



The 4 Most Important Foods to Improve Brain Health and Reduce your Risk of Dementia and Alzheimer's Disease

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In my last article[1] we looked at the healthiest foods according to the World Cancer Research Fund (WCRF) and Global Burden of Disease (GBD), but these organizations did not optimize their recommendations based on brain health. My family pays close attention to this topic as my grandmother suffered from Alzheimer's disease. Many of my friends and family have also had head injuries. Some studies find that those with a history of head injuries have up to a 4.5 times greater risk of developing dementia or Alzheimer's disease.[2] Even a single head injury can lead to dementia later in life.[3] I know adults, and parents of children, involved in contact sports such as football, soccer, rugby, and martial arts who want to know how to prevent dementia from sports-induced head injuries.[4]

Alzheimer's is an especially scary disease as it robs us of our memories and our ability to care for ourselves. It is a degenerative brain disorder characterized by a decline in thinking skills and memory. About 55 million people worldwide have been diagnosed with dementia and there are nearly 10 million new cases each year.[5] Alzheimer's disease is the most common form of dementia, accounting for 60-70% of dementia cases. Alzheimer's is the sixth leading cause of death in the United States. There are currently no cures or therapies that affect Alzheimer's disease progression or symptoms. Fortunately, there is good evidence we can prevent cognitive decline with a healthy lifestyle that includes eating the right foods.[6]

But this article isn't just for those worried about preventing disease. Anyone in school or who regularly engages in tasks where long periods of concentration are important can benefit from eating brain healthy foods.[7]

Global Council on Brain Health

The Global Council on Brain Health ("Council") is an independent collaborative of scientists, clinicians, scholars, and policy experts brought together by AARP to provide evidence-based advice on what people and professionals can do to maintain and improve brain health. Beginning in 2016 they began publishing separate reports on different areas of brain of health. In 2018 they published their recommendations on nutrition and brain health.[8]

HEALTH TIPS



Seek out green leafy vegetables & berries



Eat nutritious foods in sensible portion sizes



Rinse canned foods to remove excess salt & sugar



Add lemon, spices & herbs instead of salt



Cooking at home results in better diet quality



**+ DRINK MORE WATER
NOT SODA**



**EAT
TORTILLA
CHIPS
+ SALSA**



NOT CHEESE DIP



**COOK WITH
OLIVE
OIL**



NOT BUTTER



**EAT
SALAD**



NOT FRENCH FRIES



**EAT MORE
FISH
NOT RED MEAT**



One of their main points is what is good for the heart is good for the brain. The same conditions that increase the risk of heart disease and stroke – high blood pressure, high LDL cholesterol, and diabetes – also harm your brain. All these conditions are strongly influenced by the foods you eat, so a heart healthy diet is also a brain healthy diet. Having had a stroke is also one of the strongest known risk factors for dementia. The best way to prevent dementia in someone who has had a stroke is to prevent a second stroke.

Foods for Brain Health

Here are their main points related to healthy foods (I will cover the foods to avoid later).

- A plant-based diet rich in a variety of fruits and vegetables, particularly green-leafy vegetables and berries, is associated with better brain health. Eat a wide variety of different colored vegetables. Try to add new vegetables to your diet and experiment with new ways of cooking and preparing vegetables.

- The Mediterranean diet, DASH diet, MIND diet, and the Nordic diet are examples of healthy diets.
- No single food acts as a silver bullet for improving or maintaining brain health. The combination of different types of food and nutrients is important.
- Eat the following foods “regularly”: berries (not juice), fresh vegetables especially leafy greens, nuts and other healthy fats (such as those found in oils, including extra virgin olive oil), fish, and seafood.
- Eat fish, that is not fried, at least once a week. Fish and other types of seafood seem to benefit cognitive function, potentially due to the omega-3 fats.
- Snack on raw, plain, unsalted nuts as they may be beneficial for brain health, but eat them in moderation as they are high in calories.
- Also include foods from their “B-list” in your diet: legumes, other fruits, whole grains, poultry, and low fat dairy such as yogurt.
- Cut back on alcohol.

The guidelines mention three diets, so let's take a quick look at them.

