

Heart TALK

Heart-healthy and Stroke-free Living with Dr. Amy L. Doneen, DNP, ARNP

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*Thoughts from
Dr. Amy*

The **Two** Most Delicious Ways to Boost Your Heart and Arterial Health



When Hippocrates wrote, "Let food be thy medicine," he may have been referring to dark chocolate and cinnamon. Both have such powerful cardiovascular benefits that the BaleDoneen Method actually prescribes them (in small amounts) as part of our evidence-based approach to the prevention of heart attacks, strokes and type 2 diabetes. As we tell our patients, "Not all medicines are hard to take!"

Two new studies add to the wealth of scientific literature documenting the healing properties of these two delicious foods. One of these studies links frequent consumption of chocolate to lower risk for heart attacks. The other reports that cinnamon helps lower blood sugar and improve insulin sensitivity in people with prediabetes, which in turn, may reduce their risk for developing cardiovascular disease (CVD). Here is a closer look at some intriguing discoveries about how dark chocolate and cinnamon can literally do your heart good.

Dark Chocolate: A Delightful Prescription for Heart Health

Derived from the pods of the cacao tree, whose botanical name, Theo-

broma, means "food of the gods," dark chocolate is rich in flavanols and polyphenols, antioxidant compounds also found in tea, wine, fruits and vegetables. Antioxidants neutralize free radicals before they can attack cells in your body. Damage from these unstable molecules is a major contributor to aging and many chronic diseases, such as CVD, type 2 diabetes, cancer and Alzheimer's disease.

For more than a decade, the BaleDoneen Method has prescribed a daily dose of 7 grams (one small square) of dark chocolate (which has a much higher cacao content than milk chocolate) to our patients for heart attack and stroke prevention. New and recent findings about its benefits include the following:

- **Lower risk for coronary artery disease (CAD).** In the latest study of chocolate's effects on heart health, researchers from the Cleveland Clinic and other centers analyzed findings from six studies that included 336,289 people. Published in *European Journal of Preventive Cardiology* in July, the analysis linked eating chocolate more than once a week to an 8 percent reduction in risk for developing CAD (plaque in the arteries that can lead to a heart attack). A limitation of the study was that the researchers didn't analyze what type of chocolate the study participants ate, nor did they take lifestyle factors into account.

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The Two Vaccinations That Help Prevent Alzheimer's Disease, Heart Attacks and Strokes



Vaccine makers are gearing up for a mega-campaign against seasonal influenza during the COVID-19 pandemic, with drives to promote vaccination slated to start in early September ahead of the 2020-2021 flu season. Expect to see flu shots available everywhere from church and supermarket parking lots to socially distanced appointments at pharmacies and medical offices. Some healthcare providers will even be offering curbside inoculations in a massive U.S. effort to prevent a disease that kills up to 60,000 Americans annually, puts 410,000 in the hospital, and makes at least 18 million sick enough to visit their healthcare provider.

Being vaccinated against pneumococcal pneumonia reduced older adults' risk for Alzheimer's disease (AD) by up to 40 percent, depending on their individual genetic profile, according to a study by Svetlana Ukraintseva, PhD, of Duke University and colleagues. The research was presented at the virtual Alzheimer's Association International Conference (AAIC) in July.

The team examined links between AD and pneumococcal pneumonia vaccination, with or without an accompanying seasonal influenza shot, in more than 5,100 men and women ages 65 and older who were participating in the Cardiovascular Health Study. The results were adjusted for age, race, birth cohort, education and smoking. The researchers also took into account a strong genetic risk factor for AD: carrying a variant called the G allele of rs2075650 in the TOMM40 gene.

"[This allele is] linked to [the] NECTIN2 gene, which is involved in blood-brain barrier permeability and vulnerability to infec-

tion," Dr. Ukraintseva [told Medpage today](#). Overall, in the entire group, those who were vaccinated against pneumonia between ages 65 and 75 had 30 percent lower risk for AD afterwards. However, among noncarriers of the G allele of rs2075650, risk for AD dropped by 38 percent, the study found. "This means that adult vaccination against pneumonia may reduce Alzheimer's risk depending on individual genotype, which supports personalized prevention of Alzheimer's disease," Dr. Ukraintseva said.

