

Living better with diabetes



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Diabetes

Whether you've been dealing with diabetes for years or have just found out that you have it, it's important to understand what happens and how to take care of yourself. Having diabetes means that your body cannot use a hormone called insulin properly. Over time, your body cannot make enough insulin. Insulin helps your body use sugar from your food as energy or store it for later use. When this doesn't happen, too much sugar stays in your blood.

Over time, high blood sugar can lead to serious problems.

- ▶ **It can harm your eyes** (retinopathy), nerves (neuropathy), and kidneys (nephropathy).
- ▶ **It can damage your blood vessels**, leading to heart disease and stroke.
- ▶ **It can reduce blood flow** to parts of your body, especially your feet. This can cause pain and slow healing.

- ▶ **It can make your immune system weak** and less able to fight infections, such as yeast and sinus infections.

How can you prevent these problems? What can you do to keep them from getting worse if you already have one or more of them? Here are the most important things to do:

- ▶ **Take your diabetes medicines.**
- ▶ **Check your blood sugar** as often as your doctor recommends.
- ▶ **Eat healthy, balanced meals** and snacks.
- ▶ **Try to exercise** throughout the week.
- ▶ **See your doctor** for checkups and tests on a regular schedule.
- ▶ **If you have high blood pressure, take the medicines your doctor prescribed** to control the problem.
- ▶ **If prescribed by your doctor, take cholesterol medicine** to help lower your risk of having a heart attack or stroke.
- ▶ **If you smoke, quit.** This will reduce the risk of damage to your blood vessels.

Living with diabetes day after day can be a struggle. Watching what you eat, checking your blood sugar, taking your medicine on time—there will be times when you just can't do it all. Don't be too hard on yourself. Improving your sugar levels a little now can impact your life in the years ahead. So just try to get back on track.

And if you're already doing what you need to, keep it up!

Managing highs and lows

Even when you are careful and do all the right things, you can have problems with high or low blood sugar. It is important to know what signs to look for and what to do if this happens.

High blood sugar

High blood sugar (hyperglycemia) usually happens over a few days or weeks. Early symptoms may include:

- ▶ **Feeling very thirsty.**
- ▶ **Urinating more often** than usual.
- ▶ **Feeling very hungry.**
- ▶ **Having blurred vision.**

People with diabetes can get high blood sugar for many reasons, including not taking their diabetes medicines, eating more than usual (especially sweets), not exercising, or being sick or under a lot of stress.

If you have high blood sugar, follow your treatment plan for lowering it. This may mean taking missed doses of insulin or other diabetes medicine. Make sure to drink plenty of fluids so that you stay hydrated. Call your doctor if you don't know what to do. Treating high blood sugar is important. Over time, high blood sugar can lead to serious problems or a medical emergency.

Low blood sugar

You can get low blood sugar (hypoglycemia) if you take insulin or other diabetes medicines. Low blood sugar can happen suddenly.

Quick-Sugar Foods to Raise Low Blood Sugar

Any of the foods in this list can help raise your blood sugar within minutes. Always keep some of these foods with you in case your blood sugar drops.

- ▶ 1 tablespoon table sugar
- ▶ ½ to ¾ cup fruit juice or regular soda pop
- ▶ 1 cup low-fat or fat-free milk
- ▶ 1 tablespoon honey
- ▶ 2 tablespoons raisins
- ▶ 10 gumdrops
- ▶ 3 pieces hard candy
- ▶ 3 or 4 glucose tablets
- ▶ 1 tube glucose gel

Early symptoms may include:

- ▶ **Sweating.**
- ▶ **Feeling weak.**
- ▶ **Feeling shaky.**
- ▶ **Feeling very hungry.**

You may also have these symptoms if you have a sudden large drop in blood sugar, even though the level does not drop below your target range. If you take insulin or other diabetes medicines and aren't able to tell when your blood sugar is too low, it's a good idea to test your blood sugar often.

If your blood sugar is low, eat 1 tablespoon of sugar, $\frac{1}{2}$ to $\frac{3}{4}$ cup of orange juice, or another quick-sugar food. Wait 15 minutes, and then check your blood sugar. It's important to watch for and treat low blood sugar right away. If your blood sugar gets very low, you could pass out (lose consciousness).

