doing so can cause your blood glucose to rise too high or fall too low.

Putting Your Meal Plan into Action

Consult your meal plan before you go to the store. Decide ahead of time what you want to cook. This helps you stay on track while you shop. At the grocery store, read food labels to help you make the healthiest choices. If you don't do the shopping, be sure the person who does understands your needs.

When You're Shopping

Look for the "Nutrition Facts" label on packaged foods. It tells you how much of the food makes up one serving. It also tells you how much carbohydrate and fat are in each serving. This will help you decide if the food fits into your meal plan.

- Look for brightly colored fruits and vegetables.
- Buy lean meats, such as chicken, turkey, and fish.
- Avoid high-fat snack food aisles.
- Look for whole-grain foods and low-fat dairy products.

When You're Cooking

Use the following tips to help you prepare healthier meals at home:

- Trim fat off meats before cooking.
- Broil, steam, bake, or grill meats and vegetables instead of frying.
- Use olive or canola oil instead of butter or lard for cooking.
- Don't cook meat and vegetables in cream- or butter-based sauces.

Nutrition Facts

Serving Size 1 cup (240g)
Servings Per Container 2

Amount Per Serving

Calories 100 Calories from Fat 20

% Daily Value*

Total Fat 2g **3%**

Saturated Fat 0g **0%**

Trans Fat 0g

Cholesterol 0mg **0%**

Sodium 70mg **3%**

Total Carbohydrate 17g **6%**

Dietary Fiber 3g **12%**

Sugars 5g

Protein 4g

Vitamin A 70% • Vitamin C 20%

Calcium 15% • Iron 8%

*Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs.

Serving size

This tells you how much of the food makes up one serving. If you eat more than one serving, all the other values increase.

Fat

This is the total amount of fat in each serving. Limit saturated fats and avoid trans fats. Both are bad for your health.

Total carbohydrate

This tells you how many grams of carbohydrate are in one serving. If you do carb counting, this number helps you fit the food into your meal plan.

Eating Away from Home

You may not always have control over what is available to eat or how it's prepared. But you can choose which foods to eat and how much to eat at once. You can follow your meal plan, even when you eat away from home.



At a Restaurant

At restaurants, use the following tips to help you stick to your meal plan:

- Ask how food is prepared. Avoid fried or breaded foods, or ones sautéed in butter or cream.
- Ask if sauces and dressings can be served on the side, and use them sparingly.
- Most restaurants serve large portions. Eat half your meal and take the rest home.
- At a buffet, remember the portion-size plate diagram on page 19. Devote at least half your plate to vegetables and green salad, and $\frac{1}{4}$ each to starch and protein.
- Split a dish or dessert with a friend or family member.
- Skip the bread or chips basket before the main meal.

If You Drink Alcohol

Drinking alcohol can cause your blood glucose to fall quickly. If you do drink alcohol, moderation is the key. **Never** drink on an empty stomach! And be aware that alcohol adds calories. You may have to adjust your meal plan if you decide to have a drink. Ask your healthcare provider or pharmacist if any of the medications you take interact with alcohol.

Holidays and Special Occasions

Parties and holidays often involve special or traditional foods and drinks. Eating foods that aren't normally part of your meal plan can affect your blood glucose. But you can adjust your meal plan or insulin dose to allow for these foods. (Ask your healthcare provider to show you how.) Remember to check your blood glucose often to see how different foods affect you. And talk to your healthcare provider and clergy about safer ways to fast during religious holidays.

Social Situations: When It's Hard to Say "No"



Well-meaning family and friends may not always understand your meal choices. This can be especially true at parties or other social gatherings. But you don't have to eat or drink something that affects your blood glucose just to be polite. If you find yourself eating or cooking to please others, try the tips below:

- ➔ You can accept any food and drink that is offered. But you don't have to put it in your body. Just holding a drink or small plate of food is often enough. This will usually keep people from insisting that you have another helping or another drink.
- ➔ Plan ahead. Bring a dish to share that you know you will enjoy. Then you won't have to feel deprived if most of the offered food doesn't fit into your meal plan.
- ➔ At home, you can cook different side dishes or prepare traditional foods in healthier ways. Talk with your family about the benefits these changes can bring.

Are there other ways to stick with your meal plan at social gatherings?

Write in your ideas:

Notes for Family and Friends

A family member with diabetes may choose to make changes in his or her eating habits. Your support during this time is very important. You can encourage him or her to explore new ways of cooking and eating. Ask how involved your family member wants you to be. And remember: Change can be difficult! The person with diabetes needs to be the one to decide on making changes for him- or herself. Your job is to be supportive.



You Can Do It, Too!

You may choose to change your own eating habits, too. This is a great way to offer your support. Eating healthier is better for the whole family. For more ways you can support your family member with diabetes, see the box below. Check off one or two things you would like to try.



How You Can Help



- Ask if your family member wants to be reminded about his or her meal plan. If not, don't nag.
- Buy and keep healthier foods in the house. Eat these foods yourself, too.
- Remember that eating and food can be very emotional topics! Believe in your loved one's ability to make changes. Saying "I know you can do it" goes a long way.

Write in your own methods of support here:

Chapter 3



Learning About Physical Activity

Getting active is a great way to help manage your blood glucose. In this section you will learn:

1. How losing even a little weight can help lower your blood glucose.
2. Why just getting out and walking helps your cells use glucose.
3. Ways to overcome barriers that are keeping you from meeting your activity goals.

Getting Active

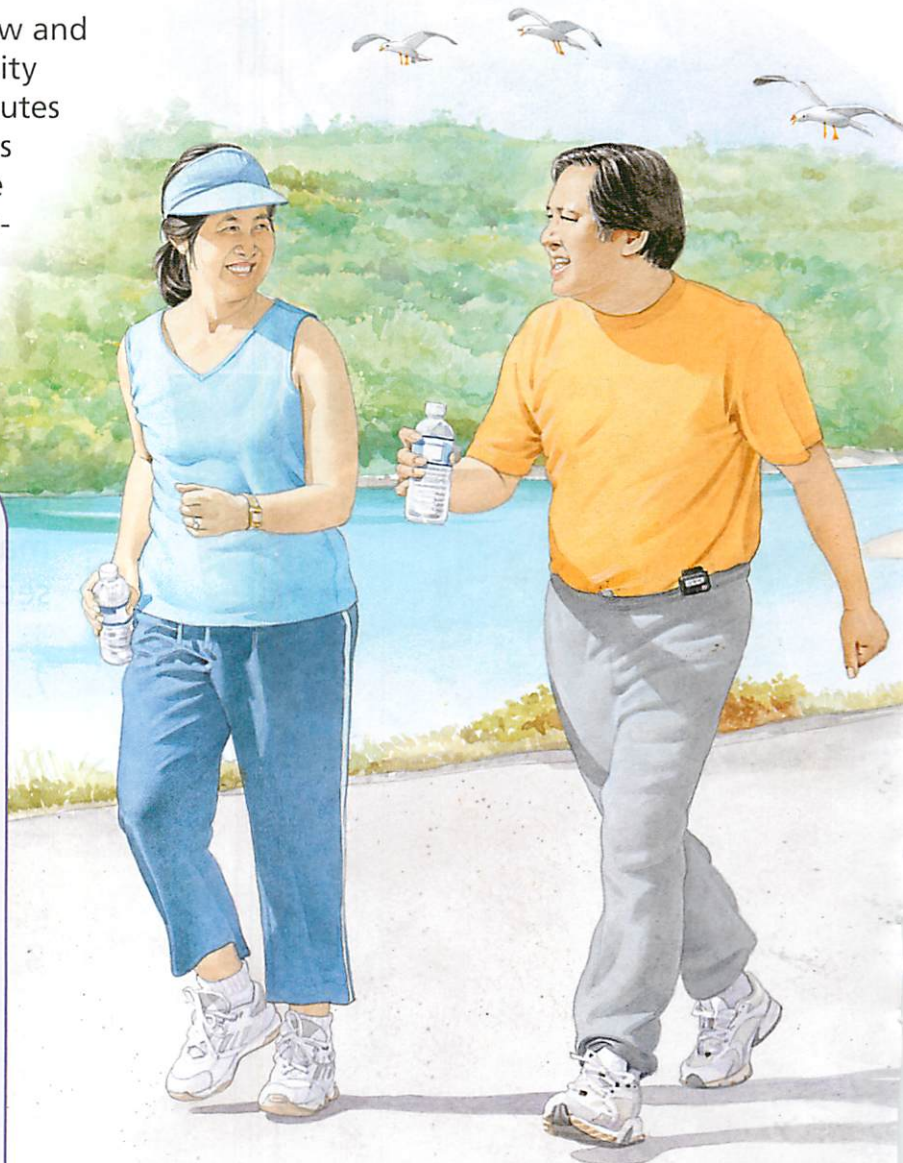
Being physically active every day can help you manage your blood glucose, blood pressure, and cholesterol. That's because an active lifestyle can improve your body's ability to use insulin. Daily activity can help delay or prevent complications of diabetes. And it's a great way to relieve stress. If you aren't normally active, be sure to consult your healthcare provider before getting started.

