

Take Charge of Your Diabetes: Tips for Healthy Living with Diabetes

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WHAT IS DIABETES?

- Diabetes occurs when the body is not able to properly use glucose from food.
- There are three main types of diabetes: type 1, type 2, and gestational diabetes.
- Most people who have diabetes have type 2 diabetes.
- Women who have had gestational diabetes are at a greater risk for type 2 diabetes.
- Diabetes can be managed, but it cannot be cured.
- Diabetes complications are caused by high blood glucose levels.
- Diabetes complications can be prevented or delayed.

Diabetes is a disease that occurs when the body is not able to properly use energy from food. The body needs **glucose** for growth and energy. Glucose is a kind of sugar we get from many of the foods we eat, and it is absorbed into the blood through the digestive system. Once in the blood, glucose needs to move into cells where it can be used for energy. A hormone called **insulin** acts like a key to open doors to cells, allowing glucose to enter. Diabetes occurs when either the **pancreas** doesn't make enough insulin or the body isn't responding to insulin effectively. As a result, glucose stays and builds up in the blood. Over time, too much glucose in the blood can cause damage to tissues and result in diabetes complications, such as amputations, blindness, kidney disease, and nerve damage. High

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glucose levels may also cause hardening of arteries, which can lead to blood vessel damage, heart attacks, and strokes.

Types of Diabetes

Type 1 diabetes occurs when the pancreas does not make insulin or makes very little. Type 1 diabetes usually comes on abruptly and generally occurs in children and adults who are under age 30, although it can occur at any age. Since the body is not capable of making insulin, people with type 1 diabetes must take daily injections of insulin to stay alive. Experts think that type 1 diabetes may have many causes, including hereditary causes or environmental ones. Hereditary is when someone has parents or other family members with the same autoimmune disease. Auto-immune is when the body attacks its own cells and tissues. Environmental causes may come from viruses or other potential triggers.

Type 2 diabetes is the most common form and affects about 90 to 95% of the people who have diabetes. It seems to be related to being overweight and having an inactive lifestyle, although there are some people who are not overweight that develop diabetes. Type 2 diabetes seems to have a hereditary link. Unlike people with type 1 diabetes, people with type 2 make some insulin, sometimes even too much, but their body doesn't respond to the insulin properly. Others may not make enough insulin to keep their glucose levels within normal ranges. Before being diagnosed with type 2 diabetes, most people develop **prediabetes**, where the body has high glucose levels but no diabetes symptoms.

Some people are able to manage their blood glucose levels simply by making lifestyle changes: **eating a bal-**

ance of healthy foods and increasing their physical activity. Other people with type 2 diabetes may also need to take **medication.** These medications can be pills, insulin injections, or a combination of the two. Type 2 diabetes usually develops over a long period of time and can develop at any age. In the past, type 2 mainly affected older people. However, today we are seeing type 2 much more often in younger age groups, including in children, as a result of them not getting enough exercise and being overweight.

Gestational diabetes may occur during pregnancy and typically goes away after delivery. Women who are overweight, have a family history of diabetes, have given birth to a very large baby (more than 9 pounds), or who are older than 25 are at increased risk of developing gestational diabetes. The **American Diabetes Association** recommends screening for gestational diabetes in all pregnant women. This screening is usually performed at the end of the second trimester or beginning of the third trimester.

Diabetes Complications

Health problems caused by poorly managed diabetes—blindness, kidney disease, amputations, and heart disease—can be prevented or delayed for decades. The key to preventing complications is to consistently keep blood glucose levels as close to recommended levels as possible. Eating healthy foods, getting daily physical activity, maintaining a healthy weight, taking medication as prescribed, and seeing your healthcare provider regularly can keep diabetes well-managed.

Diabetes can be managed and diabetes complications can be prevented!

WHO GETS DIABETES?

- About 30.3 million Americans have diabetes. More than one out of four American adults with diabetes do not know they have it!
- Another 84.1 million Americans have prediabetes, a condition that can lead to type 2 diabetes if not treated. This condition can also return to normal if lifestyle changes are made.
- Symptoms of diabetes can go unnoticed.
- People who have diabetes may not feel sick enough to visit a doctor.
- Some people have a higher risk for developing diabetes than others.