DASH

DASH stands for dietary approaches to stop hypertension. The DASH diet was designed to have the blood pressure-lowering effects of a vegetarian diet but with enough animal foods to be acceptable to nonvegetarians.[9] It was introduced at a 1996 American Heart Association meeting and the first study was published in the New England Journal of Medicine in 1997.[10] Despite no changes in weight, this first DASH study showed it can reduce blood pressure more than typical diets. The results of this study formed much of the scientific basis for the Dietary Guidelines for Americans 2010 and later editions.[11] The DASH diet is promoted by the National Institutes of Health as a heart-healthy eating style that can lower high blood pressure and LDL cholesterol. Similar to the WCRF and GBD recommendations it also specifies a high consumption of plant foods: 170-227 grams of whole grains, 320-400 grams of vegetables, and 320-400 grams of fruit.[12]

MIND

MIND stands for Mediterranean-DASH Intervention for Neurodegenerative Delay. It is a combination of the Mediterranean diet and DASH diet tailored to emphasize the most brain healthy foods. The MIND Diet was developed in 2015 by Martha Clare Morris and colleagues at Rush University Medical Center in Chicago and the Harvard School of Public Health.[13] The National Institute on Aging recommends the Mediterranean and MIND diets to prevent or delay dementia caused by Alzheimer's disease.[14] Observational studies have shown that the MIND diet reduces the risk of cognitive decline and Alzheimer's Disease more than the DASH and Mediterranean diets.[15] In one study, after an average of 4.5 years, people who adhered most closely to the MIND diet had a 53% reduced rate of Alzheimer's disease compared to those who did not follow the diet closely.[16]

Martha Clare Morris described it this way:[17]

The MIND diet includes at least three servings of whole grains, a salad and one other vegetable every day — along with a glass of wine. It also involves snacking most days on nuts and eating beans every other day or so, poultry and berries at least twice a week and fish at

least once a week. Dieters must limit eating the designated unhealthy foods, especially butter (less than 1 tablespoon a day), cheese, and fried or fast food (less than a serving a week for any of the three), to have a real shot at avoiding the devastating effects of Alzheimer's, according to the study.

The first long-term randomized controlled trial testing the MIND diet concluded in April, but the results have not been published yet.[18] The version of the MIND diet used in this most recent trial is as follows:[19]

Daily

- Leafy green vegetables (1 cup raw or ½ cup cooked)
- Other vegetables (1/2 cup)
- Whole grains (1.5 cups cooked)
- Extra virgin olive oil (2 tbsp)

Weekly

- Berries (2.5 cups)
- Fish (not fried) (3-5 ounces)
- Poultry (white meat and skinless) (6-10 ounces)
- Beans (1.5 cups)
- Nuts (5 ounces)

Due to the updated research on the detrimental effects of alcohol, wine is no longer a part of the MIND diet. Researchers have recently found flaws in the studies showing that moderate alcohol consumption may have protective heart and brain benefits. These studies did not distinguish between those who never drank and those who quit drinking due to a health condition. The Council found that alcohol consumed even in moderate quantities has been associated with adverse brain health outcomes. The U.S. Department of Health and Human Services warns that consuming alcohol can impair communication among brain cells and affect your balance, coordination, memory, and emotions.[20] It is also dangerous when mixed with certain medicines. According to GBD any potential decrease in the risk of cardiovascular disease or dementia from alcohol would be offset by the increase in the risk of cancer. Alcohol increases the risk of at least 8 types of cancer and causes about 750,000 cancer cases a year.

Nordic Diet

The Nordic Diet follows the Nordic Nutrition Recommendations.[21] It is similar to the Mediterranean diet, rich in vegetables, fruit, fish, and whole grains but is based on local Scandinavian foods.[22] It differs from the Mediterranean diet in that it has different types of vegetables and whole grains. It uses rapeseed oil (known in the U.S. as canola oil) instead of olive oil, includes a variety of berries, and the major whole grains are rye, oat, and barley.

4 Healthiest Brain Foods

The Council's foods to eat "regularly" highlight the four healthiest brain foods: berries, leafy green vegetables, nuts, and fish.

All of these brain healthy foods are consistent with the WCRF and GBD research. The WCRF and GBD didn't officially recommend any specific foods within fruits and vegetables. However, the WCRF recently highlighted a study showing the potentially unique benefits of leafy greens, berries, and cruciferous vegetables.[23] In this 2020 study, researchers from Harvard found that breast cancer survivors who averaged two servings of leafy greens a day had a 20% lower risk of dying compared to those eating almost no leafy greens. Blueberries were also linked to a lower risk of dying from breast cancer and any other cause. MIND diet studies indicate people who consume 1 to 2 servings of green leafy vegetables per day have a rate of cognitive decline equivalent to being 11 years younger.[24] Green leafy vegetables include spinach, kale, romaine, mustard/turnip/collard greens, bok choy, chard, cilantro, parsley, watercress, arugula, and other lettuces. They are extremely high in micronutrients, low in calories, and high in fiber. One of the best things you can do to improve your health is eat a big vegetable salad every day to get in some leafy greens and other raw vegetables.