How Much Activity Do You Need?

If daily activity is new to you, start slow and steady. Begin with 10 minutes of activity daily. Then work up to at least 30 minutes a day. Do this by adding a few minutes each week. It doesn't have to be done all at once. Each active period throughout the day adds up.

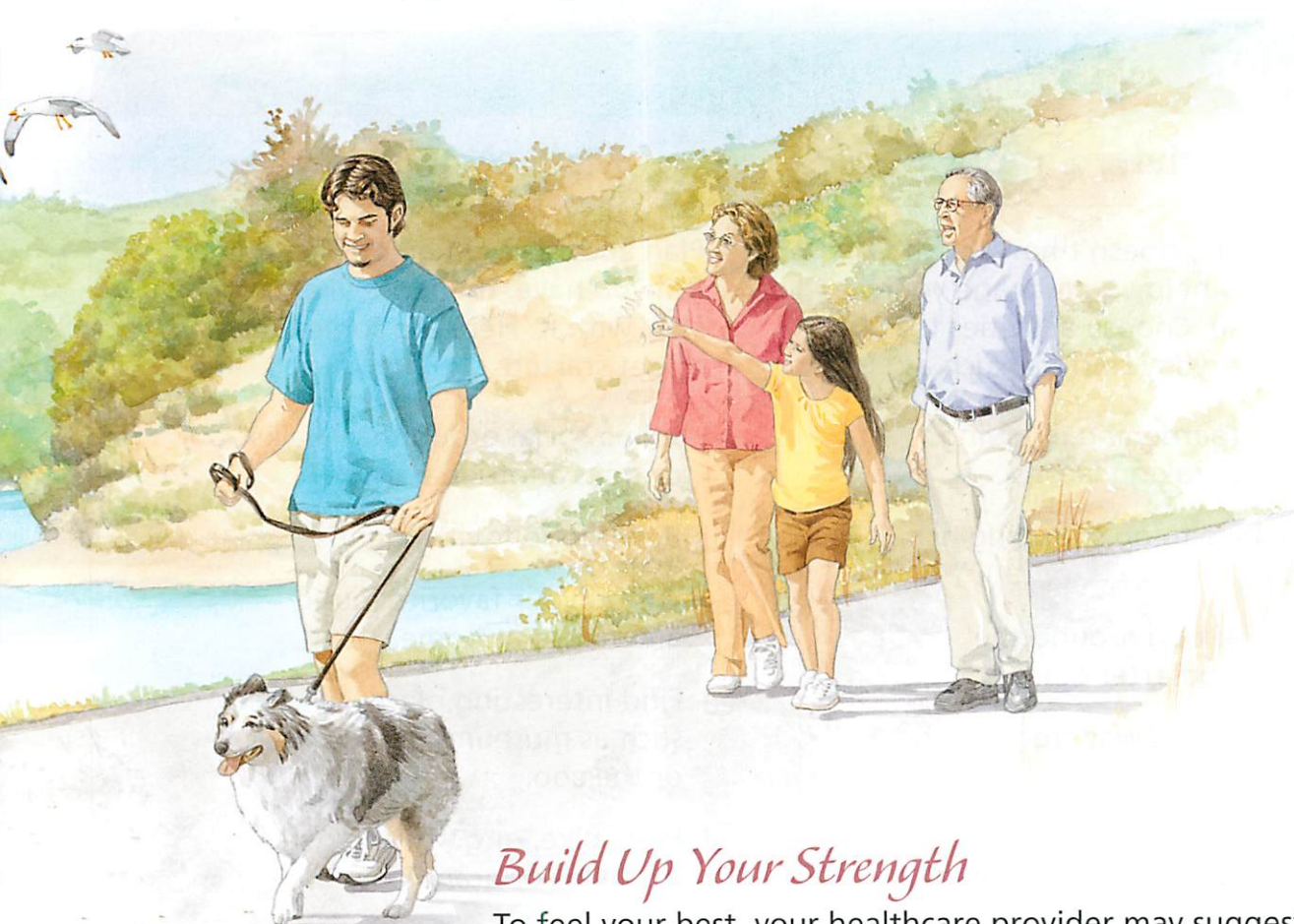
If You Want to Lose Some Weight

If you are overweight, work up to 60 minutes of daily activity. Weight loss actually improves your ability to keep your blood glucose in your target range. Even a modest loss of 5 to 10 pounds can help you meet your blood glucose goals. Other benefits of weight loss may include increased energy and improved mood. Talk with your healthcare team about setting a healthy weight-loss goal.



Get Walking!

You don't have to join a gym or own pricey sports equipment. Just get out and walk. Walking makes your heart beat faster. This helps your heart and blood vessels. The more you walk, the easier it gets. Make it part of each day. Walk with a friend or a group to keep it interesting and fun. Try taking several short walks to meet your daily activity goal. And to track how many steps you take daily, you might want to use a pedometer. Clip this small device to your clothes, and it will keep a running tally of the steps you take. Remember: With every step, you're doing a little more to help your body use insulin.



Build Up Your Strength

To feel your best, your healthcare provider may suggest adding strengthening exercises to your routine. Exercises such as lifting weights, working with resistance bands, and swimming are good choices. When done at least three times a week, resistance exercises help build muscle and increase endurance. They may also improve heart health and help you manage your weight.

Sticking With It

Make daily activity a lifelong habit. Once you feel good about being active, look for ways to stick with your new active lifestyle. The key is finding activities that you enjoy. Vary your routine from day to day to keep from getting bored. See the box below for ways to add activity to your day. Check off at least two ideas that you would like to try.

How You Can Help



Keep Activity Simple

Physical activity doesn't have to be hard to do to help you manage your blood glucose. Choose activities that fit into your everyday routine, such as:

- Yardwork (gardening, mowing the lawn, or raking leaves).
- Riding a bike to go shopping or run errands.
- Walking the dog around the neighborhood after dinner.
- Parking farther away from store entrances.
- Taking the stairs instead of the elevator whenever possible.

Make Activity Fun

Plan activities you enjoy. The more fun you have, the more likely you'll stick with it. Here are some ideas to get started:

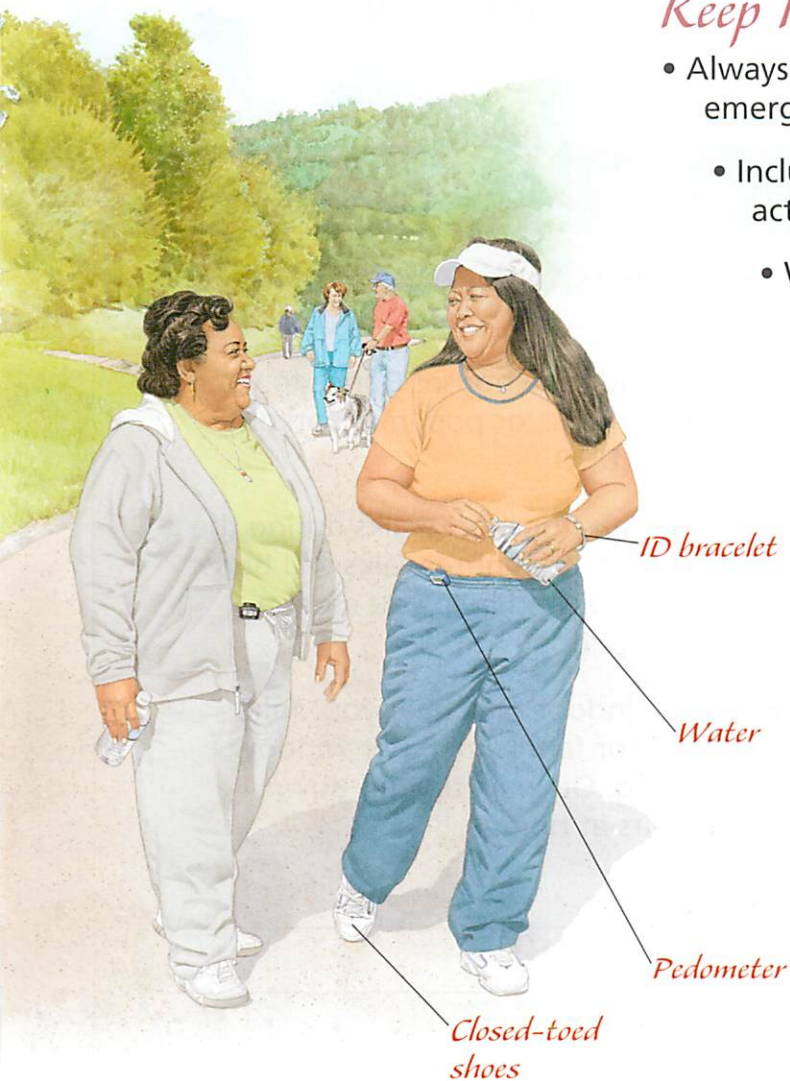
- Join a social group that walks or does another activity.
- Bowl or golf with friends.
- Put on your favorite music and dance at home.
- Find interesting places to walk, such as museums, parks, malls, or the zoo.
- Hike, bike, or go to the park with kids or grandkids.