- Diabetes is diagnosed by a simple blood test, usually in a healthcare setting.
- Early detection and management of diabetes can prevent complications and premature death.

Are You "At Risk" for Diabetes?

An estimated 30.3 million Americans have diabetes. But more than one out of four people with the disease don't know they have it! By knowing your risk (chances) of developing diabetes, you can help your healthcare provider diagnose diabetes early. Type 2 diabetes often is not diagnosed until disease complications develop. People who have diabetes may not feel sick enough to see a doctor until they begin to experience problems with vision, kidneys, or legs and feet, or they have unexplained

infections or wounds that won't heal. Diagnosing diabetes early and managing blood glucose levels can prevent or delay many diabetes complications.

According to the **American Diabetes Association** (ADA), the following factors may put you **at risk** for:

Type 1 Diabetes

- Family history (parents or siblings) of autoimmune diseases

Prediabetes and Type 2 Diabetes

- Family history (parents or siblings)
- History of gestational diabetes
- Age 45 and above
- Hispanic, Native American, Asian American, African American, or Pacific Islander
- Overweight or obese
- High blood pressure
- High cholesterol and/or high triglyceride levels
- Physical inactivity
- Polycystic ovarian syndrome

Gestational Diabetes

- Had gestational diabetes in a previous pregnancy
- Given birth to a baby that weighed 9 pounds or more
- Age 25 and over
- Overweight
- Family history of type 2 diabetes
- Hispanic, Native American, Asian American, African American, or Pacific Islander
- Polycystic ovarian syndrome

If you have one or more of these factors, the ADA recommends you talk to your doctor.

Signs and Symptoms of Diabetes

Diabetes is called a silent killer because people can have the disease for a long time without knowing it. High levels of glucose in the blood (hyperglycemia) develop gradually and can go undetected because symptoms may not be obvious. Diabetes is often discovered only after complications from having high blood glucose levels for a long time have developed. When glucose builds up in the blood, the kidneys work hard to flush out the excess, causing thirst and the need to urinate often. People with untreated diabetes often get hungry and tired because the body is not able to use food the way it should. High blood glucose levels over a long period of time are responsible for the cell and tissue damage that leads to diabetes complications.



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If you are at risk for diabetes, know the signs and symptoms:

Type 1

- Increased thirst
- Increased hunger
- Frequent urination
- Unexplained weight loss
- Blurred vision
- Fatigue

Type 2

- Increased thirst
- Increased hunger
- Frequent urination
- Blurred vision
- Dry, itchy skin
- Tingling or numbness in hands or feet
- Sores, cuts, or bruises that heal slowly

Prediabetes and gestational diabetes usually do not show symptoms. Talk to your healthcare provider about getting screened for diabetes if you have risk factors for diabetes but no symptoms.

Diagnosing Diabetes

Diabetes is diagnosed by your healthcare provider with a simple blood test. If you have any of the symptoms mentioned above, or if you have any of the risk factors for diabetes, make an appointment to see your healthcare provider now. Diabetes can be managed and diabetes complications can be prevented!

HEALTHY LIVING WITH DIABETES



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By taking an active role in managing your diabetes you can:

- Feel better
- Have more energy
- Prevent diabetes complications
- Live longer

Managing your diabetes involves:

- Learning healthy eating habits
- Getting regular physical activity
- Maintaining a healthy weight
- Taking medications as prescribed by your healthcare provider
- Checking your blood glucose
- Taking care of your skin and feet

What are the benefits of choosing to live a healthy life with diabetes? Feeling better and having more energy are short-term benefits. Living longer and preventing diabetes complications are long-term benefits. People who have diabetes can live healthy lives when they take on the day-to-day responsibilities of their own **diabetes self-care**.

Essentials of Diabetes Self-care

Diabetes self-care is what people with diabetes do day to day to manage blood glucose and prevent diabetes complications. The five basic elements of diabetes self-care are **nutrition, exercise, medications, monitoring, and skin/foot care**. As with any habit, such as brushing your teeth after every meal, these diabetes self-care habits will help you maintain good health when done regularly.

Nutrition: Planning and eating well-balanced meals by consuming more vegetables and high-fiber foods can help manage blood glucose and provide all the nutrients

your body needs to stay healthy. People with diabetes should reduce saturated and trans fats, refined carbohydrates, and added sugars from foods. See a dietitian for an eating pattern that fits your lifestyle and nutritional needs.

