

# Diet designed to lower blood pressure also reduces risk of kidney disease

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People who ate a diet high in nuts and legumes, low-fat dairy, whole grains, fruits, and vegetables and low in red and processed meat, sugar-sweetened beverages and sodium were at a significantly lower risk of developing chronic kidney disease over the course of more than two decades, new Johns Hopkins Bloomberg School of Public Health research suggests.

The [diet](#), known as DASH for Dietary Approaches to Stop Hypertension, was designed to help reduce blood pressure, but research has shown it to be effective in preventing a series of other chronic illnesses including cardiovascular disease. The findings, published online Aug. 9 in the *American Journal of Kidney Diseases*, suggest that [kidney disease](#) now can be added to that list.

"In addition to offering other health benefits, consuming a DASH-style diet could help reduce the risk of developing kidney disease," says study leader Casey M. Rebholz, PhD, MPH, MS, an assistant professor in the Department of Epidemiology at the Bloomberg School. "The great thing about this finding is that we aren't talking about a fad diet. This is something that many physicians already recommend to help prevent chronic disease."

Researchers estimate kidney disease affects 10 percent of the U.S. population—more than 20 million people. Less than one in five who have it are aware that they do, however.

For their study, the researchers examined records from the Atherosclerosis Risk in Communities (ARIC) Study, which in 1987 began following a group of 15,792 middle-aged adults from communities in Maryland, North Carolina, Minnesota and Mississippi for more than 20 years. At two early visits, participants filled out a 66-item food frequency questionnaire, which asked how often, on average, the participants consumed each food item in what portion size over the previous year.

The participants were not instructed what to eat, but rather their adherence to a DASH-style diet was later categorized into a score based on low intake of red and processed meat, sweetened beverages and sodium; and high intake of fruits, vegetables, whole grains, nuts and legumes, and low-fat dairy. The researchers then placed participants into categories based on their consumption of these food items. The DASH diet wasn't described and studied until the 1990s, while participants were enrolled in the ARIC study in the 1980s.

Meanwhile, over time, researchers determined whether a participant developed kidney disease by determining [kidney function](#) via blood tests of glomerular filtration rate, learning about a kidney disease-related hospitalization or death, or finding out about end-stage kidney disease resulting in dialysis or transplant.

The researchers found that participants with the lowest DASH diet scores (those who ate few foods such as fruits, vegetables and nuts, and consumed more red meat and sodium) were 16 percent more likely to develop kidney disease than those with the highest DASH scores (those who ate more of the healthier foods and less of the unhealthy items).

Those who had the highest intake of red and processed meats were at a 22 percent higher risk of developing [chronic kidney disease](#) than those with the lowest intake of those foods. Those with the highest intake of

nuts and legumes were at 9 percent lower risk of developing kidney disease than those with the lowest intake.

Rebholz says the reason that DASH-style diets appear to stave off kidney disease may be that it is known to reduce blood pressure; hypertension has been linked to kidney disease. She says that another possibility could be related to the "dietary acid load" in the foods people eat, or the overall acidity of the foods in a diet. High acid foods include meats and cheeses; low acid foods include fruits and vegetables. Several independent researchers have shown that high dietary acid may be linked to kidney disease.

The researchers also found that normal weight participants who followed a DASH diet were less likely to develop kidney disease than overweight or obese participants. "What this tells us is that we need to pay attention to diet before diseases develop. That is the right time to intervene," Rebholz says. "After disease develops, we may not be able to prevent the development of other chronic diseases. It may be too late."

**More information:** Casey M. Rebholz et al. DASH (Dietary Approaches to Stop Hypertension) Diet and Risk of Subsequent Kidney Disease, *American Journal of Kidney Diseases* (2016). [DOI: 10.1053/j.ajkd.2016.05.019](https://doi.org/10.1053/j.ajkd.2016.05.019)

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