Staying Safe

Being active may cause blood glucose to drop faster than usual. This is especially true if you take certain medication to manage your blood glucose. Ask your doctor about things you can do to help reduce the risk of lows.

Keep These Tips in Mind

- Always carry identification. Carry a cell phone in case of emergency.
- Include friends and family in your activities. Being active with a “buddy” is safer than being alone.
- Wear a medical ID bracelet that says you have diabetes.
- Use the right safety equipment (such as a bicycle helmet). Be sure to wear closed-toed shoes that fit your feet.
- Drink plenty of water before and during activity.
- Ask your doctor about keeping a fast-acting sugar (such as glucose tablets) on hand in case of low blood glucose.
- Dress for the weather.
- Avoid being active for long periods in very hot or very cold weather. For instance, go out in the evening if it’s too hot during the day.
- Skip activity if you’re sick.



Notice How Activity Affects Blood Glucose

Physical activity is important when you have diabetes. But you need to keep an eye on your blood glucose level. Check often if you have been active for longer than usual, or if the activity was unplanned. Ask your doctor about whether you should check your blood glucose before being active and again several hours later (blood glucose may decrease for a few hours after activity). Use your log book to write down how activity affected your numbers. If you take insulin, you may be able to adjust your dose before a planned activity. This can help prevent lows. Talk to your healthcare provider to learn more.

Overcoming Roadblocks

Many people want to be as active as possible. But being active every day can be a challenge. You may find yourself making excuses or getting distracted. If so, what's keeping you from reaching your activity goals? Use the chart below to write down your specific roadblocks. Then fill in ideas that can help you stay on track.

How You Can Help



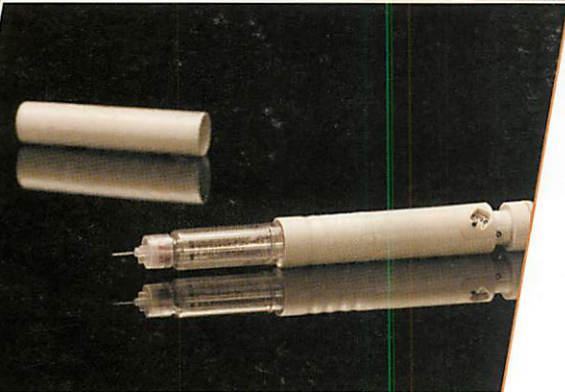
Identify Your Barriers

Solutions to Keep You Moving

- ➔ "I don't want to walk in my neighborhood after dark."
- ➔ "I'm too tired to be active when I get home from work."
- ➔ "In the winter, it's too cold to walk outside!"

- ➔ Walk inside the house! Dance to your favorite music, or pop in a workout video or DVD.
- ➔ Take breaks for short walks during the day. Three 10-minute walks will boost your energy and help you meet a 30-minute goal.
- ➔ Find an indoor mall near you. Take a friend or family member window shopping. Or, walk up and down the stairs at home.

Chapter 4



Taking Medication to Manage Blood Glucose

Most people with diabetes need medication to help keep blood glucose in target range. In this section you will learn:

1. How different medications work to help manage blood glucose.
2. Where different diabetes medications work in the body.
3. How to develop a daily medication routine.

Taking Medication for Diabetes

Like healthy eating and physical activity, taking medication can help you manage your blood glucose. Diabetes medications improve your ability to keep your blood glucose in your target range. These medications are powerful tools that can keep you healthier by delaying or preventing complications.

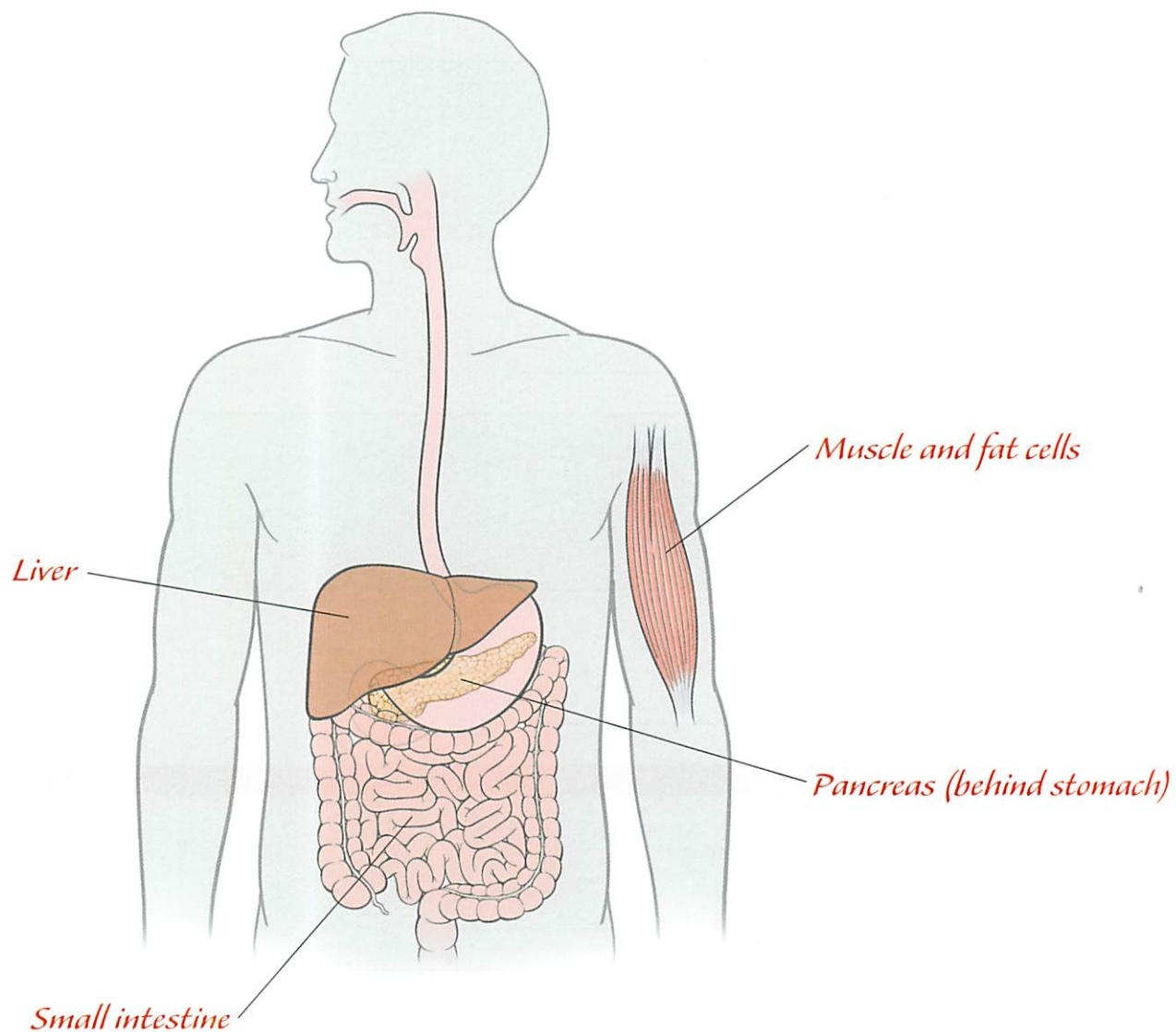
Learn About Your Medications

Many people take one or more medications to help manage their blood glucose. Talk with your doctor, diabetes educator, nurse, or pharmacist and learn the names of your medications. Then have him or her help you fill out the chart on page 38.



Where the Medications Work

Talk to your healthcare professional about your medications. Medications affect different parts of the body. For instance, some medications increase insulin sensitivity in cells. Others prevent the liver from making and releasing too much glucose. And some cause carbohydrates to break down more slowly in the digestive tract. The diagram below shows where different diabetes medications work. For the chart on the next page, talk to your healthcare professional about the medications you are taking and how they work.