Exercise: Daily physical activity can help you maintain a healthy weight and blood glucose, and reduces your risk for other chronic diseases like heart disease. The effects of physical activity add up. Several short periods of physical activity done at various times throughout the day can be just as beneficial as one longer period of activity. For best results, consider doing aerobic exercise and strength training as part of your regular routine.

Monitoring: Monitoring blood glucose is essential for managing diabetes. Just as a car speedometer tells how fast or slow you are traveling, your blood glucose levels tell where you are with your diabetes management. Day-to-day blood glucose is monitored by the use of a glucose meter. Monitoring helps you make decisions about food, exercise, medications, and stress. Long-term blood glucose management is measured by your healthcare provider with a test called hemoglobin A1c.

Medications: Many people with diabetes need to take medications to manage blood glucose levels. Medications should be taken **daily as prescribed** by your healthcare provider. Changes in eating habits, physical activity level, or blood glucose management may require changes in your medications. Visit your healthcare provider often, especially if you have any changes in your lifestyle or blood glucose management.

Skin/foot care: Diabetes causes changes in nerves and blood circulation, particularly in the lower legs and feet. Amputations, a major diabetes complication, can be prevented. Daily foot care should include looking for sores or cuts, wearing comfortable shoes and socks, and taking care of your skin to prevent blisters, calluses, and cracks.

Other things you can do to stay healthy:

- Don't smoke
- Get enough sleep
- Learn how to manage stress more effectively
- Learn more about diabetes and diabetes self-care
- Learn about diabetes resources in your community
- Get support from friends, family, or support groups
- See your dentist twice per year, and tell your dentist you have diabetes

NAVIGATING THE HEALTHCARE SYSTEM

- Diabetes standards of care were developed over 25 years ago to define state-of-the-art diabetes treatment.
- Some people with diabetes do not receive the level of care defined by the diabetes standards of care.
- People who do receive all of the diabetes standards of care are healthier and less likely to develop diabetes complications.
- Many healthcare providers may not implement the diabetes standards of care due to a variety of constraints.
- Diabetes education and equipment are covered by most insurance policies. For more information, please contact your county Extension office (<https://aces.nmsu.edu/county/>).
- Check your blood pressure: High blood pressure increases your risk for heart attack, stroke, and circulation problems and can worsen eye and kidney damage from diabetes.
- Check your feet: Numbness or burning, infections, sores, calluses, or other problems may require treatment by a podiatrist (foot doctor).
- Review your goals for blood glucose, blood pressure, and blood lipids (cholesterol and triglycerides): Talk about your plans and progress in meeting these goals.
- Visit with a diabetes educator: Ask about your diabetes self-care skills, nutrition, medications, monitoring, exercise, sick days, or any other concerns.

Diabetes Standards of Care

While diabetes has been known as a disease for thousands of years, it has only been within the last three decades that research has shown a link between managing diabetes and preventing or delaying diabetes complications. The American Diabetes Association has developed the **Standards of Medical Care for Patients with Diabetes**. These standards guide healthcare teams and patients through the complex process of managing diabetes. The standards define specific tests, treatments, and education that are the basis of state-of-the-art diabetes management.

Diabetes is an ongoing disease that you and your healthcare team will manage together for the rest of your life. Some people with diabetes do not receive the level of care defined by the standards of care for diabetes. People who do receive the standards of care manage their diabetes better, are less likely to develop diabetes complications, and will live a healthier life. To ensure you get the best care possible, visit your healthcare provider every three to four months, even if you feel fine.

At each visit, ask your provider do the following:

- Check your weight: Changes in weight may require changes in eating patterns, medications, or other care plans.
- Check your blood glucose and hemoglobin A1c: Know your “goals” for blood glucose management. Any changes in blood glucose may mean that you need to look at your eating patterns, medications, or other diabetes self-care habits.

Twice per year:

- Dental check-up

Once per year you should also have the following:

- Dilated eye exam to look for diabetic eye disease
- Urine test to check your kidneys
- Blood tests to check lipids (cholesterol and triglycerides) and kidney and liver function
- EKG to check your heart health
- Flu vaccination

You should also ask your doctor about pneumonia shots and a TB test if you have never had them.

