



High blood sugar levels dangerous

How can having high blood sugar cause so many health problems? I understand that it does cause damage, but how?

Sugar may be sweet, but the last thing you want is it running rampant through your bloodstream with no place to go. And that's exactly what happens when diabetes isn't controlled.

In people who don't have diabetes, insulin opens the gates between blood vessels and the cells in the body's muscles, allowing glucose to be used by those cells for energy. But people with diabetes either no longer have the ability to make insulin (Type 1) or it no longer works properly (Type 2). If the disease isn't controlled, high blood sugar, or hyperglycemia, can result.

When glucose remains in the bloodstream too long, the sugar actually coats the red blood cell, and that makes the blood cell stiff. That interferes with blood circulation, causing cholesterol to build up on the inside lining of the blood vessel. It can take years for the damage to become apparent, but smaller, more fragile blood vessels such as those in the eyes, kidneys and feet are most at risk.

Adding to the complications is the fact that bacteria thrive on glucose. Combine that with the loss of sensation due to glucose-related nerve damage, and you have a recipe for severe foot problems that could result

in amputation.

Eventually, even larger blood vessels can be affected, and even blocked, causing strokes and heart attacks.

Another problem that can result from hyperglycemia is called "keto-sis." This condition is caused by the body breaking down an excessive amount of fat to use as energy instead of relying on glucose — which it can't use because of insulin problems. When too much fat is broken down too quickly, it produces acidic ketones. When too many build up in the bloodstream, the life-threatening condition ketoacidosis can occur.

Certainly, these and other complications from diabetes are serious, and knowing what kind of damage uncontrolled blood sugar can cause is important. But the good news is that diabetes is one of the few diseases that you actually can control. Eating healthfully, getting exercise, maintaining a healthy weight and keeping a close eye on blood sugar levels all go a long way to reducing the risks associated with diabetes.

The American Diabetes Association offers detailed guidance on meal planning and smart food choices online on its nutrition page, <http://www.diabetes.org/food-nutrition-lifestyle/nutrition.jsp>. It even offers an Ask the Dietitian feature you can use to get answers to specific questions.

Chow Line is a service of Ohio State University Extension and the Ohio Agricultural Research and Development Center. Send questions to Chow Line, c/o Martha Filipic, 2021 Coffey Road, Columbus, OH, 43210-1044, or filipic.3@cfaes.osu.edu.



THE OHIO STATE UNIVERSITY
OHIO STATE UNIVERSITY
EXTENSION

OHIO AGRICULTURAL RESEARCH
AND DEVELOPMENT CENTER

**For the week of
March 22, 2009**

By Martha Filipic
(614) 292-9833
filipic.3@cfaes.osu.edu

Editor:
Your readers in central Ohio may be interested in attending "Cooking for a Healthy Lifestyle with the Diabetic Chef," Monday, March 30, at 6:30 p.m. See details at <http://www.ag.ohio-state.edu/~news/story.php?id=5015>

This column was reviewed by Julie Shertzer, registered dietitian and program specialist for Ohio State University Extension in the Department of Human Nutrition, in the College of Education and Human Ecology.

**Section of Communications and Technology
News and Media Relations**
2021 Coffey Road
Columbus, OH 43210-1044
(614) 292-2011

208 Research Services
Building
1680 Madison Ave.
Wooster, OH 44691-4096
(330) 263-3780

Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA. Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension
TDD No. 800-589-8292 (Ohio only) or 614-292-1868