Fill In Your Diabetes Medications With Your Doctor



Medications

How the Medication Works

Oral

Name of your medication:

Name of your medication:

Name of your medication:

Name of your medication:

Name of your medication:

Name of your medication:

Injected

Name of your medication:

Name of your medication:

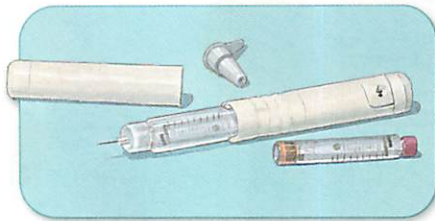
Different Ways of Taking Medication

There are many kinds of diabetes medications. Some medications can be swallowed. Others have to be injected, or else they would be broken down in the stomach before reaching the bloodstream. The main ways of taking medication for diabetes are shown below.



Oral medications

Pills



Injections

Shots given using a syringe or pen-like device



Insulin pumps

Devices that can deliver a steady amount of insulin 24 hours a day, as well as extra amounts for meals.

Understanding Insulin

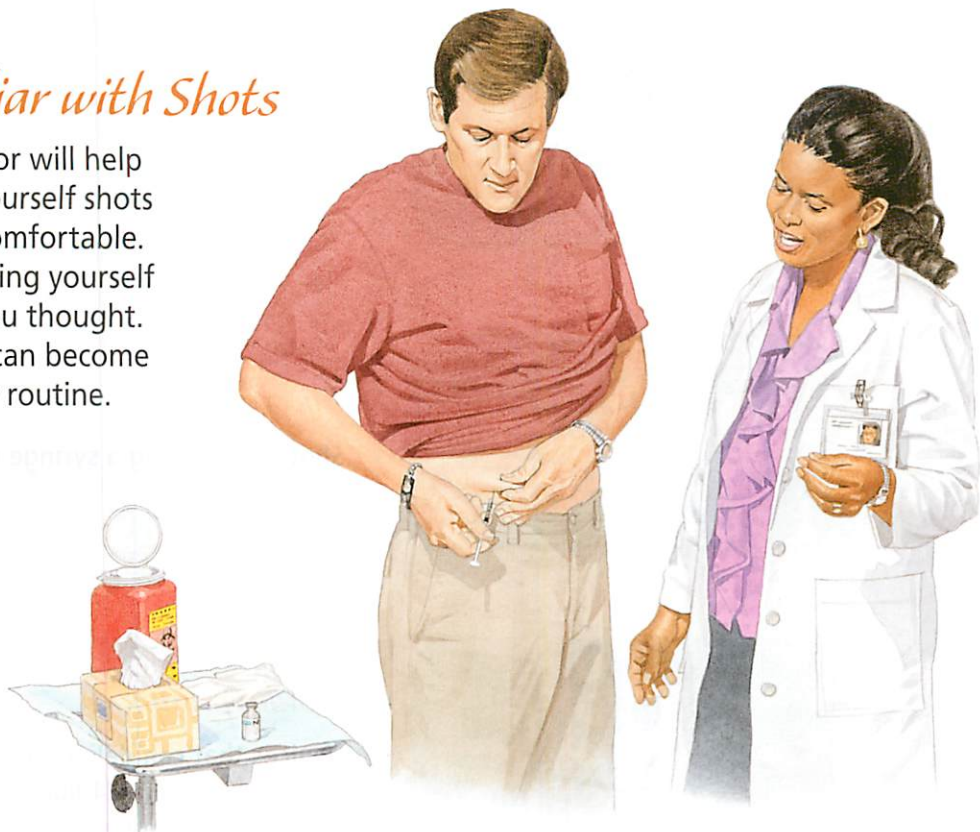
People with type 1 diabetes need to start taking insulin right after diagnosis. And many people with type 2 diabetes end up needing insulin as well. Taking insulin can give you greater flexibility in your daily blood glucose management. You will learn how to adjust your dosage based on your blood glucose goals, meal plan, and activity level. Talk with your healthcare provider about the types of insulin. You may need to use more than one type.

Learning About Injections

Insulin and certain other diabetes medications are given by injection. Injections allow medication to go into your body without being destroyed in the stomach. Giving yourself shots every day might seem overwhelming at first. But they can help you feel better and improve your blood glucose management.

Getting Familiar with Shots

Your diabetes educator will help you practice giving yourself shots until you feel more comfortable. You may find that giving yourself shots is easier than you thought. And with practice, it can become part of your everyday routine.



Managing Injections Anywhere You Go

You won't always be at home when it's time for insulin shots. You'll need to inject insulin no matter where you are. You might have concerns about giving yourself injections in public. But managing diabetes means taking care of yourself, not worrying about what people might think. Most injection devices can be used quickly and quietly, even at the dinner table. And you can choose more private locations to perform injections, such as public restrooms or your parked car. Be prepared to give yourself shots anywhere you go.

Other Medications

High blood pressure and high cholesterol are conditions that increase your risk of artery damage. The risk is even greater when combined with high blood glucose. You may also need to take medications for your blood pressure and cholesterol to help prevent serious health problems.

Blood Pressure and Cholesterol

Many people with diabetes will also need to take medications to lower their risk of heart attack and stroke. The most common types are:

- Blood pressure medications (antihypertensives)
- Lipid-lowering medications (Lipids are fatlike substances, such as cholesterol.)

Keep a Medication List

Use a chart to keep track of your medications. (See page 60 for a full-size chart to copy and carry with you.) Be sure to keep this list up-to-date. Bring a copy with you every time you see a healthcare provider or pharmacist.

Name of Medication

Name of Medication

See page 60

Managing Your Medications

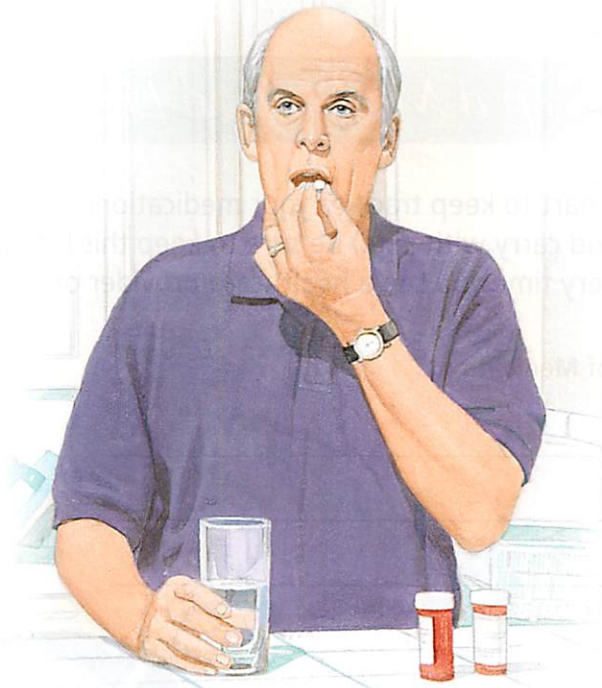
Taking daily medications may seem like a big step. But medications work best when you take them as prescribed. Talk to your doctor or pharmacist if you have questions or concerns about how to take your medications.

Be Aware of Drug Interactions

Vitamins, herbal supplements, and some prescription and over-the-counter drugs can interfere with diabetes medications. Be sure to tell your doctor about all the medications you're taking. This includes remedies for headaches, allergies, colds, and even constipation. Ask your doctor or pharmacist if there are any medications you need to avoid. Always read the warning labels and directions on everything you take. Show your medication list to the pharmacist every time you get a new medication or if you change pharmacies.

Stick to a Routine

Taking diabetes medications at the right times will help keep your blood glucose steady. Like a meal routine, a medication routine can help you stay in your target range. Use a pill organizer and a daily schedule to keep you on track. If you are having trouble, ask a family member or friend to help. And be sure to ask your doctor or pharmacist what to do if you miss a dose.





Tips for Taking Medications

The tips below can help you stick with your medication routine.

- Don't change your dosage or stop taking any of your medications, even if you are feeling better! Always talk to your doctor first.
- Refill your prescriptions before they run out. Check the brand and dosage to make sure they are correct.
- Prepare a small travel kit so you can take your medications with you everywhere you go.
- Call your doctor right away if you notice any side effects. But don't stop taking your medications unless told to do so.
- Ask family or friends for help if you are having trouble remembering to take your medications.
- Make filling your pill organizer part of your weekly routine. Ask a family member to help you stay organized.



Notes for Family and Friends

Starting to take medication for diabetes can be a big step. Your family member with diabetes might feel sad or angry about having to take medication. You can make this change easier by helping with the tips above. It's also important if you take certain medicines that you learn to recognize the signs of low blood glucose (hypoglycemia), which can come on quickly. (Review "Low Blood Glucose" on page 15.) You may need to be prepared to provide glucose tablets or another fast-acting sugar. In some cases, a special injection (of a hormone called **glucagon**) is needed if severe hypoglycemia occurs. You may need to learn how to inject this medication in an emergency.



Adjusting to a Medication Routine

Taking medications every day may require some changes to your lifestyle. But change doesn't always happen right away. The box below has tips that can help you adjust to taking medication. These tips can help you manage a smoother transition to your medication routine.