Becoming Your Own Healthcare Advocate

When it comes to your health, you take center stage! Take an active role as a consumer in the healthcare system. Keep records of when you have tests done, what the results were, and what tests need to be done. A variety of factors can get in the way of a provider or healthcare system meeting the diabetes standards of care. Use your records to remind your provider about the standards of care to ensure you get the best care possible. Never neglect diabetes self-care or medical treatment due to financial difficulties. Talk to your healthcare provider about low- or no-cost prescriptions or treatment options. Diabetes education and management equipment are now covered by most insurance policies. If you are denied coverage, call the American Diabetes Association at 1-800-DIABETES for help.

KNOW YOUR NUMBERS

- Consistently maintaining blood glucose close to recommended levels can prevent diabetes complications.
- Monitoring is the only way to know how well you are managing your diabetes.
- You cannot tell what your blood glucose levels are by how you “feel.”
- Day-to-day blood glucose is measured by a glucose meter.
- Long-term blood glucose is measured by a test called **hemoglobin A1c**.

The **Diabetes Control and Complications Trial** (DCCT) and other studies have shown that the risk of complications can be less when blood glucose levels are kept close to recommended levels. For people with diabetes, the target range for blood glucose levels before eating is 80–130 mg/dl, and usually should go no higher than 180 mg/dl two hours after a meal. High blood glucose levels (above 180) for long periods of time can cause damage to the body, resulting in blindness, kidney disease, nerve damage, circulation problems, and amputations.

Monitoring blood glucose is an important way to manage diabetes. Just as a car speedometer tells how fast or slow you are traveling, blood glucose monitoring tells where you are with your diabetes management. Monitoring helps you detect high and low blood glucose levels, and allows you to make decisions about food choices, exercise, medications, and stress management. You cannot tell how well you are managing your diabetes by how you feel. Monitoring is the only way to know how you are doing.

There are several types of blood glucose tests: **finger-stick tests**, **continuous glucose monitoring systems**, and the **hemoglobin A1c** or **glycated hemoglobin test**, which is done by your healthcare provider.

Day-to-day Blood Glucose Monitoring

Day-to-day blood glucose levels are measured by finger-stick tests with a blood glucose meter. This type of test, which you can do yourself, tells the actual glucose level in your blood at the time you stick your finger. Ideal results are 80–130 mg/dl before meals and less than 180 mg/dl one to two hours after meals. Women who are pregnant should check with their doctor to set monitoring goals.

Finger-stick test tips:

- Your healthcare provider can teach you how to use a glucose meter. Together you will develop a monitor-

ing plan that includes deciding when and how often to test your blood glucose and setting your blood glucose goals. Check your technique with your provider to make sure you are getting accurate results.

- Testing at different times of the day gives different information about diabetes management and how your medication, food, exercise, and stress level affect blood glucose. The best times to test are in the morning before eating; before meals; one to two hours after meals; at bedtime; before, during, and after exercise; and if you are not feeling well.
- Record your test results in a logbook or on a diabetes management app on your computer or phone. Make sure you include the date and time of the test and your results. Bring your results to all healthcare visits and review them with your healthcare provider. Talk with your provider about improving your diabetes management if your blood glucose numbers are too high or too low.

Continuous Glucose Monitoring System

A continuous glucose monitoring system uses a sensor inserted under the skin through a probe. The sensor measures glucose in the interstitial fluid (fluid around the cells). Alarms alert you when blood glucose levels are too high or too low. This system can help people who need to track their blood glucose throughout the day and night or have trouble with low blood glucose. Most monitors are now compatible with smartphones and other devices.

Long-term Blood Glucose Monitoring

Long-term blood glucose management is measured by hemoglobin A1c tests. These tests measure your average blood glucose levels over the past three months and should be done at least twice per year, or more often if your diabetes is not well-managed. Your risk for diabetes complications can be lessened with hemoglobin A1c results of 7% or lower.

Hemoglobin A1c (HbA1c) test tips:

- Visit your healthcare provider at least twice per year and ask for a hemoglobin A1c test.
- Ask your provider to explain the test results and help set a goal.
- Keep a record of your test results.
- If your hemoglobin A1c test is too high, talk to your healthcare provider about ways to improve your diabetes management.

