



# Patient Information

## Preventing Diabetes Complications

**A** diagnosis of *diabetes mellitus* (die-uh-beet-eez mel-et-uhss) means you have too much sugar, or *glucose* (glue-kose), in your blood. This can happen for one of two reasons. If you have type 1 diabetes, your body isn't making any *insulin* (in-suh-lin), the hormone that helps cells take in sugar from your bloodstream so it can be used as energy. If you have type 2 diabetes, your cells aren't responding to the insulin your body makes.

Over time, if your blood glucose levels aren't kept under tight control (by dietary restrictions, medication, or both), problems can develop. High blood glucose levels can damage blood vessels throughout your body, slowing or even blocking the blood flow to your heart, brain, legs, feet, eyes, kidneys, teeth, and nerves, depriving them of oxygen and essential nutrients.

Depending on your risk factors and on how long you've had diabetes, you may not develop complications for years, or you may have started having problems already. In either case, there are steps you can take to slow the progression of the disease and protect your body from serious damage.

### How do I know if I'm at risk?

Blood glucose levels that continually exceed the target limit set by your doctor greatly increase your risk of developing diabetes complications. Other risk factors include smoking, drinking alcohol regu-

larly, being overweight, or having high blood pressure or high blood *cholesterol* (kuh-less-tuh-rah!) levels.

### What are the warning signs?

Symptoms of diabetes-related blood vessel disease vary depending on which body part is affected. With the heart, the biggest danger is a heart attack; with the brain, it's a stroke. Signs of a heart attack include: chest, arm, shoulder, or back pain that may worsen with exercise and improve with rest; shortness of breath; heavy sweating; and nausea. Warning signs of stroke develop suddenly and include: weakness or numbness on one side of your body, confusion, difficulty talking, dizziness, double vision, and severe headache. If you experience symptoms of a heart attack or stroke, call 911 immediately.

Blockage of the blood flow to your legs and feet can cause pain in your leg, thigh, or buttocks (especially while walking); a tingling, numb, or cold sensation in your lower legs or feet; or slow healing foot sores. Signs of diabetic eye disease—called *retinopathy* (ret-in-ahp-uh-thee)—include: cloudy, blank, flashing, or floating spots in your vision; trouble seeing out of the corners of your eyes; and pain or pressure in one or both eyes. Diabetes-related kidney disease—known as diabetic *nephropathy* (neh-frahp-uh-thee)—may not cause any symptoms. If your bladder or kidney becomes infected, however, you

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may have pain or burning during urination, a frequent urge to urinate, cloudy or reddish urine, fever, or pain in your back or your side below the ribs. Signs of tooth or gum disease include: sore, swollen, or bleeding gums; gums that have begun to pull back from your teeth; and loose, sensitive teeth.

Nerve damage from diabetes, called diabetic *neuropathy* (nyu-**rahp**-uh-thee) can cause numbness, pain, and weakness in the hands, arms, feet, and legs; dry skin; and stomach, bowel, or bladder problems. You might also have diabetic neuropathy if you experience frequent sweating (especially after eating), light-headedness, loss of balance, or problems during sex.

### What tests do I need?

There are a number of tests your doctor should perform regularly to check for diabetes complications. At each visit, your doctor should measure your blood pressure and weight. Every three to six months, you should have a blood test that checks your *hemoglobin* (**he**-muh-glow-bin) A<sub>1c</sub> level, which shows what your average blood glucose level over the past few months has been. Other tests need to be performed annually, including blood cholesterol measurement; a urine test that checks for small amounts of protein (a sign of kidney disease); a foot exam; and an eye exam. Your dentist should examine your teeth and gums twice a year.

You also may be asked to check your blood glucose levels regularly at home using a blood glucose meter. This involves pricking your finger, arm, thigh, or palm with a special needle and placing a

drop of blood on a test strip. The meter “reads” your blood sample and displays the results. It’s important to write down each reading and bring these records to every check-up. This helps your doctor design the best diabetes treatment plan for you.

### How can I avoid problems?

Diabetes is a lifelong condition, but keeping your blood glucose, blood pressure, and blood cholesterol levels under control greatly reduces your risk of complications. Talk with your doctor about your target blood glucose levels. If he or she recommends home blood glucose testing, make sure you understand how to use your meter, when to use it, and what to do if your levels are too high or too low.

Follow all of your doctor’s instructions closely: Take your medications on time, stick to your diet and exercise plans, and keep all your appointments. If problems arise between visits, inform your primary care provider, eye doctor, or dentist. If you smoke, ask your doctor to help you quit.

Because nerve damage to your feet can keep you from feeling sores that develop, it’s important to check your feet every day for redness or injury. Any sore, even a callus or an ingrown toenail, can become infected and should be treated immediately.

### How is it treated?

Appropriate treatment for diabetes complications varies from person to person and can include lifestyle changes, medication, and surgery. For more information on preventing diabetes complications, visit the web site of the American Diabetes Association ([www.diabetes.org](http://www.diabetes.org)). ●