Making Change Work for You



Everyone handles change a little differently. The following tips can help if you are having trouble adjusting to taking diabetes medications.

- ➔ **Prepare yourself for slow, steady progress.** Taking medication won't cure diabetes or give you perfect blood glucose every day. Change doesn't happen overnight, but small changes add up. You may not see the benefits of treatment right away. Contact your doctor if your medications aren't working or if you have any questions.
- ➔ **Establish a daily routine.** Taking your medications in the same way and at the same time every day is crucial. When your daily routine is disrupted, it's easy to forget. To make your medication routine work for you, plan ahead. And don't get discouraged if you slip up a few times. You'll get better at sticking with your routine with daily practice.
- ➔ **Ask for support.** Taking insulin and other medications for diabetes can have a big impact on your life. Tell the people close to you how they can help you stay on track. You might want to join a diabetes support group. There, you can talk with people who have many of the same concerns, fears, and goals.
- ➔ **Acknowledge new emotions.** It's common to resist or feel angry or scared about having to take medications. You're not alone. Share your feelings with your healthcare team and people close to you. Acknowledging new emotions is the first step toward accepting them.

Chapter 5



Maintaining Your Overall Health

Living well with a chronic condition means taking care of your whole body. In this section, you will learn:

1. How to help maintain your emotional health.
2. What you can do to help prevent damage to your eyes, gums, and feet.
3. How to manage changes in your daily routine, such as sick days and travel.

Your Emotional Health

Managing your emotional health is just as important as managing your physical health. You can't change the fact that you have diabetes. But you can choose to make your emotional health a priority. Think about ways you can take care of your whole self, not just your diabetes. The tips on these pages can help.

Dealing with Stress

Everyone feels stressed at times. But for people with diabetes, managing stress is even more important. This is because stress can actually increase blood glucose. So, think about what causes stressful feelings. Then, find ways to limit or avoid stressful situations. To combat stress, try:

- **Physical activity**, a natural stress reliever (and it helps to lower blood glucose).
- **Making time to do things you enjoy**, such as hobbies or spending time with family and friends.
- **Talking** to a counselor or a close friend.

Avoiding Burnout

Living with a chronic condition takes focus and concentration every day. You don't get "days off" from diabetes management. This may leave you feeling tired or "burned out." Some days will be harder than others. To help fight burnout, take care of yourself as a whole person, not just a person with diabetes. See the next page for tips on avoiding burnout.



Recognizing Depression

Many people feel sad or down when they first hear that they have diabetes. Feelings like these are normal. But frequent feelings of helplessness or hopelessness are a symptom of **depression**. Depression is a serious problem, but it can be treated. If you feel overwhelmed, or if you are having trouble sleeping or eating, talk to your healthcare provider. Don't wait!

Taking Time to Relax

Thinking about your blood glucose all the time can make you feel stressed or depressed. To fight stress, take time out every day to relax your body and clear your mind. Talk to your healthcare provider to learn more about the following relaxation techniques:

- **Yoga, tai chi, meditation, and prayer** are all ways of relaxing the mind and body.
- **Deep breathing** can help to release physical tension.
- **Visualization** (picturing a relaxing scene in your mind) is a great way to recharge your mental batteries.

Setting Priorities

To keep from feeling overwhelmed, set your priorities. Focus on doing the things that are the most important. Make decisions about what needs to be done and when. Ask yourself: "Do I really need to do this today?" If the answer is no, don't worry about it! Don't forget to ask those close to you for help. Also, look for ways to do tasks with less effort.

Enjoying Your Life



Having diabetes means making some changes. But you can still do things you enjoy. Don't forget to have fun! Make time every week for at least one activity you like to do. Here are some suggestions:

- Watch a ballgame with a friend.
- Spend time playing with kids or grandkids.
- Go to a movie.
- Read a new or favorite book.
- Have a friend over for coffee.
- Window shop with friends or family in a local mall.
- Take your dog for a long walk in a new part of town.
- Go on a day or weekend trip.
- Ask someone else to take a turn making dinner.

Keeping an Eye on Risk Factors

Certain risk factors increase the likelihood of serious complications from diabetes. The American Diabetes Association gives target goals for these comorbidities to help you stay healthier (see the chart below). Keep in mind that your goal numbers may be different. Talk to your healthcare provider about what your numbers should be. Then work together to fill out the Health Goals chart on page 59.

See page 59

Know Your Goal Numbers

Tests	ADA Targets
Blood glucose	
A1C/eAG*	<7% / <154 mg/dL
Pre-meal blood glucose	90–130 mg/dL
Post-meal blood glucose	<180 mg/dL
Blood pressure	
A test that checks the force of blood flow through vessels	<130/80 mm Hg
Blood lipids	
LDL ("bad" cholesterol)	<100 mg/dL
HDL ("good" cholesterol)	Men: >40 mg/dL Women: >50 mg/dL
Triglycerides	<150 mg/dL
Microalbumin	
Test of kidney function	<30 mg

*The general goal of <7% appears reasonable for many adults with diabetes. Less stringent A1C goals may be appropriate for other patients, especially those with a history of hypoglycemia.

Have Regular Checkups

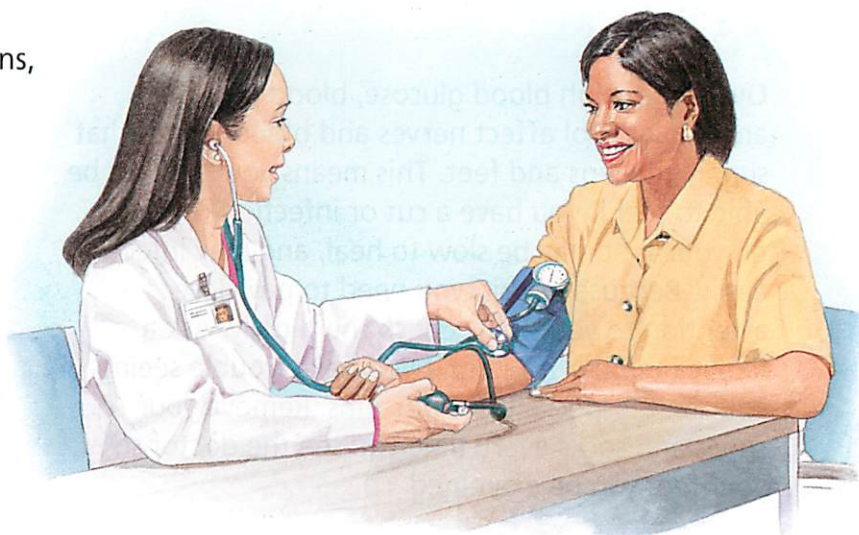
Managing your blood glucose every day helps reduce your risk of complications. But don't forget the rest of your body! You also need regular checkups with your doctor. Keep up-to-date on the tests and immunizations listed below. Ask what other tests you might need based on your age, health, and gender (such as cancer screenings).

Tests and Immunizations

To help reduce your risk of complications, (especially from comorbidities), have these tests and immunizations done as often as stated below:

- Blood pressure (every time you visit the doctor)
- A1C (at first, every 3 to 6 months)
- Cholesterol and blood lipids (at least once a year)
- Flu shot (once a year)*
- Pneumonia shot (at least once, then as directed by your doctor)*
- Microalbumin (at least once a year)
- Foot exam (every time you visit your doctor)

*Ask your doctor which immunizations would help you



If You Smoke

Smoking is especially dangerous for people with diabetes. Quitting is one of the most important things you can do to protect your health. It's not easy to quit. But millions of people have done it and you can, too. Your healthcare provider can help you decide the quit method that suits you best.

