Checklist for better health

☐ Check your blood sugar. Check it as often as your doctor suggests. It will help you better manage your diabetes.

☐ Take your medicine or insulin. Be sure to follow the directions. Medicines and/or insulin will help control your blood sugar and help prevent complications from diabetes.

☐ Eat healthy and stay active. A balanced diet and regular exercise can help you control your blood sugar and stay at a healthy weight.

☐ Check your feet. Diabetes damages the nerve endings and blood vessels in your feet, so you may not notice an injury. Check your feet daily, and have a sensory foot exam once a year. If you have a cut that is not healing, call your doctor.

☐ Have regular A1c tests. A1c tests measure your average blood sugars over time and show how well your diabetes is controlled. Have the tests as often as your doctor advises.

☐ Don’t smoke. If you smoke, quitting may reduce your chances of having complications from diabetes. Talk to your doctor about stop-smoking medicines and programs.

☐ Get all regular tests. Have cholesterol, blood pressure, urine, nerve, and retinal eye tests as advised by your doctor, and have regular dental exams. These checkups will help prevent and manage complications from diabetes.

☐ Get flu and pneumonia shots. When you are sick with the flu or another illness, your body releases hormones to fight infection. These hormones raise blood sugar levels and make it hard for insulin or other medicines to work.
Chapter 1  |  Diabetes basics

Keep track to stay in control:
Because you have diabetes, you’ve got a lot to manage and remember.
You need to test and control your blood sugar and plan your meals and snacks. You have to take medicines, get tests, and keep up with your doctor appointments. It's a lot to do!
Use this workbook to help you manage your diabetes. It can help you stay in better control of your health.

What is diabetes?

Type 1
If you have type 1 diabetes, it means your pancreas has stopped making insulin.
Insulin is a hormone that lets sugar, or glucose, move from your blood into your cells. The cells use the sugar for energy or store it to use later.
If sugar can't move from your blood into your cells, your blood sugar gets too high.
High blood sugar can damage your eyes, heart, blood vessels, nerves, and kidneys.
Without insulin, your body makes acids called ketones. If the level of ketones in your body gets too high, it can cause serious problems and require treatment in the hospital.

Type 2
If you have type 2 diabetes, your body can't use insulin the way it should. Over time, you may not produce as much insulin as you need.
Your weight, level of physical activity, and family history affect how your body responds to insulin. People who are overweight, get little or no exercise, or have diabetes in their families are more likely to get type 2 diabetes.
Type 2 diabetes is usually found in adults. But it is becoming more common in children and teens who are overweight.

Treatment for diabetes
Treatment for diabetes is all about keeping your blood sugar levels as close to normal as possible. The closer your blood sugar levels are to normal, the lower your risk will be for complications from diabetes.
If you have type 1 diabetes, you need daily insulin injections or an insulin pump. You need to eat a healthy diet that spreads carbohydrate throughout the day, check your blood sugar 3 times a day or more, and get regular exercise.
If you have type 2 diabetes, you may be able to manage your blood sugar by testing it regularly, eating right, exercising, and controlling your weight. Some people also need diabetes pills, insulin, or other medicines.

Having high blood sugar levels over time can damage your eyes, heart, blood vessels, nerves, and kidneys. The higher your blood sugar levels are, the greater your chance of having these health problems. You also have a higher-than-average risk of heart attack and stroke.
To lower your risk of heart attack and stroke, your doctor may suggest that you take medicine to keep your blood pressure and cholesterol in the normal ranges. Your doctor also may suggest taking a low-dose aspirin each day to lower your risk for having a heart attack.
Follow your care plan

Managing your diabetes takes time and energy. You need to plan carefully with your doctor and diabetes educator to learn the best routine for you.

Good self-care will help you feel better and may prevent complications.

