

Crusty foods may worsen heart problems associated with diabetes

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A University of Illinois study suggests avoiding cooking methods that produce the kind of crusty bits you'd find on a grilled hamburger, especially if you have diabetes and know you're at increased risk for cardiovascular disease because of your diagnosis.

"We see evidence that cooking methods that create a crust—think the edge of a brownie or the crispy borders of meats prepared at very [high temperatures](#)—produce advanced glycation end products (AGEs). And AGEs are associated with [plaque formation](#), the kind we see in cardiovascular disease," said Karen Chapman-Novakofski, a U of I professor of nutrition.

For years nutrition experts have advised people with diabetes to bake, broil, or grill their food instead of frying it, she said.

"That's still true, but if you have diabetes, you should know that AGEs—[byproducts](#) of food preparation methods that feature very high, intense, dry heat—tend to end up on other tissues in the body, causing long-term damage," she added.

If you're fighting this vascular buildup anyway, Chapman-Novakofski thinks that consuming products containing AGEs could worsen the [cardiovascular complications](#) of diabetes.

In the U of I study, the scientists compared the 10-day [food intake](#) of 65 [study participants](#) in two ethnic groups: Mexicans (who have higher rates

of diabetes and a greater risk of complications from the disease) and non-Hispanic whites.

"We found that people with higher rates of cardiovascular complications ate more of these glycated products. For each unit increase in AGEs intake, a study participant was 3.7 times more likely to have moderate to [high risk](#) for cardiovascular disease," said Claudia Luevano-Contreras, first author of the study.

The study showed that non-Hispanic whites had a higher intake of AGEs, and they consumed more saturated fats. However, the association between AGEs and cardiovascular disease was stronger than for saturated fats and heart disease, she said.

Eating less [saturated fat](#) and more fruits, vegetables, and fiber are important for people with diabetes, but this study shows that food preparation may be important too, she added.

"AGEs are higher in any kind of meat, but especially in ground meat," she said. "If you put hamburgers or brats on the grill, you'll likely have a higher AGEs content than if you chose a whole cut of meat, say round steak or chicken," said Chapman-Novakofski.

Boiling or stewing meat would reduce your AGEs intake further. And scrambling an egg with cooking spray instead of frying it leads to a significant reduction in AGEs, she added.

The scientists said more research is needed before definite recommendations can be made. They are planning another study in which they'll examine past AGEs intake of diabetes patients.

"These findings are preliminary, but they give us ample reason to further explore the association between AGEs and cardiovascular risk among

people with diabetes," Chapman-Novakofski noted.

More information: The study is available online in the *International Journal of Food Sciences and Nutrition*.

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