Have a Quit Plan

Forming a "quit plan" can improve your chances of success. First, ask your doctor about quit aids and medications, such as nicotine gum or patches. Plan when you'll quit and what method you'll use. Decide ahead of time how you will deal with the urge to smoke. Let your family and friends know how they can support you. Start by setting a quit date. Write it here:

My Quit Date: _____



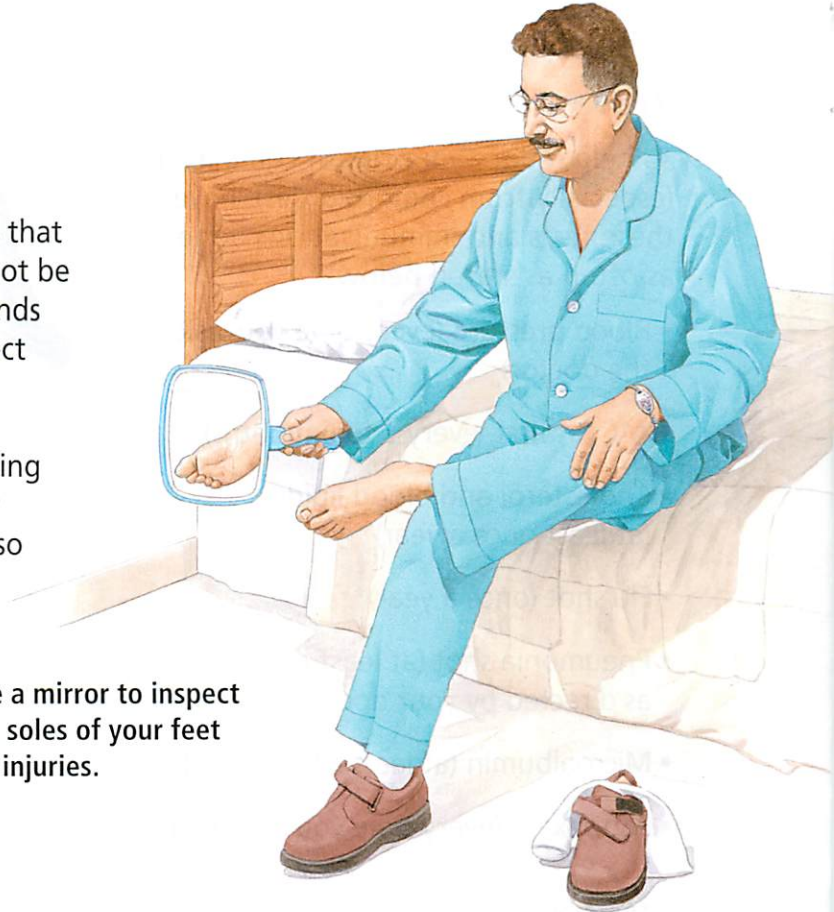
Reducing Your Risk of Complications

You've learned that healthy eating and daily activity help protect organs, such as your heart. To further reduce your risk of complications, monitor your feet, eyes, and gums. These are all places where diabetes can cause problems. Talk to your healthcare provider to learn more.

Foot Care

Over time, high blood glucose, blood pressure, and cholesterol affect nerves and blood vessels that supply the legs and feet. This means you may not be able to feel if you have a cut or infection. Wounds on your feet may be slow to heal, and may infect easily. Because of this, you need to pay close attention to your feet. Check them daily. Ask a family member for help if you have trouble seeing your feet, especially the bottoms. Remove your shoes and socks every time you see the doctor so your feet can be examined.

Use a mirror to inspect the soles of your feet for injuries.



Preventing Foot Problems

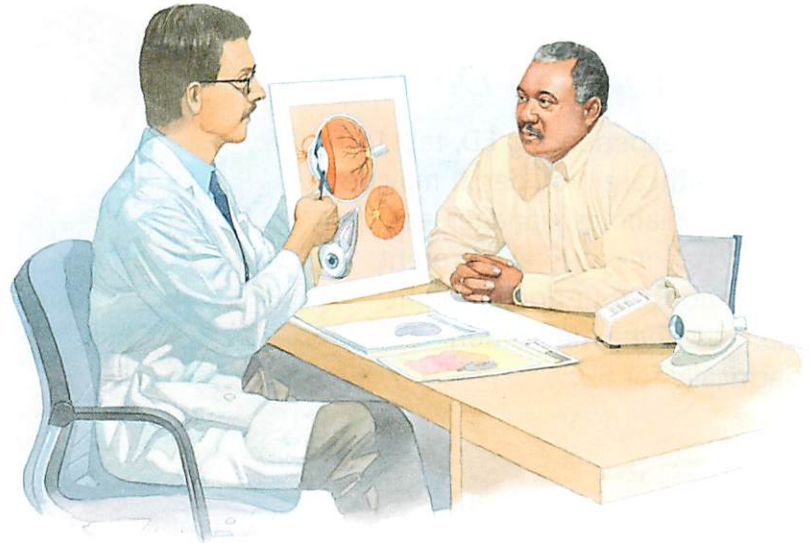
Here's what you can do to help prevent serious health problems with your feet:

- Inspect your feet every day for cuts, cracks, sores, redness, or swelling. Watch for cuts and scrapes that are slow to heal, itch, feel warm, ooze fluid, or smell bad. If you notice any of these problems, contact your healthcare provider right away. Your doctor may refer you to a **podiatrist** (a specialist in foot health).
- Wash your feet in warm (not hot) water and dry thoroughly, especially between toes. Don't soak your feet.
- Talk to your doctor if you need help cutting and filing your toenails safely.
- Look for color changes in your feet (redness with streaks can signal a severe infection).

Eye Care

Diabetes can lead to **retinopathy**. This is a condition caused by changes in the retina, the part of the eye that senses light. If not treated, retinopathy can lead to blindness. To protect your eyes, see an eye care specialist (**ophthalmologist** or **optometrist**) at least once a year. Do this even if your eyes feel fine and you aren't having trouble seeing. Call the doctor if you notice any of the following:

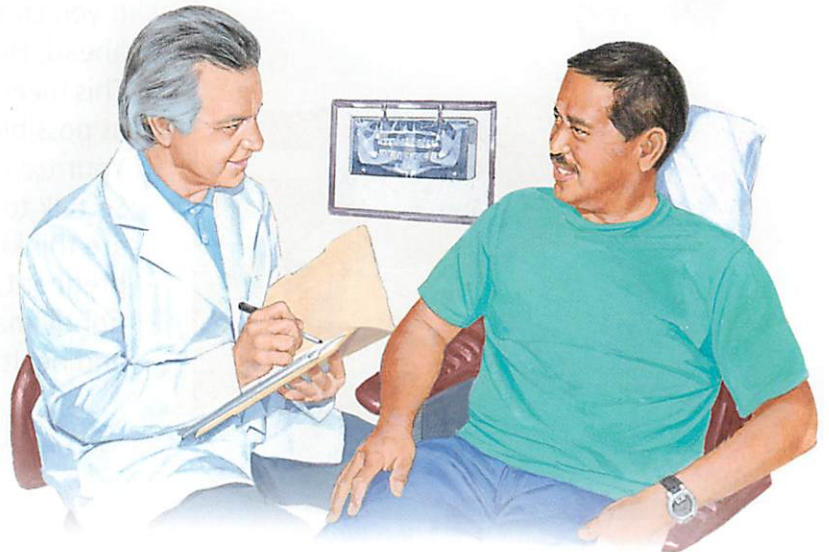
- Any new dark spots in your vision
- Poor vision in dim light
- Eye pain or pressure



Gum Care

People with diabetes are at risk of **periodontal** (gum) disease. This is an infection that destroys gums and the bones that hold the teeth. The infection can also enter the bloodstream, affecting the heart and other organs. To help prevent gum disease, brush your teeth at least twice a day. Don't forget to floss! And see a dentist at least twice a year. Be sure to tell anyone who works on your teeth that you have diabetes. Call your dentist if you notice any of the following:

- Bleeding gums
- Red, swollen, or tender gums
- Gums that have pulled away from teeth
- Loose teeth, or permanent teeth that have shifted position



Diabetes and Intimacy

Intimacy and sexual function are an important part of life. But over time, high blood glucose can contribute to physical problems that affect intimacy, such as **erectile dysfunction** (ED). The good news is that ED can be treated.

What You Can Do

If you are experiencing ED, talk to your healthcare provider. It may be that your diabetes management plan needs changes, such as different medications. Your doctor might also prescribe a medication specifically for ED.



If You're Thinking of Pregnancy

If you could possibly get pregnant, you must plan ahead. High blood glucose can affect an unborn baby. This means that blood glucose levels should be as close as possible to normal before and during pregnancy. Your treatment plan is likely to need adjustment. So talk to your healthcare provider right away if you are thinking of getting pregnant. If you do become pregnant, be prepared to keep your blood glucose tightly managed. This is vital for a safe pregnancy and healthy baby.

When You're on the Road

Changes in your normal routine might make it harder to follow your meal plan and medication schedule. But with a little planning, you can manage diabetes anywhere you go. A diabetes "toolkit" can help you stay organized. See page 61 for a list of supplies to include.