The CDC and the BaleDoneen Method [recommend the shot](#) for everyone age 65 and older, as well as younger people with risk factors for pneumonia, such as heart failure, pulmonary disease, diabetes or smoking. The shot protects against infection by 23 types of pneumococcal bacteria and has been FDA-approved since 2000. Rates of the types of pneumonia the shot protects against have dropped by 99 percent in the U.S. since it was introduced, the CDC reports. However, pneumonia

remains a major public threat — particularly to those who are not vaccinated — killing about 50,000 Americans a year, most of whom are over 65 or older.

Along with protecting against a dangerous infection — and the risk of being hospitalized with pneumonia during the COVID-19 pandemic — the pneumococcal immunization also has another life-saving benefit: A study of more than 84,000 people found that those who have been vaccinated against this disease were at lower risk for heart attack and stroke. Given these benefits, we recommend being vaccinated at age 50 if you have cardiovascular disease.

What effect does the seasonal flu shot have on risk for Alzheimer's disease?

Another study presented at the same conference looked at links between annual flu shots and risk for AD in a propensity-matched set of 9,066 patients ages 60

• *August Recipe* • **Dark Chocolate Greek Yogurt Fruit Dip with Cinnamon and Spice**

Ready in just five minutes, this delicious fruit dip will make your heart and your taste buds rejoice. Very large studies have shown that dark chocolate (including cocoa) has powerful cardiovascular benefits, including lowering blood pressure and cholesterol, improving arterial health, and reducing risk for coronary artery disease. Some studies suggest that dark chocolate may also help protect against cancer.

This easy recipe pairs chocolate dip with fresh berries. Not only are these tasty treats packed with disease-fighting antioxidants, but they also have powerful anti-inflammatory properties that help protect against cardiovascular disease, diabetes, cancer and other chronic diseases. In addition, a diet high in fresh produce has also been linked to lower risk for stroke. The dip also contains an optional secret ingredient — cayenne pepper — that adds a delightful hint of spice. Try adding a tiny pinch, mix well and taste.



INGREDIENTS

- ½ cup Greek yogurt
- 2 tablespoons cocoa powder
- 2 tablespoons brown sugar
- ½ teaspoon vanilla extract
- ½ teaspoon ground cinnamon
- Tiny pinch of cayenne pepper (optional)
- Fresh berries, for dipping

PREPARATION

Combine all ingredients except fruit in a medium-sized serving bowl. Stir until well mixed and the sugar granules have dissolved (about 3 minutes). Serve dip with fresh berries of your choice — and enjoy! Serves four.

Adapted from Stonyfield.com

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• **Chocolate may help prevent irregular heartbeats.** In a recent Harvard study that included more than 55,000 people, eating moderate amounts of chocolate lowered risk for atrial fibrillation (AF), a common and dangerous type of heart arrhythmia that elevates risk for stroke, heart failure, cognitive decline, dementia and early death. The researchers tracked participants for 13 years and found that those who consumed two to six 1-ounce servings of chocolate a week had a 20 percent lower rate of AF, compared to people who ate chocolate less than once a month, even when other risk factors were taken into account. Results were similar for both men and women, report the researchers, who caution that eating large amounts of the high-calorie treat is

not recommended because that could lead to weight gain and metabolic syndrome (a cluster of heart attack and diabetes risk factors).

• **Reduced risk for heart attacks and strokes.** In a study of nearly 20,000 people ages 35 to 65, those who ate the most chocolate had a 39 percent lower risk for heart attack and stroke. Participants were tracked for 8 years. The researchers also linked chocolate consumption to lower blood pressure, a factor that may explain its protective properties, since high blood pressure is the leading risk for stroke and a major contributor to heart attacks. While these findings may sound like license to pig out on the sweet treat, the study also reported that the people who ate the most chocolate consumed an average of 7 grams daily, which is the amount the BaleDoneen Method recommends.

