

# Carpe Diem – Seize the Day Blog

*Editor's Note: Content presented in the Carpe Diem – Seize the Day Blog is for awareness and informational purposes only, and it is not meant to be a diagnostic tool.*

We know that seizures and anti-epileptic drugs impair memory and cognitive functions. How does a person with epilepsy repair their memory and help eliminate cognitive difficulties? Dr. Naveed Saleh, wrote an article, Best Foods to Boost Memory and Brain Power, explaining this process.

Dr. Saleh explains that cognitive health refers to one's ability to think clearly, learn, and remember. Although it is not the only facet of brain performance, cognitive health is integral to daily living.

In the article, Dr. Saleh goes on to explain that what you eat can affect your cognitive prowess. As pointed out in the article, there are many lifestyle interventions that can help prevent cognitive decline. And what you eat is one of them. Studies show that small changes to your diet can improve cognitive health and performance.

According to the National Institute on Aging (NIA), “A healthy diet can help reduce the risk of many chronic diseases such as heart disease or diabetes. It may also help keep your brain healthy.” The NIA defines a healthy diet as one that consists of fruits and vegetables, lean meats, fish, and poultry, low-fat or nonfat dairy products, and whole grains. “You should also limit solid fats, sugar, and salt. Be sure to control portion sizes and drink enough water and other fluids,” the NIA added.

Dr. Saleh identifies five foods that can boost memory and cognitive function, according to research. **EDITOR'S NOTE:** While backed by research, these foods do not replace any doctor's orders that you may have about your diet, and they are not meant to replace any anti-epileptic drugs that you are currently taking.

## Coffee

Drinking coffee is linked to many benefits in elderly populations, including lower risk of heart disease and type 2 diabetes, decreased death secondary to heart disease and inflammatory disorders, and lower all-cause mortality. Importantly, coffee is linked to better performance on cognitive tests in older adults and decreased risk of dementia.

The cognitive benefits of coffee are often associated with caffeine. However, even decaffeinated coffee can do the trick, according to the results of a randomized controlled study published in *Nutrients*. In the crossover study, researchers compared the cognitive effects (e.g., episodic memory, working memory, attention, reaction time, alertness) of coffee, decaffeinated coffee, and placebo in older adults between the ages of 61 and 80 years (n=30) and young adults between 20 and 34 years of age (n=29).

As expected, regular coffee resulted in decreased reaction time and increased alertness when compared with placebo. Decaffeinated coffee also boosted alertness compared with placebo, but without the jittery effect experienced by some participants, i.e., young women and older men.

“The findings presented here suggest behavioral activity of coffee beyond its caffeine content. In fact, only one cognitive measure and two subjective measures showed significant differences between regular and decaffeinated coffee in favor of regular coffee,” the authors wrote.

The results underscore two key issues with studies that compare regular coffee with decaffeinated. First, these studies attribute any differential effects just to caffeine without consideration of their potential interactions with the other components in coffee. “Secondly, any synergistic effects of caffeine and other coffee components within regular coffee are likely to be underestimated due to the potential for behavioral effects of decaffeinated coffee used as the control,” the authors noted.

They recommend that future research should focus on how the phenolic compounds in coffee affect cognition, with testing of plasma levels. Other potential contributing factors include glucoregulation and modulation of cerebral hemodynamics.

And, of course, in addition to coffee’s effects on cognition, researchers are also studying its relationship to longevity, heart health, cancer, and pregnancy. While a large body of evidence suggests that 3-5 cups of coffee a day is associated with a reduced risk of several chronic diseases, high caffeine intake can still have negative impacts on certain individuals due to variations in personal metabolism and sensitivity to caffeine, so an individualized approach to drinking coffee is recommended.

### **Fatty fish**

Fatty fish, such as salmon, albacore tuna, and mackerel, are high in omega-3 fatty acids—and the omega-3 obtained from foods such as oily fish or supplements could be associated with enhanced memory function, according to some (but not all) studies. Similarly, some studies show an association between omega-3 intake and decreased levels of the inflammation biomarkers IL-6 and TNF- $\alpha$ .

