

Red hot meat: the wrong recipe for heart disease

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From MasterChef to MKR, the world's best chefs have taught us how to barbeque, grill and panfry a steak to perfection. But while the experts may be seeking that extra flavour, new research from the University of South Australia suggests high-heat caramelization could be bad for our health.

Conducted in partnership with the Gyeongsang National University the study found that consuming red and processed meat increased a protein compound that may increase the risk of heart [disease](#), stroke, and complications in diabetes.

UniSA researcher Dr. Permal Deo says the research provides important dietary insights for people at risk of such degenerative diseases.

"When red meat is seared at high temperatures, such as grilling, roasting or frying, it creates compounds called advanced glycation end products—or AGEs—which when consumed, can accumulate in your body and interfere with normal cell functions," Dr. Deo says.

"Consumption of high-AGE foods can increase our total daily AGE intake by 25 percent, with higher levels contributing to vascular and myocardial stiffening, inflammation and [oxidative stress](#)—all signs of degenerative disease."

Published in *Nutrients*, the study tested the impacts of two diets—one high in red meat and processed grains and the other high in whole grains dairy, nuts and legumes, and white meat using steaming, boiling, stewing and poaching cooking methods.

It found that the diet high in red meat significantly increased AGE levels in blood suggesting it may contribute to [disease progression](#)

Largely preventable, [cardiovascular disease](#) (CVD) is the number one

cause of death globally. In Australia, it represents one in five of all deaths.

Co-researcher UniSA's Professor Peter Clifton says while there are still questions about how dietary AGEs are linked to chronic disease, this research shows that eating red [meat](#) will alter AGE levels.

"The message is pretty clear: if we want to reduce heart disease risk, we need to cut back on how much [red meat](#) we eat or be more considered about how we cook it.

"Frying, grilling and searing may be the preferred cooking methods of top chefs, but this might not be the best choice for people looking to cut their risk of disease.

"If you want to reduce your risk of excess AGEs, then slow cooked meals could be a better option for long-term health."

More information: Yoona Kim et al, Differential Effects of Dietary Patterns on Advanced Glycation end Products: A Randomized Crossover Study, *Nutrients* (2020). [DOI: 10.3390/nu12061767](https://doi.org/10.3390/nu12061767)

Provided by University of South Australia

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