Here are some tips to help you be prepared in case your blood sugar drops:

- ▶ **Keep some quick-sugar foods with you** at all times. The quick-sugar foods list on page 3 gives some examples of foods that will help raise your blood sugar.
- ▶ **Wear medical identification**, such as a medical alert bracelet. People will know that you have diabetes and will get help for you if needed.
- ▶ **Teach others** (at work and at home) how to check your blood sugar in case you can't

check it yourself. Keep the instructions for using your blood sugar meter with the meter. Also teach others what to do in case your blood sugar becomes very low.

When to call a doctor

Call 911 if:

- ▶ You passed out, or you suddenly become very sleepy or confused.
- ▶ You have symptoms of very high blood sugar, such as feeling very sleepy or confused, breathing very fast, or having fruity-smelling breath.

Call a doctor right away if:

- ▶ You have a blood sugar level that stays higher than the level your doctor has set for you.
- ▶ You have a blood sugar level that stays lower than the level your doctor has set for you.

Call a doctor if:

- ▶ You are sick and having trouble controlling your blood sugar.
- ▶ You have had vomiting or diarrhea for more than 6 hours.
- ▶ You have problems with high or low blood sugar levels.
- ▶ You have trouble knowing when your blood sugar is low.
- ▶ You have questions or concerns.



Checking Your Blood Sugar

You have a better chance of keeping your blood sugar in your target range if you know what it is from day to day. You may not like having to check your blood sugar regularly and keep track of it. But it can really help you keep your diabetes under control.

Here's how:

- ▶ **Checking how your blood sugar rises or falls** in response to certain foods, exercise, and other things can help you reduce symptoms and prevent blood sugar emergencies.
- ▶ **Having a record of your blood sugar over time** can help you and your doctor know how well your treatment is working and whether you need to make any changes.

Talk with your doctor about how often you need to test your blood sugar. You can use the form on this page to record the times that you should test and when to call your doctor for blood sugar problems.

When to Test My Blood Sugar

I need to test my blood sugar _____ times a day.

The times to test each day are:

- ☐ Before breakfast. ☐ After breakfast. ☐ Before lunch. ☐ After lunch.
☐ Before dinner. ☐ After dinner. ☐ At bedtime.

Other times: _____

I need to test my blood sugar at these other times when I am ill:

I need to call my health professional if my blood sugar is below _____.

I need to call my health professional if my blood sugar is above _____.

Other questions about blood sugar testing:

Healthy Eating

Eating right helps keep your blood sugar in your target range. For some people, healthy eating and regular exercise are enough to keep their diabetes under control without medicines. If you take medicine, eating right can help the medicine work better.

Healthy eating doesn't have to be complicated. Try to:

- ▶ Eat a balanced diet, including whole grains, lean protein, and vegetables.
- ▶ Limit how much saturated fat you eat.
- ▶ Cut down on foods that are high in calories but low in nutrition.
- ▶ Limit sweets.

Plan your meals

Meal planning for diabetes includes eating certain amounts and kinds of foods at regular meals and snacks.

For example, you may have heard about the need to count your carbohydrate grams.

It may seem overwhelming to have to watch what you eat. But there's an easy way to get started: the **plate format**.

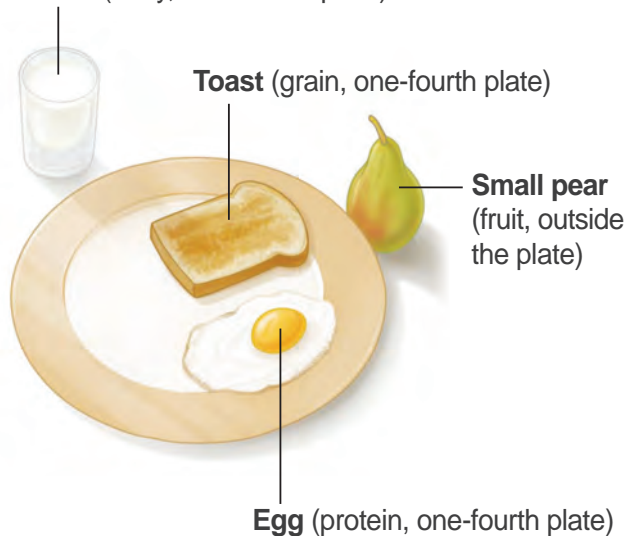
Using a plate format lets you picture what a meal should look like and how much space each food should take up on your plate. This can help you eat balanced meals. It also can stop you from eating too much carbohydrate at once.