“Most consistency in beneficial cognition outcomes has been in populations with mild cognitive impairment (MCI),” according to the authors of a review in Current Nutrition Reports. “Many clinical trials have investigated omega-3 supplements and cognition outcomes in healthy populations across the lifespan; however, omega-3 dietary interventions are limited to studies in children and adolescents. Future studies should compare the effects of dietary omega-3 with omega-3 supplementation before further conclusions can be drawn.”

Although all fish contain some omega-3 fatty acids, fish that live in cold waters have a higher fat content and are richer in fatty acids. Read more about the eight healthiest fish to eat, according to a registered dietitian who spoke exclusively with MDLinx.

## **Fruits and vegetables**

Various fruits and vegetables are rich in polyphenols, which are phytochemicals that are categorized as flavonoids or nonflavonoids. An ever-expanding corpus of research—including preclinical studies and clinical trials—supports the positive association between polyphenol intake and cognitive benefit.

According to the authors of a review published in *Brain Plasticity*, this association “is supported by evidence for mechanisms of action relating to changes in peripheral and cerebral vascular responses following polyphenol consumption. For example, this may lead to a biophysiological cascade (both acutely and chronically) whereby increased cerebral blood flow (CBF) may lead to increased neuronal activity, which has been observed with fMRI and other neuroimaging techniques in humans.”

There are many fruits (i.e., cherries, berries, apples, grapes, oranges), vegetables, certain fungi, and fermented products that are high in polyphenols and are purported to have anti-aging properties. And polyphenols are also found in tea and cocoa.

## **Eggs**

Smart people are sometimes referred to as eggheads. This makes some sense, since eggs may boost cognitive function, according to the results of a study published in *Current Developments in Nutrition*.

In this randomized trial, 19 children (mean age 12.2 years) completed five test conditions, which were spaced at a minimum of 7 days apart. After eating a standardized breakfast 3 hours before meeting in the lab, the kids consumed either whole eggs, egg yolks, egg whites, full-fat yogurt, or no food item. The kids were then administered a series of cognitive-performance tests assessing attention, executive functioning, learning and memory, and spatial working memory.

“Egg yolks resulted in higher short-term learning and memory scores compared with egg whites, and attention was higher after egg yolks compared with egg whites, whole eggs and yogurt,” concluded the authors. (Of note, this study was supported by the Egg Nutrition Center, which is funded by American egg farmers.)

Indeed, the thinking on the health ramifications of eating eggs has changed in recent years. According to the Academy of Nutrition and Dietetics, a daily egg can be of a healthy eating pattern, as long as you skip the fatty bacon.

## **Almonds**

Almonds are rich in monounsaturated fats,  $\alpha$ -tocopherol, and fibers, which exert anti-inflammatory and antioxidant effects. And that could explain their ability to delay age-related cognitive decline, according to the authors of an experimental study published in *Nutritional Neuroscience*.

“Oxidative stress and inflammation have been recognized as mechanisms related to cognitive impairment in aging. The brain may be particularly susceptible to free radical attacks due to its relatively low antioxidant capacity, high polyunsaturated fatty acids (PUFA) concentrations, and

high metabolic activity,” the authors wrote. “Given that increased oxidative stress and inflammation may lead to age-related cognitive deficits, interventions with nutrients that exhibit antioxidant and anti-inflammatory properties could postpone the development of cognitive impairment.”

During the 6-month randomized control trial, the researchers examined the effects of almond consumption in healthy adults aged between 50 and 75 years of age. They found that by month 6 of the study, in those eating 3 ounces of almonds per day, serum alpha-tocopherol levels increased by 8% from the beginning of the study. At month 6, these participants also experienced significant improvement in spatial planning, visual memory and learning, and visuospatial working memory.

And, of course, almonds are among other tree nuts that boast other health benefits. Studies show that almonds lower bad cholesterol and boost good cholesterol. So, not only are almonds good for your brain, but they are also good for your heart.

***Editor’s Note: The Carpe Diem – Seize the Day Blog will be distributed and posted weekly.***  
Always remember – **CARPE DIEM – SEIZE THE DAY!**

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