Your daily routine:

- Take insulin shots or use an insulin pump if you have type 1 diabetes. Take pills and insulin, if prescribed, if you have type 2 diabetes.
- Check your blood sugar several times a day, or as directed by your doctor.
- Eat healthy foods, and spread carbohydrate throughout the day.
- Get at least 30 minutes of moderate activity 5 times a week (check with your doctor first, if you aren’t active already). Use weights or resistance bands 3 times a week. Drink enough fluids to avoid getting dehydrated.
- Take a low-dose aspirin each day, if your doctor advises you to. And take medicines for high cholesterol and blood pressure, as prescribed.
- Check your feet daily for signs of problems. Look for blisters, corns, calluses, cuts, cracks, or sores. See your doctor if you have any signs of a problem.
- Don’t smoke. If you smoke and need help quitting, talk to your doctor.
- Be sure to treat high and low blood sugar quickly to prevent an emergency. And know how to adjust your meals or insulin doses when you are sick or if you become pregnant.
- Anytime you are going to start taking a new medicine, ask your doctor if it could affect your blood sugar.
- Take extra care of your gums and teeth to avoid gum disease and infections, and see your dentist at least twice a year.
- Have regular medical checkups to adjust your treatment as needed.

Test your blood sugar

Make sure you know your target blood sugar levels and when and how often you should test. If you know your target blood sugar, you can treat low or high blood sugar before it becomes an emergency.

If you keep your blood sugar at a normal or near-normal level, it is called tight control. While this is an important goal, keep in mind that tight control with insulin or diabetes pills increases the risk of low blood sugar.

Make sure you and your family members know the warning signs of low blood sugar and what to do if it happens. (For details, see chapter 4.)

The American Diabetes Association recommends keeping blood sugar at these levels:

Fingertip blood sample:

- Before meals: 70 to 130
- After meals: Less than 180, 1 to 2 hours after the start of a meal

Hemoglobin A1c*:

- Adults: Less than 7%
- Children younger than 6 years: 7.5% to 8.5%
- Children 6 to 12 years: Less than 8%
- Teens 13 to 19 years: Less than 7.5%

* This test is done every 3 to 6 months, as your doctor recommends.

Some people may need to have different blood sugar and A1c targets. Talk to your doctor if you are trying to become pregnant, are an older adult, have diabetes complications, or have other diseases.
Tips for testing blood sugar
To keep track of blood sugar levels, use the blood sugar testing form below.

- Test your blood sugar along with other daily activities, such as making breakfast. This will help you create the habit.
- Keep your test supplies together so you can test quickly if needed. Check the expiration date on your testing strips. If you use expired test strips, you may not get accurate results.
- The first time you use a meter, and every time you switch meters, check to make sure the meter is accurate. Compare your results with your doctor’s results.
- If your meter has a memory and you have a computer, transfer the record of your blood sugar levels to your computer. Keeping track of your results over time can help your doctor adjust your medicines or insulin.

Blood sugar testing form
Talk to your doctor about how often to check your blood sugar, the best times to do it, and when you need to call for help. Then fill out this form.
I need to test my blood sugar _____ times a day.
(Check all that apply.)
___ Before breakfast   ___ Before lunch   ___ Before dinner
___ At bedtime   ___ When I am ill   ___ Other: __________

Call my doctor for help:
If my blood sugar is below _______.
If my blood sugar is above _______.

Eat healthy and stay at a healthy weight
Eat healthy meals that include whole grains, lean meat, fish, and vegetables.

If you need to lose some weight, start by changing your thinking. Instead of deciding to go on a diet, decide that you’re going to improve your health. Becoming active and improving your eating habits are the two main ways to do that.

Balance the amount of calories you eat with how active you are. This can help you control your weight.

Keep track of carbohydrate
Carbohydrate raises your blood sugar more than other foods. You get carbohydrate from sugar and sweets, grains, fruits, starchy vegetables, and milk and yogurt.

To prevent high blood sugar after meals, spread carbohydrate foods throughout the day. Eating some fat and protein with carbohydrate will help keep your blood sugar steady.