For example, a typical healthy plate for lunch or dinner will have:

- ▶ Bread, starchy foods, or grain on one-fourth of the plate.
- ▶ Meat or another form of protein (like beans or an egg) on one-fourth of the plate.
- ▶ Vegetables on half the plate.

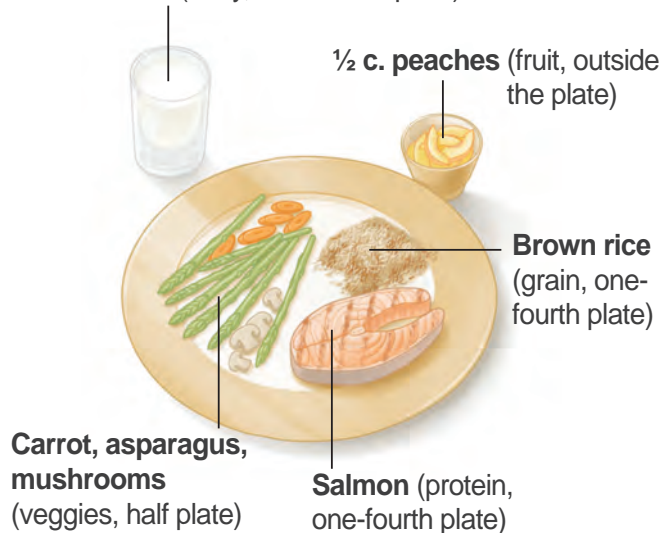
Sample plate for breakfast

8 oz milk (dairy, outside the plate)



Sample plate for dinner

8 oz milk (dairy, outside the plate)



- ▶ 1 small piece of fruit outside the plate.
- ▶ 1 cup of low-fat or fat-free milk or yogurt or ½ cup of no-sugar-added pudding or ice cream outside the plate.

When you can picture your plate, you can use the method anywhere, even when you eat out.

What about carbohydrates?

Carbohydrate is an important nutrient you get from food. It is a great source of energy for your body and helps your brain and nervous system work at their best.

But when you have diabetes, you have to be careful about how much carbohydrate you eat at one time. If you eat too much at once, your blood sugar will quickly rise.

Carbohydrate is found in:

- ▶ Sugar and sweets.
- ▶ Bread, rice, and pasta.
- ▶ Fruit.
- ▶ Starchy vegetables, such as potatoes and corn.
- ▶ Milk and yogurt.

The goal is to keep your blood sugar steady and avoid high blood sugar after meals. You can help by spreading your carbohydrate throughout the day, rather than eating a lot at once. This will also keep you from getting too hungry.

Be smart about snacking

Smart snacking can help you keep your blood sugar levels stable. Follow your body's hunger and fullness signals.

Try these tips:

- ▶ **Make healthy choices.** Eat a piece of fresh fruit. Or combine fruit with some protein, such as a small apple with a tablespoon of peanut butter or some light yogurt.
- ▶ **Be prepared.** Keep cut-up raw vegetables in your refrigerator. If these are ready to eat, you're more likely to grab them than something else. Try a low-fat dip on the side.
- ▶ **Choose foods that can fill you up** without a lot of calories. Try a hard-boiled egg, an ounce of reduced-fat cheese, or a handful of almonds or walnuts.
- ▶ **Skip high-fat dips.** Instead, mix plain yogurt, fat-free mayonnaise, or fat-free sour cream with a small amount of dry soup mix. Or try a low-fat bean dip topped with salsa.
- ▶ **Get more fiber.** Choose whole-grain breads, cereals, and crackers. Sprinkle wheat germ in yogurt or on salads.
- ▶ **Try something new.** Make a pizza with whole wheat pita bread, tomato sauce, and a sprinkling of reduced-fat cheese. Top with sliced veggies. Bake until cheese is melted.

And remember:

- ▶ **Don't eat out of the bag or box.** Take a single serving, and eat from a plate or bowl. It's easy to eat more than you need or want when the bag is open in front of you.
- ▶ **Don't buy snacks that aren't healthy choices.** If unhealthy snacks aren't around, you won't eat them.



Get Active

Exercise helps control your blood sugar. It also helps you stay at a healthy weight and helps lower high blood pressure. These benefits help prevent heart disease, the main cause of death in people who have diabetes.

