

## The Basics

The MIND diet (or “Mediterranean-DASH diet intervention for neurological delay”) combines aspects from both the Mediterranean and DASH diets. These diets are generally recommended for overall health, and incorporating foods from each has been shown to particularly benefit brain health.

Foods emphasized on the MIND diet include whole grains, berries, vegetables (especially leafy greens), olive oil, poultry, and fish.

## Background

For many years, researchers have examined the relationship between the foods we eat and their effects on our health. In 2015, researchers began to specifically examine the relationship between certain foods and their effect on brain health with the intention of (1) slowing the decline of brain health as we age and (2) reducing the risk of the development of Alzheimer’s disease. Thus, the “MIND” diet was created.

### How is the MIND diet different from the Mediterranean and DASH diets?

- It emphasizes berries, due to their antioxidant properties, over other fruits
- It recommends eating fish at least once per week
- It highlights the difference between green, leafy vegetables and other vegetables. Leafy greens are rich in nutrients and thought to reduce the risk of cardiovascular disease and cognitive decline.



## Potential Health Benefits

Both the Mediterranean and DASH diets have been researched thoroughly and are associated with lower blood pressure and decreased risk of cardiovascular disease and type 2 diabetes. These conditions are all risk factors for Alzheimer’s disease. Researchers wanted to create a diet specifically to help improve brain function and prevent dementia.

Here’s what some of the observational research found when studying the effects of the MIND diet with cognitive decline and Alzheimer’s disease:

- Out of 460 MIND diet participants who were followed for 4.7 years, those who more strictly followed the MIND diet showed “substantially [slowed] cognitive decline with age.”<sup>4</sup>
- In a study following 923 participants for 4.5 years, ages 59-98, those who more strictly adhered to the MIND diet had a reduced risk of Alzheimer’s disease by 53%, and a significant reduction even with mild adherence.<sup>5</sup>

One of the theories behind its health benefits is that foods emphasized on the MIND diet are rich in antioxidants, which can reduce oxidative stress. Oxidative stress is defined as an imbalance between the production of free radicals and antioxidant defenses, and prolonged exposure can cause cell damage – particularly to the brain. Inflammation is the body’s natural response to injury and infection. But if it’s not properly regulated, inflammation can also be harmful and contribute to chronic disease.

The antioxidants in berries and the vitamin E in olive oil, leafy greens, and nuts are thought to benefit brain function by protecting the brain from oxidative stress. Omega-3 fatty acids are well known for their anti-inflammatory effects in the brain and have been associated with slower loss of brain function.<sup>6</sup>

## Guidelines

Integrating principles of the Mediterranean and DASH diets, the MIND diet was created with 10 foods to focus on and five to limit.

### Everyday Foods:

- 3 servings of whole grains (oatmeal, quinoa, brown rice, whole wheat)
- 1 serving of dark, leafy green vegetables (include spinach, kale, cooked greens, and other salad green) + 1 other non-starchy vegetable
- 1 glass red wine (5 oz. serving size)

### Most Days:

- Leafy, green vegetables (6x/week)
- At least ¼ cup serving of nuts (5x/week)
- Olive oil – integrate into salad dressings and use for cooking

### Every Other Day:

- Beans, lentils, soybeans (3x/week)

### Twice a Week:

- Berries (serving size 1 cup)
- Poultry (chicken or turkey)

### Once a Week:

- Fish (select a fattier fish such as salmon, tuna, sardines, trout, and mackerel) – good source of Omega-3 fatty acids

### Foods to avoid or limit including:

- Butter/margarine – less than 1 tbsp/day
- Pastries & sweets – less than 5x/week
- Red meat (includes all beef, pork, and lamb) – less than 4x/week
- Fried food & whole-fat cheese – less than 1x/week



## A Sample One-Week Meal Plan

### Day 1

- **Breakfast:** Greek yogurt with raspberries, topped with sliced almonds
- **Lunch:** Mediterranean salad with olive-oil dressing, grilled chicken, whole-wheat pita
- **Dinner:** Burrito bowl with brown rice, black beans, fajita vegetables, grilled chicken, salsa, and guacamole

### Day 2

- **Breakfast:** Wheat toast with almond butter, scrambled eggs
- **Lunch:** Grilled chicken sandwich on whole-wheat bun or bread, blackberries, and carrots
- **Dinner:** Grilled salmon, side salad with olive-oil dressing, brown rice



### Day 3

- **Breakfast:** Steel-cut oatmeal with strawberries, 2 hard-boiled eggs
- **Lunch:** Mexican-style salad with mixed greens, black beans, red onion, corn, grilled chicken, and olive-oil dressing
- **Dinner:** Chicken and vegetable stir-fry, brown rice



### Day 4

- **Breakfast:** Greek yogurt with peanut butter and banana
- **Lunch:** Baked trout, collard greens, black-eyed peas
- **Dinner:** Whole-wheat spaghetti with turkey meatballs and marinara sauce, side salad with olive-oil dressing

### Day 5

- **Breakfast:** Whole-wheat toast with avocado, omelet with peppers and onions.
- **Lunch:** Chili made with ground turkey, sweet potatoes, onion, bell peppers
- **Dinner:** Greek-seasoned baked chicken, oven-roasted potatoes, side salad, whole-wheat dinner roll

### Day 6

- **Breakfast:** Overnight oats with strawberries
- **Lunch:** Fish tacos on whole-wheat tortillas, brown rice, pinto beans
- **Dinner:** Chicken gyro on whole-wheat pita, cucumber, and tomato salad.

### Day 7

- **Breakfast:** Vegetable frittata, sliced apple, and peanut butter
- **Lunch:** Tuna salad sandwich on wheat bread, plus carrots and celery with hummus
- **Dinner:** Curry chicken, brown rice, lentils



\* Most salad dressings in the grocery store are not made with olive oil. To make a simple balsamic vinaigrette at home, combine three parts extra virgin olive oil with one part balsamic vinegar. Add a little Dijon mustard, salt, and pepper, and combine and mix well.

In summary, early research is showing a lower risk of Alzheimer's disease and slower loss of brain function over time in those closely following the MIND diet. However, more research is needed to understand the diet's effects.

Although the MIND diet – in conjunction with other healthy habits like exercising regularly, not smoking, and getting adequate sleep – may have an effect on cognition, many other factors impact the development of Alzheimer’s disease and presently, there is no cure for it.

## References

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## Notes

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