Berries, such as strawberries, blueberries, raspberries, and blackberries contain anthocyanin, caffeic acid, catechin, and quercetin, all of which may help protect the brain. For example, anthocyanins may prevent the formation of amyloid plaques one of the main features of Alzheimer's disease.[25]

In a 2019 study, researchers gave 7-10 year old children a wild blueberry powder drink with about 250 mg of anthocyanins (equal to about 240 grams of fresh blueberries) or a placebo drink.[26] The children who drank the wild blueberry powder were better able to sustain concentrated attention during the school day. The children also had quicker reaction times and better memory. If berries were a patentable drug, you would be hearing about it every day.

In another 2019 study, researchers gave adults, average age 23, a smoothie with 300 grams of berries containing equal amounts of whole blueberry, strawberry, raspberry, and blackberry.[27] They were then given 30 minutes of brain tests 1.5 to 6 hours after drinking the smoothie. Those drinking the smoothie were able to maintain their ability to score well on a variety of cognitive tests for a longer period. These studies indicate berries may allow us to maintain our concentration for longer periods of time. This has huge ramifications for people being able to perform well in school and at their job.

The Canadian Consortium on Neurodegeneration in Aging and Baycrest Health Sciences developed a food pyramid that does a good job illustrating the brain healthy foods.[28]