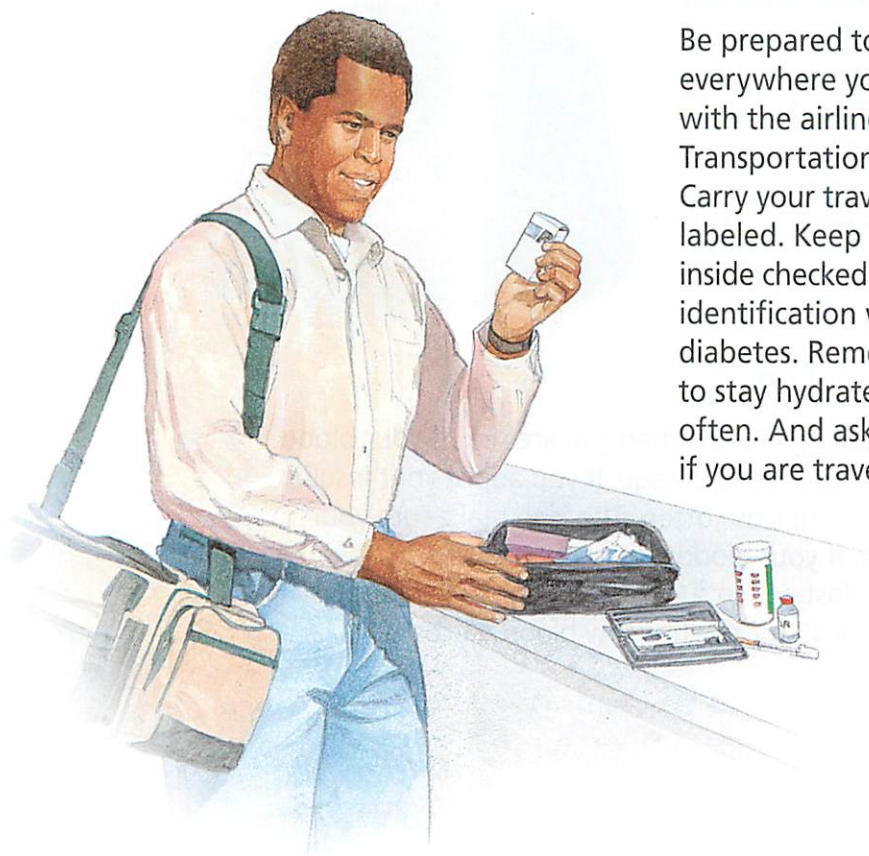
See page 61

When You're Driving

Medications that can cause low blood glucose may affect driving safety. Always check your blood glucose before you get started. If it's under 100, eat or drink a snack to raise your blood glucose to a safe level. If you feel symptoms of low blood glucose while driving, pull over so you can take action. Keep your diabetes supplies where you can reach them, not in the back seat, glove compartment, or trunk. Store medications, especially insulin, out of direct heat, such as sunlight. In case of emergency, always carry identification that says you have diabetes.

When You're Traveling

Be prepared to manage your blood glucose everywhere you go. If you are flying, check with the airline for guidelines or contact the Transportation Security Administration (TSA). Carry your travel kit, with your supplies clearly labeled. Keep it with you at all times, not inside checked baggage! Make sure you have identification with you that says you have diabetes. Remember to drink plenty of water to stay hydrated. Check your blood glucose often. And ask your diabetes team for advice if you are traveling across time zones.



When You're Sick

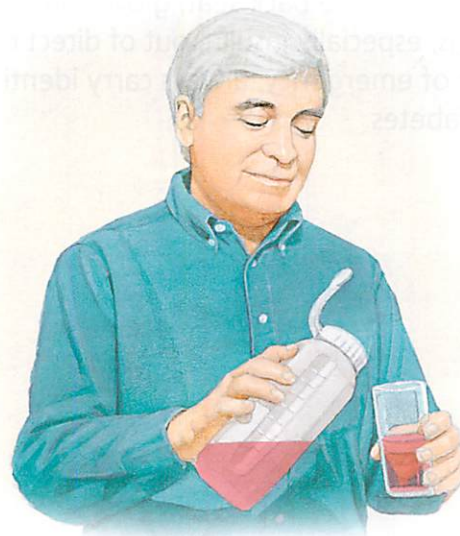
Having the flu, or even a cold, can make it hard to keep your blood glucose in your target range. You may not feel well enough to be active or eat regular food. Your diabetes healthcare team can help you develop an action plan for sick days. Follow all instructions from your healthcare provider closely.

If Your Blood Glucose Changes

Your blood glucose can rise quickly when you are sick. High blood glucose may also be a sign of infection. So it's important to check your blood glucose often. Try to stick to your meal plan. If you have trouble eating solid foods, try soup, applesauce, or yogurt. And be sure to drink plenty of water and other sugar-free fluids to stay hydrated.

If You Can't Eat

Your body needs carbohydrates in order to function. If you can't eat at all, ask your doctor if you will need to drink liquids with sugar. This includes fruit juice, regular soda, and sports drinks. Talk to your diabetes team, plan ahead, and ask if you need liquid carbohydrates. This will help keep your blood glucose from going too high or too low. Continue to drink water to stay hydrated.



Adjusting Your Medication

Even if you can't eat, don't stop taking insulin when you are sick. If your blood glucose is high, you may need to adjust your dosage. If you adjust your insulin dosage, be sure to check your blood glucose often. This is to make sure your blood glucose doesn't go too low. If your blood glucose falls below 70, take action! Eat or drink 15 grams of a fast-acting sugar, such as glucose tablets or juice. Follow the directions on page 15 for treating low blood glucose.



Ask for Help!

When you're sick, try to get plenty of rest. Only do as much as you comfortably can. You may need to ask family or friends for help with daily tasks. This may include cooking and cleaning, running errands, or picking up medications if you're almost out of them. Those close to you should learn to recognize the signs of low blood glucose. These include confusion, sleepiness, or difficulty concentrating. Make sure family and friends know how to treat low blood glucose if needed.

When to Call the Doctor

Call the doctor right away if:

- You can't keep liquids down for more than 4 hours.
- You have vomiting or diarrhea for more than 6 hours.
- Your blood glucose stays over 300 or under 70.
- You have not eaten normally for more than 24 hours.
- You have a fever over 100.4°F (38°C).
- You have trouble breathing.
- You can't stay awake or think clearly.

Notes for Family and Friends

When someone you love has diabetes, it can mean big changes in your life. It's likely that you will be called on as a helper, caregiver, or source of emotional support. Diabetes can be stressful for the whole family. Remember, taking care of yourself is just as important as taking care of your loved one.



To Help Your Loved One

It may be hard to watch someone you love cope with a chronic condition every day. You can help by:

- Learning as much as you can about diabetes and preventing complications. This will help you understand why your family member is making so many changes.
- Learning the signs of high and low blood glucose and how to treat them. Know when to call the doctor in an emergency.
- Learning to be patient. At first, diabetes management can be confusing or frustrating. Ask how you can be most helpful.



To Help Yourself

Caring for someone else can take an emotional toll on you. Don't forget to make time to focus on yourself. This is not selfish! Your emotional health is important. Some of these suggestions may help:

- Understand that some things are out of your control. You can be supportive, but you can't manage your family member's condition for them.
- Take time to relax. See page 47 for techniques that you can use.
- Ask for and accept help from others when you need to take breaks. Don't feel guilty—we all need time to ourselves.
- Be aware of how you react to stress. If you become easily upset, stop for a moment. Take deep breaths, count to 10, or go for a walk to calm down.
- Look for support groups for caregivers. Some of the resources listed on page 64 may help.

Chapter 6




Your Diabetes Toolkit

This chapter gives you tools to help you manage your diabetes every day. Make copies of the charts and logs so you can use them more than once.

My Blood Glucose Log

Make copies of this log to record your daily blood glucose readings. Bring your recent logs to all doctor's appointments.

Blood Glucose Log



	Breakfast		Lunch		Dinner		Nighttime (if needed)	
	Before	2 hours after	Before	2 hours after	Before	2 hours after	Bedtime	Middle of night
<i>Sunday</i>								
<i>Monday</i>								
<i>Tuesday</i>								
<i>Wednesday</i>								
<i>Thursday</i>								
<i>Friday</i>								
<i>Saturday</i>								

Comments:

My Health Goals

At each doctor's appointment, fill in your current numbers. Then choose goals to work toward for your next appointment.

Know Your Goal Numbers

	ADA Targets	Current Numbers	My Goal
Blood glucose			
A1C/eAG	<7.0% or <154 mg/dL*	_____	_____
Pre-meal blood glucose	90–130 mg/dL	_____	_____
Post-meal blood glucose	<180 mg/dL	_____	_____
Blood pressure			
	<130/80 mm Hg	_____	_____
Blood lipids			
LDL ("bad" cholesterol)	<100 mg/dL	_____	_____
HDL ("good" cholesterol)	Men: >40 mg/dL Women: >50 mg/dL	_____	_____
Triglycerides	<150 mg/dL	_____	_____
Microalbumin			
	<30 mg	_____	_____
Weight			
		_____	_____
Next Checkup Date: _____			

*The general goal of <7% appears reasonable for many adults with diabetes. Less stringent A1C goals may be appropriate for other patients, especially those with a history of hypoglycemia.

Note: > means "higher than." < means "lower than."

My Medication Chart

Use this chart to keep track of all your medications. Write down the name, dosage, and time of day to take each medication. This includes any different types of insulin that you take. Make a copy so you can carry it with you.

