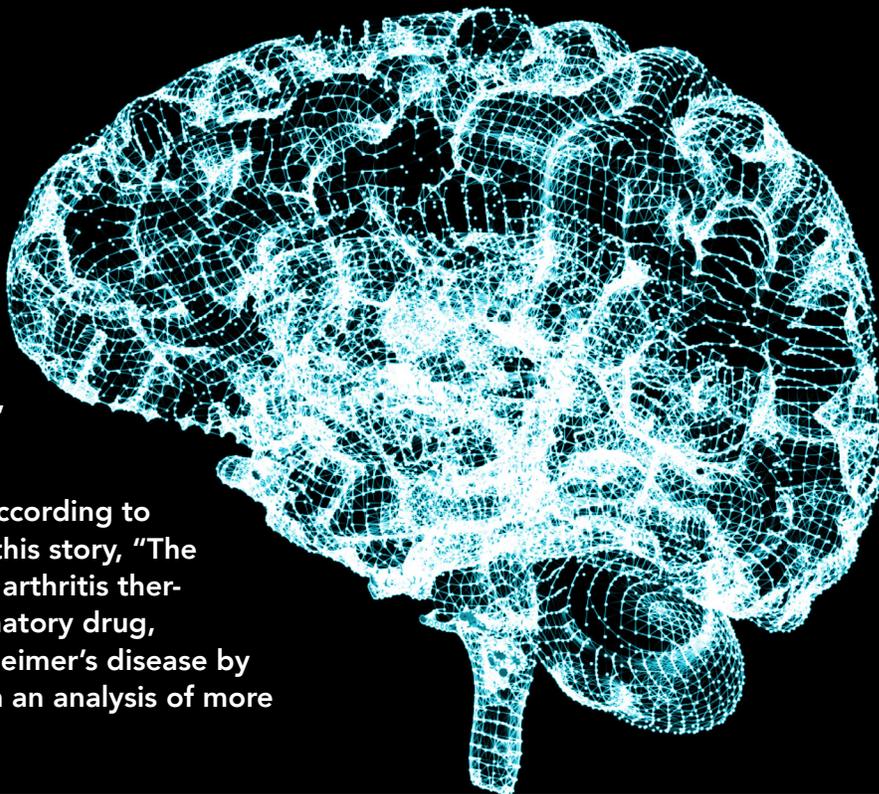


Can Anti-inflammatory Therapies Prevent Alzheimer's Disease?

You've probably seen headlines reporting that in 2015, researchers at Pfizer made a startling discovery that the company kept secret from the world. According to the *Washington Post*, which broke this story, "The company's blockbuster rheumatoid arthritis therapy Enbrel, a powerful anti-inflammatory drug, appeared to reduce the risk of Alzheimer's disease by 64 percent." The finding came from an analysis of more than 250,000 insurance claims.



However, Pfizer decided to not to publish the data or pursue a clinical trial even though a 2018 company document obtained by the *Post* said, "Enbrel could potentially safely prevent, treat and slow progression of Alzheimer's." The report comes amid mounting scientific evidence that systemic inflammation may be a key driver of the memory-robbing disorder that strikes at least 500,000 new patients each year. Here's a look at the latest science on Alzheimer's prevention and what you can do to avoid chronic inflammation, which has also been implicated in risk for heart attacks, strokes and many other dangerous diseases:

What did the drug company discover and why did they hide it from the world?

The team of Pfizer researchers analyzed insurance claims (without the patients' names) filed by people with rheumatoid arthritis (RA) and other inflammatory conditions, then split them

into two groups of 127,000 each, one for people with Alzheimer's disease (AD) and one for those without an AD diagnosis. They then checked which patients in each group had taken Enbrel, a drug that combats inflammation by targeting a protein called TNF- α . The drug costs about \$5,500.

In the group without an AD diagnosis, 302 people had taken the drug, versus 110 in the AD group, suggesting that Enbrel users were 64% less likely to develop AD. While the numbers were small, when the researchers analyzed hundreds of thousands of insurance claims from a different database, they found a similar reduction in AD rates in those who took the anti-inflammatory drug. A [2016 study by Harvard and Dartmouth researchers](#) analyzed 8.5 million insurance claims and found a 33% lower rate of AD in patients with RA who took the drug.

None of these analyses prove that Enbrel prevents Alzheimer's or reduces risk for developing it, just that there is a link

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THE SKINNY

on Diet Soda and Your Health

For more than a decade we've been warned about the health risks of sugar-sweetened drinks, which have been linked to increased risk for heart attacks, strokes, diabetes and obesity. A new Harvard study reported that the more of these beverages people drink, the higher their risk for premature death, particularly from cardiovascular disease (CVD) and, to a lesser extent, cancer.

The same study found that replacing sugary drinks with artificially sweetened beverages (ASBs), such as diet soda, moderately reduced risk for early death, except when ASBs were consumed in large amounts. However, an earlier study tied drinking even one diet soda a day to higher risk for heart attacks, strokes and other CV events. Who is right — and how dangerous are three billion gallons of diet soda Americans drink every year?

How credible are these studies, and how were they conducted?

