



Grab a
boost of
blue

Blueberries & Brain Health

FOOD AS FUEL FOR THE BRAIN

A resource for health pros and their patients

OVERVIEW

When it comes to focus and memory, there is no denying the importance of brain health. While several factors influence cognitive function, the foods we eat on a daily basis are a crucial part of keeping our mind sharp. Indeed, a growing body of scientific evidence is examining how **blueberries can be part of eating patterns to support brain health** as part of an overall healthy lifestyle.^{1 2 3 4}

There are many nutrients that can help support brain health – one that is found in fruits and vegetables is anthocyanins. Compared to other commonly consumed fruits, berries are uniquely high in anthocyanins, plant compounds that are responsible for their vibrant blue, red and purple color.⁵ In fact, research shows that the **anthocyanins present in blueberries (163.3 mg/100g) may help to improve mild cognitive performance in older adults.**⁶

REFERENCES

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5. The U.S. Department of Agriculture Agricultural Research Service. 2021. [USDA Special Interest Databases on Flavonoids](#).
6. Krikorian R, Kalt W, McDonald JE, Shidler MD, Summer SS, Stein AL. [Cognitive performance in relation to urinary anthocyanins and their flavonoid-based products following blueberry supplementation in older adults at risk for dementia](#). *J Funct Foods*. 2020 Jan; 64: 103667.

DIETARY PATTERNS AND COGNITIVE HEALTH

The Mediterranean-DASH Intervention for Neurodegenerative Delay diet, or more commonly, the MIND diet, combines portions of the DASH (Dietary Approaches to Stop Hypertension) diet and the Mediterranean diet. The MIND diet encourages eating foods like green leafy vegetables, nuts, berries, beans, olive oil, whole grains, fish and poultry and has been shown to support brain health by lowering the cognitive decline associated with an elderly population. The MIND diet suggests limiting butter and margarine, cheese, wine, red meat, and pastries and sweets, as these foods can be detrimental to brain health. Further research is needed to examine the role nutrition plays on brain health.

More specifically, an observational study conducted by researchers at Rush University Medical Center and the Harvard School of Public Health evaluated data from food frequency questionnaires completed by participants from the Rush Memory and Aging Project (MAP). Results from 960 participants – mainly females with an average age of 81.4 years – who possessed at least two cognitive assessment measures showed that adherence to the MIND diet, consisting of 10 food groups that support brain health (e.g., green leafy vegetables, berries, whole grains), substantially lowers cognitive decline associated with age. While results don't demonstrate a cause-and-effect relationship, they add to the growing body of research on the MIND diet and cognitive health.⁷

A BOOST OF BLUEBERRIES: FOOD FOR THOUGHT

According to the Dietary Guidelines for Americans, eating fruits and vegetables, including blueberries, are associated with a reduced risk of many chronic diseases.



[Read for more information](#)

ONE SERVING, OR A CUP OF BLUEBERRIES:

- 1 Is considered one serving of fruit.
- 2 Contains just 80 calories and is a good source of fiber.
- 3 Contributes essential nutrients including vitamin C, vitamin K, manganese and phytonutrients called polyphenols.
- 4 Contains anthocyanins, which are compounds that give blueberries their blue color.
- 5 Is a good source of fiber, containing ~ 4g.



Blueberry Prosciutto
Goat Cheese Flatbread



Summer Fruit Salad with
Jalapeno Mint & Lime



7. Morris MC, Tangney CC, Wang Y, Sacks FM, Barnes LL, Bennett DA, Aggarwal NT. [MIND diet slows cognitive decline with aging](#). *Alzheimers Dement*. 2015 Sep; 11(9):1015-22.

What the Science Says

Dr. Robert Krikorian and his team of researchers at the University of Cincinnati looked at the impact of blueberry supplementation to produce measurable cognitive benefits in the context of aging and insulin resistance. Participants (n = 27) were overweight (BMI > 25) men and women 50 to 65 years old with subjective cognitive decline and moderate insulin resistance. Over the course of 12 weeks, participants were randomly assigned to consume either freeze-dried blueberry powder or placebo powder daily. Participants were asked to consume the powder with either their morning or evening meal, mixing it with water. Pre- and post-intervention assessments of cognition and metabolism and exploratory measures of peripheral mitochondrial function were conducted. The blueberry group experienced improved performances on measures of lexical access (p = 0.003), such as letter fluency as measured by the Controlled Word Association task, improved performances on measures of memory interference (p = 0.04), such as fewer recall intrusion errors as measured by the California Verbal Learning Test and reduced memory eroding difficulty in daily life activities (p = 0.03), such as reduction of forgetfulness, as measured by the Everyday Memory Questionnaire. The blueberry group also experienced correction of peripheral hyperinsulinemia (p = 0.04), which is associated with neurodegeneration in the brain, as well as a significant decline in fasting insulin levels.⁸

8. Robert Krikorian, Matthew R. Skelton, Suzanne S. Summer, Marcelle D. Shidler, Patrick G. Sullivan. [Blueberry Supplementation in Midlife for Dementia Risk Reduction](#). *Nutrients*. 2022 Apr 13; 14(8):1619

NO-BRAINER RECIPES TO GET A BOOST OF BLUE



Bento Box



Salmon and Blueberry Salad with Red Onion Vinaigrette



Fruit S'mores



Blueberry Protein Bowl

A LOOK AHEAD AT NEW BRAIN HEALTH RESEARCH



“We have observed that blueberry intake can enhance cognitive performance in the contexts of aging, cognitive deficit, and in cognitively challenging situations. More recent human trials also have indicated that blueberry anthocyanins are strongly associated with cognitive benefits. In addition, there is emerging evidence that blueberry anthocyanins induce metabolic effects that are important for cognitive improvement. We are looking forward to further research in this exciting area, including the potential role of blueberries as an early intervention for preventing cognitive decline associated with aging.”

– Robert Krikorian, PhD, Department of Psychiatry & Behavioral Neuroscience, University of Cincinnati Academic Health Center

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 **blueberries**
U.S. Highbush Blueberry Council