Don't worry. You don't have to sign up for a gym membership or train for a marathon to get the activity you need to control your blood sugar. Even everyday activities can make a difference.

Try to get 2½ hours of exercise each week. For example, doing 30 minutes of exercise on most days of the week can help you

reach this goal. The important thing is to try to get some exercise throughout the week. Even a little bit of exercise can help if you have not been active at all.

Walking is a great, easy way to get exercise. If your doctor says it's safe, start out with some short walks, and then gradually make the walks a little bit longer. If you don't enjoy walking, you might try swimming, biking, or water aerobics. Your doctor can help you make a plan. Use the form on the next page to record your goals and other details.

Be safe when you exercise

- ▶ **Check your blood sugar before and after you exercise**, and be careful about what you eat, especially if you take insulin or other medicines for diabetes.
- ▶ **Take steps to avoid blood sugar problems.** If you take medicine or insulin that lowers blood sugar, check your blood sugar before you exercise. If your blood sugar is less than 100 mg/dL, eat a carbohydrate snack first.
- ▶ **Be careful when you exercise if your blood sugar is too high.** Ask your doctor what blood sugar range is safe for you when you exercise.
- ▶ **Try to exercise at about the same time each day** to keep your blood sugar steady. If you want to exercise more, slowly increase how hard or long you exercise.
- ▶ **Have someone with you when you exercise**, or exercise at a gym. You may need help if your blood sugar drops too low.
- ▶ **Keep some type of quick-sugar food with you.** You may get symptoms of low blood sugar during exercise or up to 24 hours later.
- ▶ **Use proper footwear** and the right equipment.
- ▶ **Pay attention to your body.** If you are used to exercise and notice that you cannot do as much as usual, talk to your doctor.

Exercise Planning Form

Special tests I need before I begin an exercise program (if any):

Exercises to help with my chronic health conditions:

Exercises I should not do:

Should I change the time I take my medicines?

Should I take my pulse when I exercise?
If so, what range (target heart rate) is best for me?

Warning signs I need to watch for:

In the beginning, my exercise program will be (what, how often, how long):

Long-term goals: In the next 6 months I will:

1. _____

2. _____

3. _____

Short-term goals: In the next few weeks I will:

1. _____

2. _____

3. _____

As you reach your short-term goals, add new ones.



Medicines

Some people with type 2 diabetes need medicine to help their bodies make more insulin or use insulin properly. Medicine can help keep your blood sugar in your target range.

You may need to take one or more medicines more than once a day. Some people need medicine for only a short time. Some have to take it for the rest of their lives. What you need will depend on how well your blood sugar stays in your target range. Staying at a healthy weight, exercising, and eating healthy foods can sometimes reduce your need for medicine by bringing your blood sugar down.

People with type 1 diabetes have to take insulin throughout their lives to control their blood sugar. If you have type 2 diabetes, you may be able to avoid or delay the need for insulin with careful eating, regular exercise, and proper use of other diabetes medicines. Many people with type 2 diabetes do end up needing to take insulin at some point.

You may also need to take medicines to help control cholesterol, high blood pressure, or other problems.

Did You Know?

Taking a **low-dose aspirin** each day may help you prevent a heart attack or stroke. Talk with your doctor before you start taking aspirin every day.

Taking Control of Your Medicines

Barriers to taking medicines	Solutions
I can't keep my medicines straight.	Make a list of every medicine you take, including things like aspirin and vitamins. Keep it up to date. Take a copy with you every time you go to the doctor.
I get busy and forget to take my medicine on time.	Make a schedule of when you should take each of your medicines. Put it where you can easily see it every day—on the door of your medicine cabinet, for example. Take it along when you travel. Use alarms. Set your computer, wristwatch, or cell phone to beep when it's time to take your medicine.
I can't keep track of whether I've taken my medicine or not.	Use a pillbox. Pillboxes can really help you keep track of your pills. Some hold a week's worth, with separate compartments for morning, noon, evening, and bedtime. Simplify. Ask your doctor if you can make your medicine schedule simpler. For example, maybe you could take one longer-acting pill every day instead of several shorter-acting ones.
The medicine costs too much.	Control costs. Compare prices between several drugstores, and consider mail-order drugstores. Ask your doctor if there is a generic brand you can take to save money.