The [Harvard study](#), published in April in *Circulation*, included 37,716 men participating in the Health Professional's Follow-up study and 80,647 women from the Nurses' Health study. All participants were healthy at the start of study and filled out health and lifestyle questionnaires every two years. The following results were adjusted for a number of possible confounding factors:

- Compared to people who drank sugar-sweetened beverages less than once a month, those who consumed two or more servings daily had a 31% higher risk of early death from CVD.
- Each additional serving of sugary drinks daily raised risk for CVD-related death by 10%. There was also a modest link between consuming these drinks and early death from cancer.
- ASBs only raised risk for early CVD-related death if participants drank four or more servings a day and had no effect on cancer deaths.

[An earlier study](#), published in *Journal of General Internal Medicine* in 2012, analyzed the effects of regular and diet soft drinks on 2,464 people in the Northern Manhattan Study. After controlling for numerous risk factors, the researchers found that drinking one or more diet drinks daily (versus none) raised

risk for heart attack, stroke and death from CV causes by 43%. In March 2019, [two of the researchers](#) also reported that drinking ASBs has been shown to cause sugar cravings, overeating and weight gain and may have adverse effects on the health of the gut microbiome.

Both studies were observational and not designed to establish a cause-and-effect relationship between soft drinks and health risks, just an association.

What do other studies say about diet drinks and health?

[Another new study](#), conducted by the American Heart Association and American Stroke Association, analyzed data from 81,714 postmenopausal women participating in the ongoing Women's Health Initiative Observational Study. Participants filled out questionnaires and also had periodic clinic visits and blood tests to monitor their health. Compared to women who drank diet beverages less than once a week or not at all, those who quaffed two or more diet beverages daily were:

- 31% more likely to have an ischemic (clot-caused) stroke
- 29% more likely to develop CVD
- 16% more likely to die from any cause during the 12-year study
- Heavy consumers of ASBs were at up to 240% higher risk for stroke

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June Recipe

Summer Vegetable Soup

Ready in just 30 minutes and packed with heart-healthy antioxidants, vitamins and fiber, this garden-fresh soup is perfect for a light-yet-filling summer lunch or dinner. The turmeric adds a tangy twist and also anti-inflammatory properties that support arterial wellness. For a flavor variation, replace basil with oregano, parsley or other fresh herbs of your choice.



INGREDIENTS

- 2 celery stalks with leaves
- 2 tablespoons extra virgin olive oil
- 2 small yellow onions, chopped
- 2 garlic cloves, minced
- 2 tablespoons tomato paste
- 8 cups of low-sodium chicken or vegetable broth
- ¼ teaspoon turmeric
- ¼ teaspoon freshly ground black pepper
- 2 zucchinis, sliced in ¼ inch circles
- 1 cup chopped, peeled tomato
- 1 15½-ounce can navy beans, rinsed and drained
- 1 cup green beans, cut into 2-inch pieces
- Basil leaves, slivered (for garnish)

PREPARATION

Remove celery leaves, chop and reserve. Slice stalks into ½ inch pieces. In a large soup pot, sauté celery slices and onions in oil over medium heat until tender, stirring frequently, until onions are translucent and celery is softened (about 10 minutes). Reduce heat to medium-low, add garlic and tomato paste and cook for an additional two minutes, stirring frequently. Add all remaining ingredients except basil and bring to a gentle boil. Reduce heat to medium-low, cover and simmer for 20 minutes or until vegetables are tender. Remove from heat and stir in chopped celery leaves. Let the soup stand for five minutes, covered. Garnish with slivered basil leaves and enjoy!

Adapted from Tasteofhome.com and Onceuponachef.com.

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Previous research has shown a link between diet drinks and risk for stroke, dementia, [diabetes](#), and [metabolic syndrome](#), a cluster of abnormalities that triples risk for heart disease and quadruples it for diabetes. Artificially sweetened drinks have also been linked to an increased threat of osteoporosis, the brittle bone disease that can lead to fractures in older adults. Some studies also suggest that diet soda drinkers may be more likely to develop high blood pressure, the leading risk factor for stroke and a major contributor to CVD.

What's the BaleDoneen takeaway?

Despite finding a link between drinking ASBs and increased risk for early death from cancer, the Harvard researchers suggest that it's a good idea for people to "consume [artificially sweetened beverages] in moderation to improve overall health and longevity." We couldn't disagree more! Many well-done studies, including the Northern Manhattan Study discussed above, have shown that these nutritionally worthless beverages

can actually be lethal, by putting people at significantly higher risk for heart attacks, strokes and early death from CVD or cancer.

Nor are diet drinks effective for weight loss, since multiple studies have linked drinking them to higher risk for obesity and associated conditions, such as insulin resistance, the root cause of 70% of heart attacks and almost all cases of type 2 diabetes. Instead, we stand strong that the best liquid is water, which is good for both your heart and your teeth.