• **Protection against high blood pressure during pregnancy.** A [Yale study](#) of 2,291 pregnant women found that those who ate more than five servings of chocolate a week reduced their risk of developing pre-eclampsia, pregnancy-induced high blood pressure, by up to 40 percent, compared to women who ate less than one serving a week. Pre-eclampsia is a potentially life-threatening pregnancy complication that affects about 5% of American moms-to-be. Women who develop it are at increased risk for heart disease later in life. The researchers attribute the protective qualities of chocolate to one of the compounds it contains: theobromine.

• **Cardiovascular disease prevention.** Researchers first discovered that chocolate can enhance heart health from studies of the Kuna Indians of Panama's San Blas islands,

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who rarely develop cardiovascular disease (CVD) or high blood pressure. Yet if they moved to Panama City and gave up their indigenous diet, both disorders struck at typical Western rates, showing that it's not their genes that were protecting them. Kuna who remained on the islands drank up to four cups a day of a home brew of flavanol-rich dried and ground cocoa beans daily, the [NIH reports](#).

• **Healthier levels of cholesterol and other markers of heart health.** Products rich in cacao flavanols (such as dark chocolate or cocoa) may reduce inflammation, triglycerides and insulin resistance (the root cause of almost all cases of type 2 diabetes, as well as 70 percent of heart attacks), according to [an analysis of clinical trials](#) that included more than 1,100 people. The researchers also linked eating these foods to healthier levels of HDL (good) and LDL (bad) cholesterol, and several other studies have similar findings.

CINNAMON
A Prescription for Lower Blood Sugar and Cholesterol

Derived from the inner bark of several tree species, cinnamon has been used as a food and medicine since 2000 BC. In [the most recent study of cinnamon's effects on blood sugar](#), researchers from the Joslin Diabetes Center and other centers conducted a double-blind, randomized clinical trial in which people with prediabetes were randomly assigned to either receive a capsule containing cinnamon or a placebo three times a day. The volunteers' blood sugar levels were tested at the start of the study and again 12 weeks later.

Published in July in *Journal of the Endocrine Society*, the study reported that as compared to the participants' baseline test results, blood sugar levels rose in people who received the placebo,



but dropped significantly in people who received cinnamon. The researchers recommend that longer and larger studies be done to explore the possibility that the tasty spice might be a safe, inexpensive and effective way to slow the progression from prediabetes to full-blown type 2 diabetes.

A recent analysis that pooled the results of 10 randomized studies of 543 patients with type 2 diabetes has shown that daily consumption of this delicious spice significantly reduced triglycerides, blood sugar and LDL (bad) cholesterol, while improving good (HDL) cholesterol in people with type 2 diabetes. Two earlier studies found that cinnamon improved insulin sensitivity in people *without* diabetes. These are important benefits, given that insulin resistance (IR) is the root cause of about 70 percent of heart attacks, most strokes and almost all cases of type 2 diabetes.

IR occurs when cells become insensitive to insulin, a hormone that normally helps the body use glucose for energy. The pancreas is forced to pump out more and more insulin, trying to keep up with demand, until its beta cells become exhausted and blood sugar rises. Not only does this damage the arterial lining, making it easier for cholesterol to penetrate and form plaque, but IR triggers other biochemical changes, including chronic inflammation, raising risk that plaque, once formed, will rupture, leading to a heart attack or stroke.

Based on these findings, the Bale-Doneen Method recommends that people with diabetes, prediabetes or insulin resistance take 2 grams of cinnamon daily, which is available in capsule form. Before taking any dietary supplement, check with your medical provider to make sure it's appropriate for you.



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and older. Key findings from the study by Albert Amran, a medical student at McGovern Medical School at The University of Texas Health Science Center at Houston, and a team of researchers include the following:

- Having at least one flu shot was associated with a 17 percent risk for Alzheimer's disease.
- People who consistently got annual flu shots had 30 percent lower risk for AD.
- The protective effects of flu shots were strongest in those who received their first flu shot at a younger age. For example, those who got their first documented flu shot at age 60 benefitted more than those who waited until after age 60 to get their first flu shot.