DIABETES MEDICATIONS

- People with type 1 diabetes are not able to make their own insulin or not enough, and will require daily insulin injections.
- People with type 2 diabetes may need to take oral medication, insulin, or other injectable medications.
- Oral medications are not a form of insulin.
- Insulin cannot be taken by mouth, it can only be injected.
- All diabetes medications work better if you eat healthy meals and exercise daily.
- Low blood glucose is caused by taking too much medication, not enough food, or getting greater than normal exercise without adjusting medications.

Many people with type 2 diabetes can successfully manage their diabetes without using medications. If you need diabetes medications, know how and when they work to improve blood glucose levels. There are many new medications available for people with diabetes today. They fall into three main categories: **insulin**, **other injectable non-insulin medications**, and **oral medications**.

Insulin is a hormone made by the pancreas. It acts like a key to open the door for glucose to enter cells, where the glucose is used for energy. If glucose cannot get into the cells, it stays in the blood and causes blood glucose to rise. When glucose moves into the cells, it leaves the blood, lowering blood glucose. Insulin injections mimic what natural insulin does in the body.

Other injectable non-insulin medications are now available. One is for people with type 2 diabetes who take oral medications. Another is for people with type 1 diabetes or people with type 2 diabetes who take insulin.

Oral diabetes medications are pills. They are not insulin. If insulin is taken by mouth it will get absorbed, and as a result glucose will not be able to enter the cells. Oral medications work to lower blood glucose in different ways. They stimulate the pancreas to make more insulin, help the body use insulin better, stop the liver from making glucose, or slow down how quickly glucose from food gets into the blood. Ask your healthcare provider or pharmacist to explain how your diabetes medication works.

People who have type 1 diabetes are not able to make insulin and require injections to stay alive. There are **pre-diabetics** who use diet, exercise, and oral medications to avoid or prolong progression to type 2 diabetes. People who have type 2 diabetes can manage their diabetes in



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many different ways. If detected early enough and if the body still makes insulin, type 2 diabetes can be managed well by eating healthy meals and exercising on a regular basis. Lifestyle changes, such as eating healthy foods, getting daily physical activity, and maintaining a healthy weight, often help the body use its own insulin. Over time, the body may lose the ability to make insulin. Your healthcare provider may prescribe oral medication to manage your blood glucose. Oral medication may work well for some people, but others may require insulin injections as well.

There are several different types of insulin, each with different characteristics (actions). Types of insulin may differ by when they start to work, when they are most active, and how long they are active.

Ask your healthcare provider or pharmacist to explain the action of your insulin. You need this information to plan meals (what and how much to eat) and to time your injections accordingly.

Taking Diabetes Medications

Make sure you understand how much medication to take (dose) and when and how often you should take it. Bring all of your medications to clinic visits so your provider can make sure there are no problems with the combination of medications you take. Try to fill all of your prescriptions at the same pharmacy. This way your pharmacist can alert you to any problems.

For best results:

- Take your medications as prescribed.
- Take medications at the same time each day as part of your routine, such as when you brush your teeth.
- Keep medications where you can see them to remind you.
- Give yourself cues to remind you to take medications—leave a note on your bathroom mirror or in your lunch box. You can also set reminders on any mobile device you carry.
- Eat healthy meals.
- Eat meals at the same time each day with the same amounts of food.
- Spread your meals out—three smaller meals are better than one big meal.
- Get physical activity every day and exercise at higher intensities if you can, with clearance from your healthcare provider.

COPING WITH DIABETES

How well you cope with diabetes depends on how well you:

- Understand diabetes and how it affects your body.
- Understand how to manage your blood glucose levels.
- Communicate with your diabetes team.
- Understand the diabetes care plan developed with your healthcare team.
- Understand the emotional ups and downs that come with having diabetes.
- Cope with stressful life events.
- Use family and social support systems.

Meet the Challenge

Once you learn you have diabetes, many things in your life may change. Financial and emotional costs of diabetes self-care, medical treatment, physical disabilities, changes in lifestyle, or hospitalizations can be overwhelming at times. Being prepared for these changes can help you better meet the challenges of having diabetes. Learn all that you can about managing diabetes, participate in your healthcare, and keep a positive attitude and you will meet the challenge!