Indeed, a [six-year study](#) of more than 20,000 people found that those who drank five or more glasses of H₂O daily had half the risk of developing fatal heart disease than those who swigged two or fewer glasses a day, even when other risk factors were taken into account. To stay well hydrated, we advise drinking one-half of your body weight in ounces of water daily (75 ounces daily for a 150-pound person, for example.) Try [our fruit and herb infused water recipes](#) for a refreshing, calorie-free thirst quencher that's good for your heart and your waistline!

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between its use and rates of AD in a small group of people with RA who take the drug. Conducting a large randomized clinical trial (the gold standard of scientific research) with thousands of people is the only way to rigorously investigate if the signal from the analysis is real, but the trial would cost \$80 million. The company told the *Post* that it deemed the likelihood of a successful trial low because its drug does not penetrate the blood-brain barrier.

A former executive at the company told the *Post* that even if the drug did turn out to reduce risk for AD in a costly clinical trial, the company “won’t be making any money off it.” Enbrel, which was FDA-approved in 1998 for treatment of RA and psoriasis, has reached the end of its patent life and faces competition from generic versions produced by other companies.

What’s the link between inflammation and Alzheimer’s?

The Harvard and Dartmouth study discussed above found that people with RA (an inflammatory disorder) had a higher rate of AD than those without RA. Many studies have linked inflammatory disorders with higher risk for AD. For example, [as we recently reported](#), a 2016 study found that people with severe periodontal (gum) disease were 70% more likely to develop AD than those with healthy gums, and another 2016 study reported that in people who already had the memory-robbing disorder, cognitive decline progressed six times faster in those with gum disease.

In a 20-year [study of more than 12,000 people](#) published in *Neurology* in March, Johns Hopkins scientists found that people with the highest blood levels of inflammatory markers in midlife had the steeper rate of cognitive decline in old age. The findings “implicated inflammation in memory disorders, namely Alzheimer’s disease,” the study’s lead author, Keenan A. Walker, told *AARP Magazine*. Participants took standard tests of memory and brain function at the start of the study, six to nine years later, and again at the end of the study. Those with the highest levels of the inflammatory marker C-reactive protein (CRP) had a 12% greater decline in those



skills than people with the lowest levels of CRP.

A [2018 paper published in the journal *Alzheimer’s Dementia*](#) that analyzed evidence from dozens of studies concluded that inflammation may be “a central mechanism in Alzheimer’s.” The authors suggest that cardiovascular disease (CVD) and metabolic disorders, such as insulin resistance (IR) and diabetes, among other conditions, can trigger immune system responses that elevate levels of inflammatory markers in the blood, which then travel throughout the body, including the brain, via the more than 60,000 miles of blood vessels in our body.

What are the best ways to combat inflammation and keep my brain and memory sharp?

Systemic inflammation has been implicated in such a long list of chronic disorders that some researchers call it “the mother of all diseases.” Recently media headlines proclaimed “[a new era in heart attack and stroke prevention](#)” after a different anti-inflammatory drug was shown to reduce risk for these events and cancer in the CANTOS clinical trial. The placebo-controlled trial studied the effects of canakinumab in 10,061 heart attack survivors, all of whom had high levels of inflammation. The drug, which costs about \$200,000, is not currently approved for treatment of heart disease.

However, there’s nothing new about targeting chronic inflammation to protect heart and brain health. In fact, the BaleDoneen Method has been doing exactly that for more than a decade as a key component of our heart attack and stroke prevention plan! [Two recent peer-reviewed studies](#) have shown that our comprehensive, personalized ap-

proach effectively detects, halts and even reverses CVD. Other research, including studies by the American Heart Association, shows that the same healthy lifestyle habits that protect heart health also protect the brain.

Here are some science-based tactics to reduce arterial inflammation, which we call “fire.”

• **Optimize your oral health.**

A [landmark BaleDoneen study](#) was the first to identify oral bacteria from gum disease as a contributing cause of CVD, the leading killer of men and women, often from strokes or heart attacks. Strokes can also cause vascular dementia, a common form of memory loss with similar symptoms to AD. Gum disease, which affects about half of Americans over age 30, has also been linked to higher risk for diabetes, which in turn is a risk factor for developing AD.

• **Get checked for insulin resistance.**

IR, a chronic inflammatory condition, is [the root cause of 70% of heart attacks](#) and almost all cases of type 2 diabetes. Collectively, IR and diabetes affect 115 million Americans, many of whom are undiagnosed, escalating their risk for serious or even fatal complications. High blood sugar causes inflammation, which may explain why people with IR or diabetes are at greatly increased risk for AD. We recommend the two-hour oral glucose tolerance test as the most accurate way to find out if you are diabetic or prediabetic.

• **Upgrade your lifestyle.**

Earlier this year, [a study by 24 leading experts](#) identified nine potentially reversible lifestyle risks and suggested that by eliminating them, 35% of dementia cases may be preventable. The recommendations included moving more, maintaining a healthy weight, keeping your blood sugar and blood pressure in check, avoiding all nicotine use and exposure to secondhand smoke, engaging in mentally stimulating activities, remaining socially engaged, and getting treatment if you have hearing loss or depression. The BaleDoneen Method also recommends following [a diet based on your DNA](#), which helps reduce stroke and heart attack risk and may also be beneficially to people at increased genetic risk for AD.