

MANAGING COMPLICATIONS IN DIABETES*By Penny Doyle, RN, CDE, Overlake Hospital Medical Center Diabetes Services*

According to the American Diabetes Association, more than 10 percent of American men and nearly nine percent of women have diabetes. However, a third of them aren't aware that they have the illness, which increases the likelihood they may not be watching for the very serious problems it can cause. The more widely recognized complications of diabetes affect the large blood vessels. These are called macrovascular complications, and they cause heart disease or kidney disease. Lesser known complications that affect the small blood vessels are called microvascular complications and involve the eyes, kidneys and nerves, which can affect vision and circulation, and if left unchecked could lead to blindness or amputation. Most of the complications of diabetes can be managed if caught early, so it is important to see your doctor regularly and watch for early signs of a problem.

What causes these problems? Diabetes is caused by the body's inability to produce or properly use insulin. Insulin regulates the level of glucose in the blood stream. Glucose is the form of sugar the body uses for energy when it is inside cells rather than outside in the blood stream. High levels of blood sugar over time will lead to damage in all areas of the body.

Your doctor will track how well you are controlling your blood sugar through a blood test called the hemoglobin A1c. This test shows how much sugar is sticking to the outside of a red blood cell, rather than remaining inside the cell providing your body with energy. However, this test alone only shows half the picture of how well a patient is doing in controlling blood sugars, as it doesn't reflect high spikes or low drops in blood sugar. Monitoring your own blood-glucose level is the most effective way to identify the extreme peaks in blood sugar that cause macrovascular and microvascular complications.



One microvascular complication is diabetic retinopathy, the leading cause of adult blindness. More than 60 percent of those who have had diabetes for 20 years or longer may develop diabetic retinopathy, a condition where blood vessels in the eyes can swell or burst, leading to eye damage and the potential loss of sight. You can protect your sight with self blood-glucose monitoring or through one of several surgical treatments that can help slow the effect of the disease. To prevent blindness, it is very important that those with diabetes have a yearly dilated eye examination.

Your ophthalmologist will also examine your eyes for signs of glaucoma, an increase in pressure inside the eye that is 40 percent more common in those with diabetes. This condition can be treated with medication or surgery. Another eye concern to monitor is cataracts, a clouding of the eye lens that is 60 percent more likely to develop in those with diabetes, and at a younger age than other patients. Mild cataracts can be helped with the use of sunglasses or anti-glare lenses.

Your blood vessels are not the only places where diabetes and its excess sugar can cause damage. The nerves can also be affected by a condition called diabetic neuropathy. It is estimated that half of all people with diabetes have some form of this condition, many without symptoms. The most common kind of neuropathy is peripheral neuropathy, affecting the arms, hands and legs.

Symptoms include numbness, tingling in the toes and fingers, decreased sensitivity to temperature or touch, and sharp pains or cramps which are often worse at night. While there is no cure for neuropathy, there are medications that can help manage any pain. The nerves to the feet are the longest in the body, and are commonly affected by neuropathy. If these nerves are damaged, you might not notice a foot injury. Therefore, it is very

important for those with diabetes to be careful from ankle to toe. Examine your feet, looking for red spots, cuts, swelling and blisters. Always wear shoes and socks or slippers to reduce the risk of foot injury. If you do not monitor your feet, a blister or sore could develop in a numb area and go unnoticed until infection has set in or spread. Such infections are the leading cause of below-the-knee amputations in America, but most are preventable with careful monitoring.

Many of the complications of diabetes can be effectively avoided or treated if people living with the disease educate themselves about diabetes and its processes, keep a careful eye on their blood sugar and visit their doctors regularly.

HELPFUL WEB SITES

American Diabetes Association
www.diabetes.org

Centers for Disease Control and Prevention
www.cdc.gov/diabetes

American Association of Diabetes Educators
www.aadenet.org

American Dietetic Association
www.eatright.org

The Neuropathy Association
www.neuropathy.org