Consider the types of carbohydrate you eat and know their glycemic index. This describes a carbohydrate food’s ability to raise blood sugar to a certain level within a given period of time.

Foods with a low glycemic index don’t raise blood sugar as fast as foods with a high glycemic index.

Some low glycemic index foods:
- Lentils
- Beans
- Whole grains

Some high glycemic index foods:
- White bread
- Potatoes
- Instant rice
Be active, but be safe

Plan your exercise:

- Talk to your doctor first. Some types of exercise can be harmful if you have complications from diabetes, especially eye and heart disease. You also may need some tests to see if it’s safe for you to exercise.
- Choose something you like that is easy to fit into your routine. To keep blood sugar levels in the same range, exercise at the same time and in the same way each day. Increase exercise in small amounts.
- Set small goals. Once you meet them, set new ones.
- Exercise with a partner. You may need someone to help you if your blood sugar level drops too low.
- Always carry some type of quick-sugar food with you. Drink extra liquids before and during exercise.

Be careful with alcohol

If you take insulin or pills for diabetes, drinking alcohol may cause low blood sugar. Ask your doctor if it’s safe for you to drink alcohol.

If it’s safe, limit alcohol to 1 drink a day with a meal if you are a woman. If you are a man, limit alcohol to 2 drinks a day with a meal.

A standard drink is:

- One 12-ounce beer or wine cooler
- One 5-ounce glass of wine
- One mixed drink with 1.5 ounces of 80-proof hard liquor, such as gin, whiskey, or rum

Insulin

If you have type 1 diabetes, you can take insulin through a shot or a pump. If you use shots, you can take more than one type of insulin. But if you use a pump, you can use only rapid- or short-acting insulin. You may also take insulin if you have type 2 diabetes.

The amount and type of insulin you take will likely change over time. Aging, exercise, and pregnancy are a few of the things that can affect your insulin needs. You may need higher doses of insulin when you are ill or under stress. A woman who has diabetes and is pregnant needs much more insulin than usual during the last part of her pregnancy.

Types of insulin

Usually people use a combination of a rapid- or short-acting insulin with an intermediate- or long-acting insulin.

Rapid-acting and short-acting insulins reduce blood sugar levels quickly and then wear off. Long-acting insulins can start to work 1 to 2 hours after they are given. The newer long-acting insulins can work for as long as 24 hours.

How fast or long insulins work varies.

Insulin pumps

An insulin pump gives you insulin through a needle placed under your skin. The pump can be attached to a belt or kept in your pocket. It can give you small, continuous doses of rapid-acting insulin or can give it at specific times.

Be sure you:

- Know the dose of each type of insulin you take, when you take the doses, how long it takes for each type of insulin to start working, when it will have its greatest effect (peak), and how long it will work.
- Never skip a dose of insulin without talking to your doctor.
Other shots for diabetes

Some people with type 1 or type 2 diabetes take pramlintide with their insulin. It is given as a separate shot.

Pramlintide slows food as it moves through your stomach, blocks the release of stored sugar (glucose), and slows the sugars moving into your blood. It also lowers appetite and can help you stay at a healthy weight.

Your doctor may recommend exenatide if you have type 2 diabetes and have not been able to control your blood sugar with pills. It works much like pramlintide and is usually given as a shot 2 times a day, before morning and evening meals.

Pills for type 2 diabetes

Diabetes pills work in several ways. Some help you produce more insulin. Some lower your body’s resistance to insulin. Others slow how fast your body absorbs carbohydrate.

You may need more than one medicine to control your diabetes. Two or more medicines may work better than a single medicine. In some cases, though, taking two medicines can increase the risk of low blood sugar.

Be sure to take your medicines

- If side effects bother you, talk to your doctor.
- Don’t use less of your medicine, such as taking half a dose or using it every other day.
- If cost is an issue, talk to your doctor or pharmacist. There may be a lower-cost medicine. Shop around.
- Plan a daily schedule of medicines. Be sure you understand how much of each medicine to take and when to take each one. Put your schedule someplace where you will always see it.
- Use a pillbox. Get one that holds a week’s worth of pills.
- Post reminders about your medicines and take them when you do a daily task, like brushing your teeth or making your coffee.