Learn All You Can

Take advantage of chances to learn all you can about diabetes, how it affects your body, and what you need to do each day to manage your blood glucose levels. Knowledge is power! Changes in your lifestyle—eating habits, exercise, blood glucose monitoring, and medications—need not be difficult or drastic. Contact hospitals and clinics in your area for information about group diabetes classes, workshops, or health fairs. NMSU's Cooperative Extension Service (<https://aces.nmsu.edu/county/>) is a good source of information about nutrition, meal planning, and healthy food preparation.

Be a Part of the Team

You are not alone! Talk to your healthcare provider, dietitian, diabetes educator, and pharmacist whenever you have questions or concerns about diabetes, your medications, or your treatment plan. This team of healthcare professionals is dedicated to helping you manage your diabetes. Be honest, ask questions, and participate in planning a diabetes treatment and self-care plan. Talking to your providers openly and taking an active role in making decisions about your health will help you successfully manage your diabetes.

Build Coping Skills

Life can be challenging enough without the burden of a chronic disease like diabetes. How you handle the emotional ups and downs of living with diabetes and how you cope with stressful life events will be very personal. Learn strategies and skills to cope with daily challenges. Some people use prayer, exercise, mindfulness, meditation, or other forms of stress management tools and techniques. Take charge of your daily life. Much of the stress in our lives comes from feeling overwhelmed by too many demands. Look for ways to reduce the demands on your time and make sure to take time each day for yourself. For help with learning how to deal with stress and diabetes, ask your healthcare provider about finding a mental health specialist who has experience working with people who have diabetes.

Family Support

People who have a strong support system in place tend to be healthier and recover quicker from illnesses. Without help and understanding from family and friends, you may feel alone and isolated when dealing with the daily demands of having diabetes. Keep family members involved in your diabetes management. Remember that many things you need to do to stay healthy are the same things your family should be doing now to prevent

diabetes in the future. Lifestyle changes are easier when the entire family joins in. Diabetes support groups and group classes provide a chance to discuss problems with other people who have diabetes. Since diabetes affects

the whole family, invite your spouse and/or children to join you at classes and meetings. Healthcare providers or diabetes educators are available to answer specific questions you or your family may have.

EXERCISE FOR PEOPLE WITH DIABETES

- Regular physical activity is an important part of managing your diabetes.
- Physical activity can help your cells remove excess glucose from the blood without medication.
- For some people, diabetes medication can be decreased or eliminated with weight loss, daily physical activity, and exercise.
- Foot care is important when exercising.
- Walking, cycling, and swimming are good aerobic exercise choices. Strength training exercises might include lifting light weights, or other activities that can build muscle, like heavy gardening.
- You can prevent low blood glucose during exercise by balancing medications, food, and activity.

Benefits of Exercise

Exercise is an important part of managing your diabetes. When you have diabetes, being overweight or inactive can contribute to blood glucose problems. Increasing your daily activity, even by small amounts, can help improve blood glucose levels, reduce the need for diabetes medications, reduce your chances for heart disease, and help manage your weight. Exercise can also improve your quality of life and emotional well-being. Walking at a moderate pace as little as 15 minutes a day can make a difference! Regular physical activity can also help you sleep better, lower blood pressure and cholesterol, and reduce your risk of heart disease and stroke.

Getting Started

For many people, the most difficult part of becoming more active is getting started. Just like brushing your teeth, daily exercise is a habit you need to fit into your lifestyle. To get started, make a plan or goal for yourself. Start with small, easy-to-achieve goals like walking each morning or evening for 10 minutes. Make an appointment or set aside a regular time. Find a walking buddy or include a family member to keep it fun. Remember, exercise is good for the whole family! Keep a calendar or use a fitness application to track your progress, and reward yourself for



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achieving your goals—weekly, monthly, and yearly. Soon your daily walk will be a habit you can't live without!

Safe Exercise

Exercise is safe for most people; however, certain precautions should be taken. After being inactive for many years, some people may be in poor physical condition. If you have not been exercising regularly, start slowly and ask your doctor about which activities are safest for you. If you have eye problems from diabetes, it may limit the types of exercises you can do, so make sure you check with your doctor before doing some exercises, such as strength training or high-impact exercises.