"Our study suggests that regular use of a very accessible and relatively cheap intervention — the flu shot — may significantly reduce risk of Alzheimer's dementia," Amran stated in [a news release from the Alzheimer's Association](#). Dr. Ukrainitseva's study also reported that people who received a higher number of flu and pneumonia vaccinations between ages 65 and 75 had a 12 percent lower risk for AD, as compared to people who received fewer or no shots. The CDC [recommends the annual influenza vaccination for everyone age 6 months or older](#), but cautions that certain people should check with their healthcare provider before being immunized.

Do seasonal flu shots help prevent heart attacks and strokes?

People who get a flu shot are significantly less likely to suffer heart attacks, transient ischemic attacks (TIAs, also known as "mini-strokes") and other cardiovascular events in the following year, according to [a large study presented at the American Heart Association's virtual scientific sessions in July](#). The research was conducted by scientists from Texas Tech University Health Sciences Center Paul L. Foster School of Medicine in El Paso, Texas.

The team reported that in high-risk groups — such as people over age 50, those who are obese and those who live in nursing homes — seasonal flu vaccination was associated with a 28 percent reduction in heart attacks, 47 percent reduction in TIA and a 73 percent reduced risk for death in the following year. Using a database of more than 7 million patients who had been hospitalized, the researchers analyzed the rate at which the flu vaccine was given to patients designated by the CDC as being at high risk. The study also looked at cardiovascular outcomes in those who were vaccinated during their hospital stay versus those who didn't get the shot.

The study adds to a large body of scientific evidence demonstrating that the flu shot may also be a vaccine against life-threatening CV events. Adults who are immunized have a 46 percent lower risk for fatal or nonfatal heart attacks, strokes and other major cardiovascular (CV) events over the subsequent 12 months, compared to those who received a placebo shot or no shot, according to a recent Harvard analysis that pooled results from randomized clinical trials involving nearly 7,000 men and women.

Another recent study found that people who are vaccinated early in the flu season (such as September or October) have a greater reduction in heart attack risk than those who wait until mid-November to be immunized. Many studies have shown that acute influenza infection is a strong, independent risk factor for heart attacks and strokes. Researchers report that up to 91,000 Americans die each year from CV events triggered by



the flu. These grim statistics have prompted the American Heart Association and the American College of Cardiology to issue guidelines recommending flu shots for people with cardiovascular disease (CVD).

Why would flu and pneumonia shots have any effect on risk for Alzheimer's disease?

Because these were observational studies, they were not intended to prove a cause-and-effect relationship between pneumonia and flu vaccinations and Alzheimer's disease. "More research is needed to explore the biological mechanism for this effect — why and how it works in the body — which is important as we explore effective preventive therapies for Alzheimer's," remarked Amran.

"The fact that very different pathogens — viral, bacterial, fungal — have been linked to Alzheimer's disease suggests a possibility that a compromised host immunity may play a role in Alzheimer's through increased overall brain vulnerability to microbes," Dr. Ukrainitseva said. "Some vaccines show beneficial off-target effects on health that span beyond the protection against specific disease," she told MedPage Today. "This could be because they may improve immunity on a broad scale."

Another possibility is that by protecting against flu and pneumonia, these vaccines help people avoid the systemic inflammation that these diseases cause. As [we recently reported](#), targeting brain inflammation is one of the newest strategies to prevent AD and other forms of dementia. Recently, 24 of the world's leading experts on dementia prevention published a landmark paper in *Lancet* [outlining lifestyle steps that could reduce risk for memory loss by up to 35 percent](#). These steps were designed to reduce brain inflammation and other factors that can set the stage for dementia.

Although vaccinations were not discussed in that paper, these new findings suggest yet another powerful reason to get your annual flu shot in September. Doing so could save your life, heart and brain! And if you are 65 or younger with risk factors for pneumonia, getting that vaccine could also be one of the easiest — and fastest — ways to protect your memory, your lungs and your arteries!