Other medicines

You may need medicines to lower your blood pressure and cholesterol to reduce your risk for heart attack and stroke.

- Blood pressure medicines, such as angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), or diuretics, may help lower your blood pressure to less than 130/80.
- Cholesterol-lowering medicines known as statins may help lower your LDL, or “bad,” cholesterol. Fibrate medicines can help lower triglycerides, another type of fat in your blood.
- If you are 30 or older, ask your doctor if you should take a low-dose aspirin each day.

Caution: If you have erection problems, talk to your doctor before taking medicines such as Cialis, Levitra, or Viagra (tadalafil, vardenafil, or sildenafil). If you combine one of these medicines with nitrates, it can cause your blood pressure to drop quickly. This may lead to a heart attack or stroke.
Treat high or low blood sugar right away

Knowing the signs of high or low blood sugar is important. Make sure you and your family members know what to do if either happens.

Early symptoms of low blood sugar are sweating, weakness, shakiness, and hunger. But your symptoms may vary. After you have had diabetes for a long time, or if you keep your diabetes in very tight control, you may not notice these symptoms anymore.

Low blood sugar happens quickly. You can get low blood sugar within 10 to 15 minutes after you exercise or take insulin without eating enough.

Early symptoms of high blood sugar are increased thirst, increased urination, increased hunger, and blurred vision. High blood sugar usually develops slowly over a few days or weeks.

High blood sugar after meals usually comes on rapidly but does not last. High blood sugar from illness or stress can last a lot longer.

Quick help for low blood sugar

If your blood sugar is low and you do not have symptoms that require emergency help, eat 15 grams of carbohydrate. Choose one of these items:

- 3 glucose tablets
- 6 or 7 hard candies
- ½ cup (4 ounces) of fruit juice or regular (nondiet) soda
- 1 tablespoon of sugar

Wait 15 minutes, and check your blood sugar again. If your blood sugar is still low, eat another 15 grams of carbohydrate. Wait another 15 minutes, and check your blood sugar again. If it’s still not in a safe range, call your doctor right away.

Ask your doctor if you should keep a shot of glucagon on hand for low blood sugar emergencies.

When to call for help

Use the following guide to know when to get emergency help, call your doctor, or have others call for you.

Call 911 right away if you become:

- Unconscious or very sleepy unexpectedly. This is a sign of low blood sugar.
- Drowsy or confused, are breathing fast, and your breath smells fruity or like nail polish. This is a sign of high blood sugar and possibly a life-threatening condition called diabetic ketoacidosis.

Call your doctor right away if you are vomiting and cannot keep down liquids and your blood sugar is 300 or higher (250 for a child).

Call your doctor if:

- You are sick for more than 2 days (unless it is a mild illness, such as a cold), and you:
  - Have been vomiting or have had diarrhea for more than 6 hours.
  - Have followed your doctor’s advice but it has not helped.
  - Have blood sugar levels that are often above 300 and your urine has ketones.
- Your blood sugar stays below the target range after you’ve eaten some quick-sugar food.
- Your blood sugar stays high after you’ve taken a missed dose of insulin or taken an extra dose of insulin (if prescribed by your doctor).
- You often have high or low blood sugar levels.
- You have problems knowing when your blood sugar is low.
Quick help for high blood sugar

- If you missed your dose of diabetes pills or long-acting insulin by a few hours, take the missed dose. If you have missed the dose by 6 or more hours, it may be best to take your next dose on time and miss the previous dose. Be sure to ask your doctor what to do if you miss a dose of your medicines.
- If you use insulin, take it as prescribed for high blood sugar.
- Drink water. Avoid coffee, alcohol, soda pop, and anything with a lot of sugar in it.
- Test your urine for ketones if your doctor told you to. If you have a moderate to large amount of ketones in your urine, call your doctor.
- If your temperature is 100.4°F or above, call your doctor or follow the plan your doctor gave you.
- Wait 30 minutes after taking insulin or 1 hour after taking your pills. Then check your blood sugar again.
  - If it goes down, follow your usual diabetes plan.
  - If it stays the same or gets worse and you have serious symptoms, call 911 right away.
  - If it stays the same or gets worse and you do not have symptoms, call your doctor right away.

