

Red Meat, Processed Meat Linked to Diabetes Risk

By Denise Mann

WebMD Health News

Aug. 9, 2011 -- Red meat, particularly processed red meats like bacon, sausage, and hot dogs, may increase a person's risk of developing type 2 diabetes. The more processed or unprocessed red meat a person eats, the greater the risk, according to a new study in the American Journal of Clinical Nutrition.

Type 2 diabetes is linked with obesity. It occurs when the body does not produce enough of the hormone insulin, or the cells do not use insulin properly. Insulin helps the body use glucose or blood sugar for energy. When blood sugar remains elevated with diabetes, complications such as heart disease, blindness, and nerve and kidney damage can occur.

In the study, participants who ate one 3.5-ounce serving of non-processed red meat a day, such as steak or hamburger, were almost 20% more likely to develop type 2 diabetes.

Those who ate half of this amount of processed meat, such as two slices of bacon or one hot dog, had a 51% increased risk for developing diabetes.

"The amount is not huge, but the risk is pretty high," says Frank B. Hu, MD, PhD, a professor of nutrition and epidemiology at Harvard School of Public Health in Boston. "Regular consumption of red meat, especially processed, is associated with an increased risk for type 2 diabetes. The findings are important given the rising epidemic of diabetes and the increasing consumption of red meat."

But an industry group disputes the findings of the study.

"A significant body of research shows lean beef plays a beneficial role in a healthy diet, including reducing type 2 diabetes [and] there is simply nothing in this recent Harvard study that should change how people enjoy nutrient-rich beef as part of a healthy, balanced diet," says Shalene McNeill, PhD, RD,

the executive director of human nutrition research at the National Cattlemen's Beef Association in a statement to WebMD.

"The most important health advice for reducing the risk of type 2 diabetes is to manage your weight, be physically active and follow a diet consistent with Dietary Guidelines which includes fruits, vegetables, whole grains, low-fat dairy products and protein such as lean beef," the statement reads.

Less Red Meat on the Plate

Exactly how red and processed meat may affect diabetes risk is unknown. "For processed meat, the high amount of nitrate preservatives may increase risk for insulin resistance," a pre-diabetes condition that occurs when the cells of the body become resistant to the effects of insulin, Hu says.

What's more, red meats also contain high amounts of iron, and high total body iron stores have been associated with an elevated risk of type 2 diabetes, according to the study researchers.

"We should minimize the consumption of processed meat as much as possible and also reduce our consumption of red meat," Hu says. "It shouldn't be the center of our plate."

Instead, "load your plate with healthy sources of protein, such as low-fat dairy, whole grains, and poultry and fish," Hu says. "Your dietary pattern has to change from a red meat-based diet to a more diverse protein-based diet."

Red and processed meats have also been linked to heart disease and certain cancers, he says.

The new report included data on 37,083 men who were followed for 20 years in the Health Professionals Follow-Up Study; 79,570 women who were followed for 28 years in the Nurses' Health Study I; and 87,504 women who were followed for 14 years in the Nurses' Health Study II.

The researchers also conducted an updated literature review analysis including data from the new study and previous studies which included 442,101 participants, 28,228 of whom developed type 2 diabetes during the study.

John Buse, MD, PhD, chief of endocrinology at the University of North Carolina, Chapel Hill, says the effect sizes seen in the new study are very small. "So, the population attributable risk for eating [3.5 ounces] of red meat would be small if the hypothesis is true," he tells WebMD via email.

Buse is not changing his diet recommendations based on the new findings. The best diet for people with or at risk for diabetes is individualized, and artery-clogging saturated fat should comprise less than 7% of total calories, he says.

The new study is "interesting and thought provoking," says Jennifer B. Green, MD, an endocrinologist at Duke University Medical Center in Durham, N.C.

"It is safe to say that people who eat more red meat in general probably exhibit other dietary and physical activity behaviors that predispose them to the development of type 2 diabetes," she says. "We don't know that reducing red meat, in isolation, will be of benefit, but it is something to think about along with more global changes in diet and weight loss."

Source: <http://diabetes.webmd.com/news/20110810/red-meat-processed-meat-linked-to-diabetes-risk>