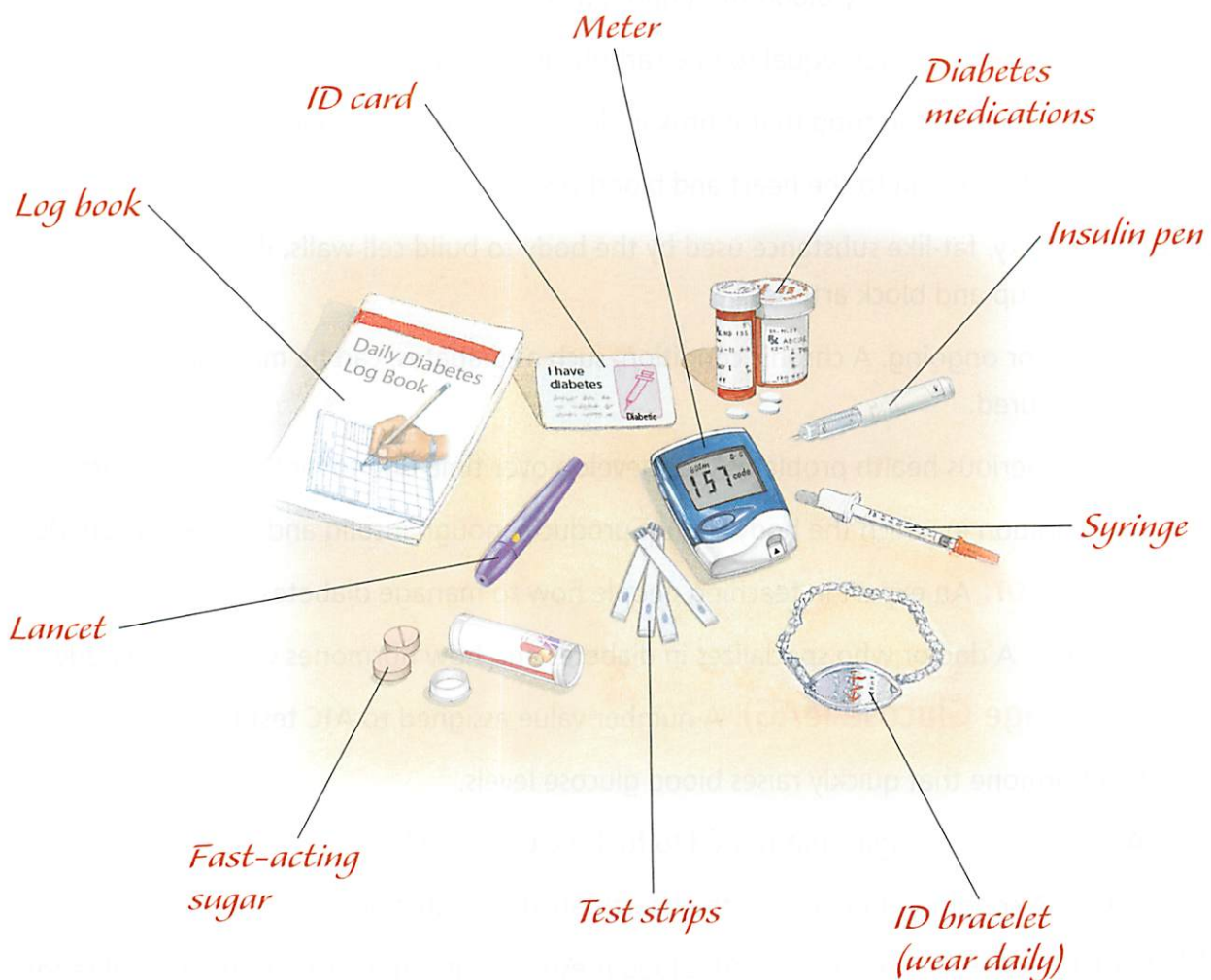
Write Down All Your Medications



Name of medication	Dosage	When to take it	With or without food
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

My Diabetes Toolkit

Keep track of your blood glucose supplies and medications by creating a diabetes kit. A small makeup or travel bag makes an ideal "diabetes toolkit." Include the supplies shown below, as needed. And don't forget to include any other medications you take for diabetes-related conditions.



In Case of Disaster

Be prepared for an emergency. Keep an insulated, waterproof diabetes disaster kit ready. Include all the same items as in your diabetes toolkit. A disaster kit should also contain prescription numbers, medication lists, and photocopies of recent lab results. Be sure to update this kit at least twice a year.

Glossary of Terms

- A1C:** A test to measure glucose buildup in the blood over the previous 2-3 months.
- Artery:** A blood vessel that carries oxygenated blood from the heart to the rest of the body.
- Blood glucose meter:** A device that tests the amount of glucose in the blood.
- Blood pressure:** The force created by blood flow as it presses against blood vessel walls.
- Blood vessels:** Tubes that carry blood throughout all parts of the body.
- Carb:** 15 grams of carbohydrates; equal to one carbohydrate serving.
- Carbohydrate:** A nutrient in food that is broken down into glucose during digestion.
- Cardiovascular:** Pertaining to the heart and blood vessels.
- Cholesterol:** A waxy, fat-like substance used by the body to build cell walls. If too much is present, it can build up and block arteries.
- Chronic:** Lifelong or ongoing. A chronic condition, such as diabetes, can be managed with treatment but not cured.
- Complications:** Serious health problems that develop over time due to high blood glucose.
- Diabetes:** A condition in which the body cannot produce enough insulin and/or use it properly.
- Diabetes educator:** An expert in teaching people how to manage diabetes.
- Endocrinologist:** A doctor who specializes in diabetes and how hormones work in the body.
- Estimated Average Glucose (eAG):** A number value assigned to A1C test results.
- Glucagon:** A hormone that quickly raises blood glucose levels.
- Glucose:** A simple form of sugar that is used to fuel the body's cells.
- Heart disease:** A condition that affects the heart's ability to function.
- High blood pressure (hypertension):** Blood pressure that is higher than the normal range.
- Hormone:** A chemical released by special cells that tells other cells what to do.
- Hyperglycemia:** A condition in which there is too much glucose in the blood.
- Hypoglycemia:** A condition in which there is not enough glucose in the blood.
- Injection (shot):** Using a needle and syringe to put liquid medications into the body.

Insulin: A hormone produced by the pancreas that enables glucose to enter most cells.

Insulin resistance: A condition in which most cells do not respond properly to insulin.

Lancet: A device that uses a tiny needle to prick the skin for a drop of blood.

Lipids: Fatlike substances in the blood.

Liver: An organ that makes, stores, and releases glucose when needed.

Microalbumin: A test that checks for small amounts of protein in the urine.

Nerves: Fibers that convey signals to and from the brain.

Pancreas: An organ that makes insulin and releases it into the bloodstream.

Pedometer: A device worn on the body that counts how many steps are taken.

Periodontal disease: Infection of gum tissue. Also called gum disease.

Peripheral arterial disease (PAD): Damage to the arteries that supply blood to the arms, legs, and feet.

Plaque: Fatty deposits that build up inside arteries and reduce blood flow.

Podiatrist: A doctor who specializes in foot care.

Registered dietitian: An expert in food and nutrition.

Retinopathy: An eye disease that leads to damage of blood vessels in the eyes.

Saturated fat: A type of fat that comes from animals.

Stroke: A condition in which blood flow to the brain is cut off due to blockage or a torn blood vessel.

Syringe: A device that uses a small needle to inject liquid medications into the body.

Target range: The level of blood glucose a patient is told to aim for as often as possible.

Trans fat: Fat produced when liquid oil is made into a solid fat.

Triglycerides: Building blocks of fats.

Type 1 diabetes: A chronic condition in which the pancreas cannot produce insulin.

Type 2 diabetes: A chronic condition in which most cells are resistant to insulin and/or the pancreas may not produce enough insulin.

Resources

The following resources can help you and the people close to you learn more about living a healthier life with diabetes.

**American Association of
Diabetes Educators**

www.diabeteseducator.org

American Diabetes Association

www.diabetes.org

American Heart Association

www.americanheart.org

American Dietetic Association

www.eatright.org

**American Association of
Clinical Endocrinologists**

www.aace.com

**Centers for Disease Control
and Prevention**

www.cdc.gov

**National Diabetes Information
Clearinghouse**

www.diabetes.niddk.nih.gov

USDA Food Pyramid

www.MyPyramid.gov



What Are Your Favorite Diabetes Sites?

The groups listed on this page are only a few of many online resources. You can search for other sites using keywords on a specific topic, such as "A1C" or "insulin." If you don't have Internet access at home, many public libraries let you search online for free. Write the addresses (URLs) of your favorite sites here:

Take our Patient Survey. Help us help other patients. Please visit www.kramesurvey.com to provide your feedback on this booklet.

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