Tests and Screenings

Seeing your doctor and having certain tests on a regular schedule can help you watch for and avoid many of the problems caused by diabetes. Diabetes can damage many different parts of your body, but you may not have symptoms of the damage until it's too late to do much about it. Tests give you and

your doctor a chance to find problems early, when they are easier to treat.

The table below lists some of the tests a typical person with diabetes may need. Talk with your doctor about what test schedule is right for you.

Schedule for Exams and Tests

Test	Why you need it	How often to get it
Hemoglobin A1c blood test Goal: below 7 percent (Your doctor may set a different goal for you.)	Checks average blood sugar over past 2 or 3 months; best way to see how well treatment is working	Every 3 to 6 months
Blood pressure test Goal: less than 140/90 (Your doctor may set a different goal for you.)	High blood pressure increases risk of heart disease, stroke, and eye and kidney damage	Every 3 to 6 months
Sensory foot exam	Reduced feeling in feet can be sign of nerve damage	At least every year
Eye exam by an ophthalmologist or optometrist	Diabetes can damage vision; does not cause symptoms until severe	Every year (May be less or more often depending on the results)
Fasting cholesterol test	Cholesterol problems put you at risk for heart disease. Untreated diabetes also can affect cholesterol.	Talk to your doctor.
Urine test for protein	Protein in urine may be the only sign of early kidney damage	Every year
Dental exam and cleaning	Diabetes increases risk of gum problems and infection	Every 6 months



Foot Care

When you have diabetes, your feet need extra care and attention. Diabetes can damage the nerve endings and blood vessels in your feet, making you less likely to notice when they are injured. Diabetes also makes it harder for your body to fight infection. If you get a minor foot injury, it could turn into an ulcer or a serious infection.

With good foot care, you can prevent most of these problems.

These steps can help keep your feet healthy:

- **Examine your feet every day.** If you can't see well, have someone help you.

- **Wear shoes and socks that fit well** to protect your feet from injury.
- **Check your shoes for any loose objects** or rough edges before you put them on.
- **Ask your doctor to check your feet during each visit.** Your doctor may notice a foot problem you have missed.
- **Get early treatment for any foot problem,** even a minor one. Do not try to treat a foot problem on your own. Home remedies or treatments you can buy without a prescription (such as corn removers) can be harmful.



Coping and Support

Trying to manage your diabetes isn't easy. Some days you may feel like it's just too much work to do everything you need to do. There will be times when you just don't feel like testing and tracking your blood sugar.

It's normal to feel sad or even angry sometimes when you have a health problem. Even though you may have had a while to get used to the idea of having diabetes, you may still have trouble adjusting. You may find it hard to stay motivated.

When you feel sad, give yourself time to grieve your losses. If you feel overwhelmed, just try to focus on one day at a time. Do the best you can. You don't have to be perfect.

Get support

If you're having trouble coping with your feelings, try talking with a counselor. A professional may make it easier to say things you wouldn't talk about with friends or family.

It might also help to:

- ▶ **Talk to your doctor.** This is especially important if you have symptoms of depression, such as a lack of interest in things you used to enjoy, a lack of energy, or trouble sleeping.
- ▶ **Talk with friends and family** about how you feel and any help you need.
- ▶ **Join a support group.** You can find one through your doctor, your local hospital, or the American Diabetes Association.



Gloria's Story

About a year ago while doing some work for her husband's tax business, Gloria had trouble reading the numbers on the checks she was filing.

"My eyes were all blurry. It was really scary," Gloria says. "It finally went away, but then it came back. My doctor tested me for diabetes. He said that the blurriness means my blood sugar is too high."

Gloria started taking pills (metformin) to help lower her blood sugar levels. And she took a diabetes education class where she learned how diet and activity can help her manage her blood sugar.

"I got pretty motivated to take care of myself. I don't want anything to happen to my eyes," she says.

She expected to see results right away, but it took time. It was hard to get her blood

sugar in the range that her dietitian asked her to aim for.

Gloria kept trying. "It took me about 6 months to get into my range. And I was doing everything right. So I guess the biggest message is that you have to be patient."

When Gloria first found out she had diabetes, she started walking laps at the mall with friends. These days she climbs on a stationary bike in her den and cycles for 10 minutes before each meal and again before she goes to bed.

"Exercise really changed everything for me," she says. "The way I feel, my blood sugar, everything. It really works. I'm 70 years old, and I've never felt better, stronger, healthier, or happier in my whole life."

This story is based on information gathered from many people living with type 2 diabetes.



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