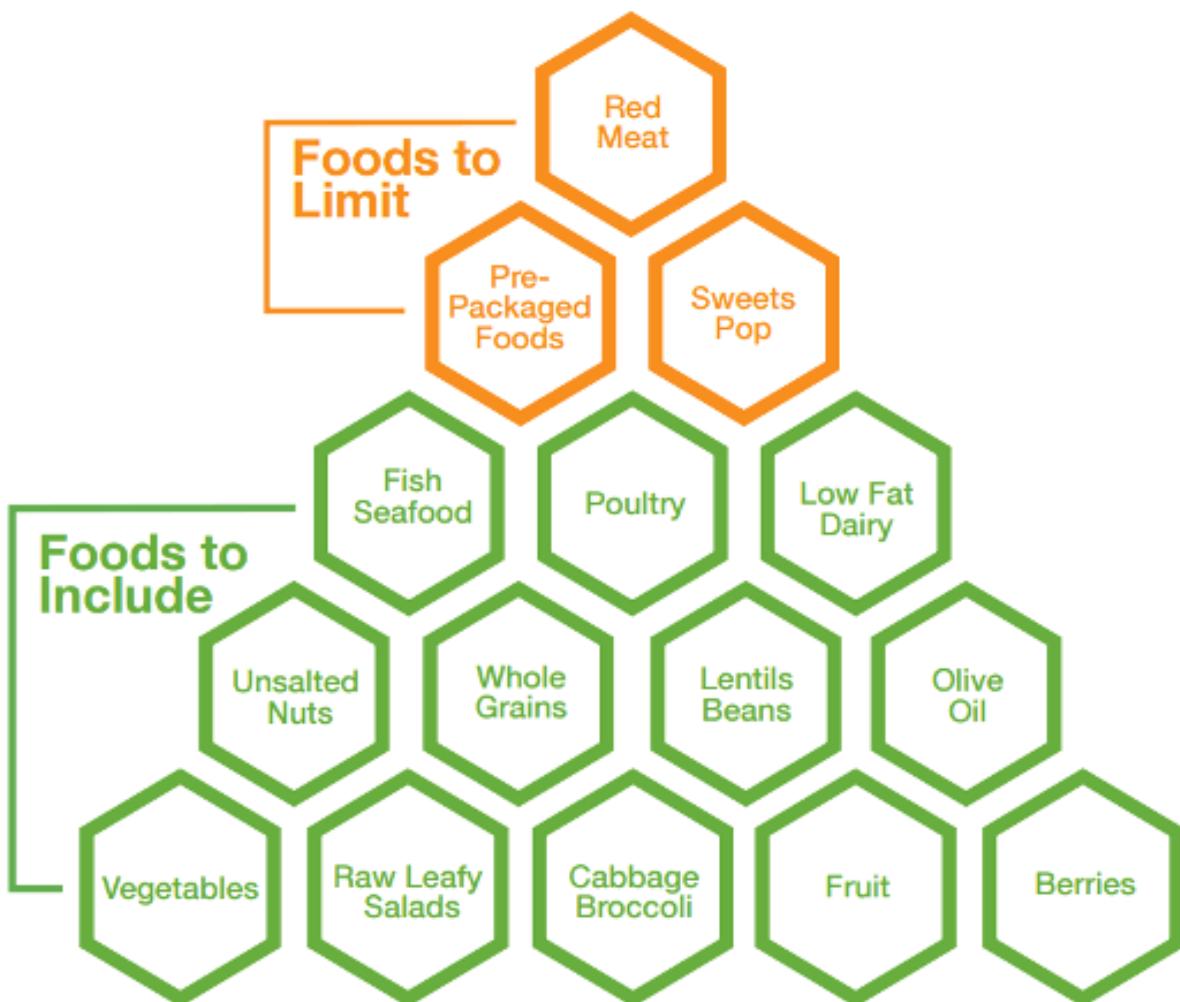


Image: Canadian Consortium on Neurodegeneration in Aging

Oils

The Council's advice for oil is under the category of including "other healthy fats", so you can meet this requirement by eating nuts, seeds, avocados, fish, or oils. I believe the stronger point they are making is to eat healthy oils instead of butter, lard, ghee, or partially hydrogenated oils (trans fat, which has been banned in the U.S. since 2018). I will address butter and saturated fat in another article, but here is a quote from their report:

Use mono and polyunsaturated fats in cooking. Usually these are the cooking oils that are in a liquid state at room temperature. Avoid manufactured oils with partially hydrogenated fats and animal fats such as lard and butter. Unsaturated fats seem to be beneficial to heart health and are also thought to be beneficial to brain health. Unsaturated fats are often found in liquid oils such as olive oil, canola oil (also known as rapeseed oil), corn, and safflower oils, as well

as walnuts and certain fish.

Oil is an optional food if you are otherwise including healthy fats. There is no good research indicating cognitive benefits to consuming extra virgin olive oil if you are otherwise eating a brain healthy diet with fish and nuts.[29] But if you are choosing a fat to cook with, use a healthy low-saturated fat vegetable oil and avoid butter, lard, ghee, coconut oil, palm oil, and palm kernel oil.

Conclusion

The brain healthy foods are almost identical to the recommendations from the WCRF and GBD. According to the experts, the same foods prevent heart disease, stroke, obesity, type 2 diabetes, cancer, dementia, Alzheimer's disease, and chronic kidney disease.

If you are interested in brain health, I encourage you to review the Council's other reports and recommendations[33] and to read Sanjay Gupta's excellent book, *Keep Sharp*.

About the Author: Keith Herman is an estate planning attorney who is also passionate about nutrition and helping others live their healthiest lives.

#HealthyEating

#HealthyLifestyle

#Wellness

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[12] These are the amounts based on a 2,000 calorie diet. I converted to grams assuming a cup of vegetables, fruit, or legumes was 160 grams.

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They also have a Brain Health Food Guide similar to the recommendations above.

<https://www.baycrest.org/getattachment/0c3275c8-2419-4f12-ad71-a890d5f70265/Brain-Health-Food-Guide.aspx>

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The Council's primary recommendations are to 1. Listen to music. 2. Prepare for surgeries to avoid delirium. 3. Be active throughout the day – include 2.5 hours per week of aerobic exercise and 2 or more days of strength training per week. 4. Don't smoke. 5. Manage your cholesterol (LDL cholesterol should be less than 100), blood sugar (healthy blood sugar is usually defined as an A1C level below 5.7% or fasting blood sugar below 99 mg/dL), blood pressure (should be less than 120/80), weight (if obese), and diabetes (if you are diabetic). 6. Sleep 7 to 8 hours in a 24-hour period. 7. Get your nutrients from foods not supplements. 8. Improve your mental well-being with activities that reduce stress and anxiety. 9. Engage your brain and incorporate enjoyable cognitively stimulating activities into your life. 10. Maintain a sense of social connection by building friendships and purpose-filled relationships through activities such as joining a group, getting a pet, volunteering, or teaching. 11. Eat healthy foods and cut back on alcohol.

The prestigious Lancet Commission's 2020 Report on dementia prevention, intervention, and care found that 12 modifiable risk factors account for about 40% of cases of dementia. The only actions the Lancet Commission recommends that are not incorporated in the 11 recommendations above are to: 1) reduce exposure to air pollution such as second-hand tobacco smoke, traffic exhaust, and residential wood burning, 2) encourage use of hearing aids for hearing loss and reduce hearing loss by protecting your ears from excessive noise exposure, 3) prevent head injuries, and 4) provide all children with primary and secondary education. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. *Lancet.* 2020 Aug 8;396(10248):413-446.