Pay attention to your feet if you plan to exercise. If you have problems with circulation or feeling in the legs and feet, choose activities that avoid trauma to your feet. Always wear comfortable shoes that protect your feet. Walking, biking, and swimming are good exercise choices for people who have diabetes. If you have high blood pressure or a heart disease, be careful with strenuous activity and heavy lifting.

Exercise Guidelines for People with Diabetes

- Carry an identification card and wear a bracelet, necklace, or tag that identifies you as a person with diabetes.
- Carry a cell phone with you in case you need to call for help.
- Check your blood glucose level before and after exercise.
- If you use insulin, you may need to avoid exercise during peak insulin action and take shots in locations other than your legs and arms.
- If you use insulin, you may need to decrease the dosage when you exercise. You may need to take a carbohydrate-containing drink during prolonged exercise of more than 90 minutes. Consult with a healthcare provider, registered dietitian, or diabetes educator to learn how.
- Be aware of the signs of hypoglycemia (low blood glucose) during and after exercise. Signs include feeling weak or shaky, a rapid heartbeat, nervousness, sweating, and possibly vision changes. Keep sources of carbohydrate such as glucose tablets, hard candy, juice, or regular soda handy to treat low blood glucose.
- Drink plenty of water before, during, and after exercise to prevent dehydration.
- Wear good-fitting, comfortable shoes that protect your feet from injury.

PREVENTING COMPLICATIONS

- Health problems associated with diabetes can be prevented.
- Too much glucose in the blood can damage blood vessels and nerves.
- The eyes, kidneys, heart, and feet are most commonly affected by diabetes.
- Regular visits to your healthcare provider can reveal damage from diabetes before you notice problems.
- Diabetes complications develop earlier if you smoke or drink alcoholic beverages.
- High blood pressure makes damage from diabetes to eyes and kidneys worse and increases the risk for heart disease and stroke.
- Getting regular physical activity.
- Visiting your healthcare provider regularly to check for problems with your eyes, kidneys, heart, and feet.

Eyes

People with diabetes are at risk for developing eye diseases. Many people do not notice symptoms—there is no pain or blurred vision in the early stages of the disease. Vision problems often are not noticed until the disease is well advanced and vision cannot be restored. Early detection and treatment are important to prevent vision loss. You can reduce your risk of vision loss by having a **dilated eye exam annually** to detect problems early. If you have high blood pressure, damage to small blood vessels in the eyes from diabetes can worsen. **Keep your blood pressure under control** and **don't smoke** to help prevent further damage to fragile blood vessels in the eyes.

Kidneys

High blood glucose levels, having uncontrolled blood pressure, and eating too much protein can damage kidneys over time. The kidneys will lose their ability to filter blood and may fail altogether. When kidneys fail, waste products need to be artificially filtered from the blood with **dialysis** for you to stay alive. Each year, your healthcare provider should check your kidneys by testing your blood and urine. Early stages of kidney problems can be treated with medications and by eating less protein. High blood pressure is also linked to kidney disease and must be controlled. Your provider may prescribe blood pressure medication to help protect your kidneys.

People who have diabetes often experience other health problems. The most common problems (or **complications**) people with diabetes experience are vision loss, kidney disease, heart disease, and amputations. High glucose levels in the blood over time can damage nerves and blood vessels. Complications occur as blood vessels become blocked, or break and bleed, and nerves lose the ability to correctly transmit impulses through parts of the body.

The most important actions you can take to prevent or delay diabetes complications include:

- Managing your blood glucose levels.
- Eating healthy meals.

Heart

Heart diseases are the leading cause of death for people who have diabetes. If you have diabetes, you are more likely to have too much fat (**lipids, cholesterol, and triglycerides**) in your blood. These fats can clog blood vessels and block blood flow throughout the body, including to the heart. The heart muscle can be damaged when there is not enough blood flowing to it, and this may cause a heart attack. High blood pressure increases the risk of heart disease.

You can help prevent heart disease by:

- Eating foods that are low in trans and saturated fats, low in sodium, and high in fiber.
- Getting daily physical activity and exercise.
- Maintaining a healthy weight.
- Not smoking.
- Asking your healthcare provider to check your blood pressure and weight at every visit and your blood cholesterol and triglycerides at least once per year.