What teachers and child-care workers need to know

If your child has diabetes, make sure that everyone who cares for your child has all the information needed and knows what to do in an emergency.

- Make sure that the school has the supplies and insulin your child needs.
- Discuss your child’s care with teachers, school nurses, and day-care workers. Give them information about food, blood sugar testing, and how to handle school trips and parties.
- Meet with your child’s gym teacher to discuss how exercise affects your child’s blood sugar. Explain the signs of sudden high or low blood sugar, and how to deal with them.
- Encourage your child to play sports and be physically active.
- Make sure your child is allowed to use the restroom and eat and drink when needed, see the school nurse whenever he or she asks, and miss school for medical appointments.
- Encourage your child to talk openly to other children about having diabetes.
A sick-day plan

Make sure you have a sick-day plan from your child’s doctor. Give a copy to teachers, the school nurse, and other caregivers.

The plan should include:
• Target blood sugar goals during an illness, how to adjust insulin doses and timing, and when to get help.
• Details on how often to check blood sugar and urine ketone levels.
• Phone numbers for you and your doctor.

Is your child ready to help?

Over time, your child will be able to help with his or her care.
• By the age of 4, your child may be able to help with blood sugar tests and preparing insulin.
• Children in elementary school can help with all of their care. By age 8, children can test their blood sugar level with supervision. By age 10, some children can give insulin shots with supervision.
• Children in middle school or junior high school should be able to test their own blood sugar, but may need help if they have low blood sugar.
• Teens may choose an insulin pump instead of shots.

Keeping track of diabetes tests and results

Use this chart to remind you when to have tests and to track your results.

<table>
<thead>
<tr>
<th>Test</th>
<th>Dates and results of test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hemoglobin A1c blood test</strong></td>
<td></td>
</tr>
<tr>
<td>This test helps show how well treatment and self-care are working. Aim for an A1c level of less than 7%.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> At least every 3 to 6 months.</td>
<td></td>
</tr>
<tr>
<td><strong>Blood pressure test</strong></td>
<td></td>
</tr>
<tr>
<td>High blood pressure may cause blood vessel damage. Aim for less than 130 over 80 (130/80).</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> Every 3 to 6 months, but more often if your blood pressure is high or you are taking blood pressure medicines.</td>
<td></td>
</tr>
<tr>
<td><strong>Sensory foot exam</strong></td>
<td></td>
</tr>
<tr>
<td>Less feeling in your feet can be a sign of nerve damage.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> At least every year, but may be done at every doctor visit.</td>
<td></td>
</tr>
<tr>
<td><strong>Dilated eye exam by an ophthalmologist or optometrist</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes can harm your eyes, and you may not have symptoms until the damage is severe.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> Every year.</td>
<td></td>
</tr>
<tr>
<td><strong>Fasting cholesterol test</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes puts you at risk for high cholesterol and heart disease.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> Every year, or more often if you take medicine for high cholesterol.</td>
<td></td>
</tr>
<tr>
<td><strong>Urine test for protein</strong></td>
<td></td>
</tr>
<tr>
<td>Protein in your urine may be a sign of early kidney damage.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> Every year, or more often, depending on your test results.</td>
<td></td>
</tr>
<tr>
<td><strong>Dental exam and cleaning</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes increases your risk of gum problems and infection.</td>
<td></td>
</tr>
<tr>
<td><strong>How often:</strong> Every 6 months.</td>
<td></td>
</tr>
</tbody>
</table>