



***The Journal of Nutrition* – June 2018  
Media Summaries**

The following articles are being published in the June 2018 issue of *The Journal of Nutrition*, a publication of the American Society for Nutrition. Summaries of the selected articles appear below; the full text of each article is available by clicking on the links listed. Manuscripts published in *The Journal of Nutrition* are embargoed until the article appears online either as in press (Articles in Press) or as a final version. The embargoes for the following articles have expired.

**Healthy eating patterns associated with lower risk of hearing loss in women**

**Walnuts – are their health benefits due to shifts in our intestinal bacteria?**

**Can eating yogurt lower inflammation?**

## **Healthy eating patterns associated with lower risk of hearing loss in women**

Hearing loss is common as we age, affecting nearly 48 million Americans and contributing to a variety of poor health outcomes such as decreased quality of life and depression. As such, understanding ways to prevent and treat hearing loss continues to be a major public health goal. In a paper published in the June 2018 issue of *The Journal of Nutrition*, a research team led by Harvard Medical School's and Brigham and Women's Hospital's Dr. Sharon Curhan reports its findings that consuming foods matching a Mediterranean or Dietary Approaches to Stop Hypertension (DASH) diet may be one way of lowering risk of experiencing hearing loss so commonly associated with aging.

Curhan's study examined data collected as part of the Nurses' Health Study II, an initiative begun in 1989 to study the impacts of oral contraceptive use, dietary variation, and myriad other lifestyle factors on women's health in the United States. Since its inception, women enrolled in this study have been asked to complete questionnaires every 2 years, assessing a multitude of factors, including dietary intake patterns and hearing loss. For this study, data from over 81,000 women were utilized. Dietary intake patterns were scored depending on how closely they resembled a traditional Mediterranean diet, the DASH eating plan, and the 2010 USDA Dietary Guidelines for Americans.

Women consuming diets most closely resembling the Mediterranean and DASH diets were about 30% less likely to develop hearing loss than those whose diets did not resemble these eating patterns. Consuming foods closely mirroring the Dietary Guidelines for Americans was associated with a 21% lower risk. Findings in a subset of the women for whom detailed hearing-related information had been collected suggest that the reduced risk may be even greater than 30%. The researchers concluded: "consuming a healthy diet may be helpful in reducing the risk of acquired hearing loss."



**Reference** Curhan SG, Wang M, Eavey RD, Stampfer MJ, Curhan GC. Adherence to healthful dietary patterns is associated with lower risk of hearing loss in women. *Journal of Nutrition*. 2018; 148(6): 944-951. <https://academic.oup.com/jn/article/148/6/944/4993343>

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## **Walnuts – are their health benefits due to shifts in our intestinal bacteria?**

In addition to adding an earthy and delicious crunch to salads and cookies, walnuts are packed with nutrients such as protein, fiber, healthy fats, and magnesium. Interestingly, because of their complex food architecture, the body cannot extract all the calories walnuts contain – making them less calorically dense than one might anticipate from the fat, protein, and carbohydrates they contain. Consequently, some of the energy contained in walnuts is available to the trillions of bacteria that share our lower intestines – a fact that begs the question as to whether consumption of walnuts might influence the bacteria that thrive there. Findings from a study conducted by Dr. Hannah Holscher and colleagues at the University of Illinois, Tufts University, and USDA Beltsville Human Nutrition Research Center and published in the June 2018 issue of *The Journal of Nutrition*, suggest that the answer to this question is yes.

To test their hypotheses, Holscher and coworkers enrolled 18 relatively healthy (albeit overweight) adults living in the Washington DC area. These adults participated in two dietary interventions similar in calories but different in that one had no walnuts on the menu whereas the other provided participants with one-and-a-half servings (about a third of a cup) of walnuts each day. Each dietary intervention period lasted three weeks, during which time feces and blood were collected on multiple occasions.

The researchers found that walnut consumption indeed altered bacterial profiles in the subjects' stools. For instance, members of the bacterial phylum Firmicutes were higher during walnut consumption than during the control period. The changes in bacteria caused by walnuts were accompanied by a lowering of both low-density lipoprotein (LDL) cholesterol and secondary bile acids, both of which are considered risk factors for cardiovascular disease. The researchers concluded that these particular bacterial profiles may, at least in part, explain why eating walnuts appears to be linked to better health. In addition, this may also help explain the heart-healthy attributes of the Mediterranean diet, which is typically rich in nuts.



**Reference** Holscher HD, Gutterman HM, Swanson KS, An Ru, Matthan NR, Lichtenstein AH, Novotny JA, Baer DJ. Walnut consumption alters the gastrointestinal microbiota, microbially derived secondary bile acids, and health markers in healthy adults: a randomized controlled trial. *Journal of Nutrition* 2018;148(6):861-867.

<https://academic.oup.com/jn/article/148/6/861/4992079>

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## **Can eating yogurt lower inflammation?**

The ability of the body to mount an inflammatory response is generally a good thing, as it protects us from infection. Inflammation also helps repair damaged tissues. However, sometimes the body deploys its inflammatory capacity when it's not needed. This can result in the body's normally protective immune system causing damage to its own tissues. Over the past decade, scientists have discovered that many common conditions such as cardiovascular disease, type 2 diabetes, and obesity are all related to either low-grade chronic inflammation or transient inflammation triggered by eating a meal. Moreover, experts agree that this sort of inflammation may be causing some of the negative outcomes associated with these diseases. In a study published in the June 2018 issue of *The Journal of Nutrition*, Dr. Bradley Bolling (University of Connecticut and University of Wisconsin-Madison) and colleagues report promising results of a study they conducted to determine if yogurt consumption might help lower systemic inflammation that occurs after a meal. Particularly, consumption of yogurt before a meal improved participants' ability to sequester pro-inflammatory components from gut microbiota.

Their study was designed as a randomized, controlled dietary intervention study and involved 120 premenopausal women characterized as either obese (body mass index between 30 and 40 kg/m<sup>2</sup>) or not obese (body mass index between 18.5 and 27 kg/m<sup>2</sup>). Half of the women in each category were asked to consume about 3 servings of low-fat yogurt or a similar amount of soy pudding for 9 weeks. The yogurt and pudding products provided similar amounts of calories, fat, carbohydrates, and protein. At the beginning and end of the study, participants were asked to consume about 2 servings of yogurt or pudding before they ate a standardized meal. Blood samples were taken and analyzed for a variety of substances related to inflammation.

The researchers found that eating yogurt prevented the expected inflammatory response to consuming a meal, particularly in the obese participants. Yogurt consumption also helped with blood glucose regulation. The scientists concluded that consuming yogurt before a meal may be a feasible strategy to reduce cardiometabolic risk.



**Reference** Pei R, DiMarco DM, Putt KK, Martin DA, Chitchumroonchokchai C, Bruno RS, Bolling BW. Premeal low-fat yogurt consumption reduces postprandial inflammation and markers of endotoxin exposure in healthy premenopausal women in a randomized controlled trial. *Journal of Nutrition*. 2018; 148(6):910-916

<https://academic.oup.com/jn/article/148/6/910/4995046>

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