Legs and Feet

Damage to nerves and blood vessels from poorly managed diabetes can affect many different parts of the body. Most often, damage occurs in the legs and feet, causing numbness, tingling, cramping, burning, or pain. Nerve damage in other parts of the body can affect the heart, stomach and digestive tract, veins and arteries, bladder, and sexual function. **Smoking** and **alcohol** use can worsen circulation and nerve problems.

Amputations often result from foot injuries that you do not even feel. These injuries can quickly become infected and are difficult to heal. **Check your feet** daily for swelling, redness, or breaks in the skin. **Wear comfortable shoes that fit well** to protect your feet from injury. Let your healthcare provider know if you notice any problems with your feet.

HEALTHY FEET

- People with diabetes are prone to foot problems.
- Amputations due to diabetes can be prevented.
- A podiatrist is a doctor who specializes in treating foot problems.
- Neglecting a foot sore or injury can quickly result in a serious infection.
- Daily foot care is important for people who have diabetes.
- Smoking and alcohol use can cause circulation and nerve damage to feet.

People with diabetes are prone to foot problems that can lead to amputations. An amputation can end a career, limit your freedom and ability to move around, and decrease your quality of life. Managing your diabetes, practicing good daily foot care, and visiting a podiatrist can prevent amputations. A **podiatrist** is a doctor who specializes in treating foot problems, especially related to diabetes.

Common foot problems are caused by sores or injuries from poor-fitting shoes, irritation from the seam of a sock, a stubbed toe, an ingrown toenail, or irritation from a pebble in your shoe that you cannot feel. Daily foot care helps you to find foot problems early that can be taken care of before they become serious. Any sore or injury to your foot, if neglected, can quickly turn into a serious infection and may result in amputation. If you have diabetes, take action to protect and care for your feet.



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Wear Comfortable Shoes That Fit Well

Consult an experienced shoe fitter when you buy new shoes. Shoes should fit comfortably when you try them on, and you should have plenty of room to freely move your toes. Don't buy shoes that are tight or pinch or have high heels or pointed toes that can cause pressure points. The best shoes for daily foot-

wear are cushioned like running or walking shoes. Break in new shoes for short periods to avoid skin irritation and blisters. Sandals or other shoes with open toes or heels can expose your feet to injury. Never go barefoot, even in your own home and especially outdoors.

Wash and Check Your Feet Every Day

Always test water temperature with your elbow first before stepping into a hot bath. People with diabetes often lose the ability to feel temperature with their feet and may suffer dangerous burns from putting feet into water that is too hot. Dry your feet gently before putting on shoes and socks. Check your feet daily for red areas, cuts, bruises, sores, or other changes. Use a mirror to see the bottoms of your feet. Use a cream or moisturizer on dry, rough areas. Do not put moisturizer between your toes. Socks should be made of cotton, wool, acrylic, or a blend of these fabrics, and should be clean, soft, and without seams that can cause irritation. Before putting them on, shake out and check the inside of shoes for anything that might rub or injure feet.

Never Try to Remove Calluses, Corns, Warts, or Ingrown Toenails

Always see your healthcare provider or podiatrist for help with these problems. You can easily injure yourself by using razors or scissors on feet or toes. Always cut toenails straight across and use an emery board to round sharp corners. Never use scissors to cut corners or dig out ingrown nails. Do not use corn or wart removal preparations that can burn skin.

Stop Smoking and Drinking Alcoholic Beverages

Smoking can cause blood circulation problems in the feet, making it difficult for healing to take place. Drinking alcoholic beverages can cause damage to nerves in the legs and feet. Damaged nerves result in loss of sensation, making it difficult to feel pain or injuries.

See your healthcare provider if you notice:

- Changes in the color or temperature of your feet.
- Any unusual pain in your feet or legs.
- Any open sores or cracks in the skin—especially ones that do not heal.
- Ingrown toenails.
- Corns or calluses that bleed under the skin.

WHERE TO GO FOR MORE INFORMATION

- A Registered Dietitian: www.eatright.org
- American Diabetes Association: **1-800-DIABETES** or www.diabetes.org
- National Diabetes Education Program: **1-800-860-8747** or <http://ndep.nih.gov> or www.cdc.gov
- New Mexico Diabetes Prevention and Control Program: www.diabetesnm.org
- Your county Extension office: <http://aces.nmsu.edu/county/>



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