



# A Mediterranean Diet Offers a Healthy Inspiration for Decreasing the Risk of Alzheimer's Disease

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**by Connie Guttersen, RD PhD.**

A recent study links a Mediterranean Diet rich in fats from olives, olive oil, and nuts along with plenty of fruits, vegetables, fish, legumes, and cereals to a lower the risk for Alzheimer's disease.

We know from the literature that individual nutrients, such as blueberries, spinach, omega 3 and more, have potential benefits for factors associated with Alzheimer's disease. But past studies are limited when it comes to looking at a combination of foods or a model of eating for risk reduction of Alzheimer's. Perhaps, this is a way of eating that is easy to sustain for long periods of time, since it is more of a way of eating that becomes a lifestyle rather than a diet or eating specifically isolated foods to prevent disease.

Since researchers are not sure what exactly triggers the onset of Alzheimer's, it may be more related to small cumulative changes that occur in the brain decades before the clinical onset of the symptoms appear. One in ten people over 65 and nearly half of those over 85 suffer from Alzheimer's disease. Today, 45 million Americans have the condition. A healthy diet, such as the Mediterranean way through out life may offset these negative changes early on.

A recent study looked at the effects of a healthy way of eating and its ability to affect risk factors associated with Alzheimer's disease. The study, led by

Scarmeas, et al, is published in the 2006 issue of *Annals of Neurology*. Two thousand two hundred fifty eight participants were followed for 1.5 years to examine the foods they typically ate, memory skill tests, reasoning tests, and language. Based on the participant's food surveys, researchers gave participants a score for adherence to a Mediterranean style diet. The scores ranged from 0 – 9, with higher scores showing greater adherence to a Mediterranean diet. Compared to those who had the lowest score, those with middle scores were 15% less likely to have been found to have developed Alzheimer's Disease, and those with the highest scores were 40% less likely to have been found to have Alzheimer's disease. This is similar to a dose response effect. The association remained significant even after adjusting for potential confounders such as age, gender, ethnicity, education, caloric intake, BMI, smoking, and co-morbidities conditions.



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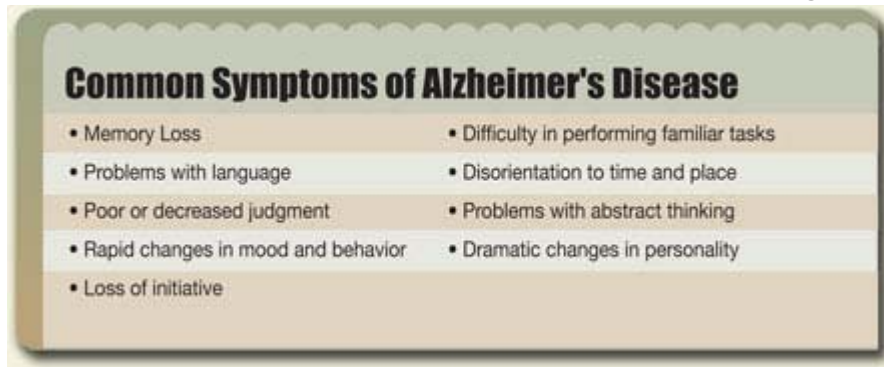
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## Dietary Fats and Alzheimer's Disease

The research for the Mediterranean diet also opens up opportunities to examine the effect of dietary fats in the role of Alzheimer's disease. Monounsaturated fats have been shown to be protective against age related cognitive decline. A study by Solfrizzi et al in the *Journal of Neurology* suggests that as we age our brain chemistry requires more monounsaturated fat to prevent degeneration. The study also suggests that the effect of the monounsaturated fats maintain the structural integrity of the neuronal membranes.

A study published in the Archives of Neurology by Martha Clare Morris concluded that trans fats and saturated fats increased the risk of developing Alzheimer's disease, while polyunsaturated and



monounsaturated fats decreased the risk. The strongest effect was seen in the case of trans fats. The top 80% in trans fat consumption had on average four times the risk of developing Alzheimer's disease. The effect of increased trans fat intake on the risk of developing Alzheimer's was greater among persons with low polyunsaturated fat intake whereas the effects were minimized among persons with high polyunsaturated fat intake.

## Smart Menus for the Golden Years

Today's trend for baby boomers is to live life to the fullest. Many active baby boomers are finding that aging doesn't mean stopping an active life. And while disease prevention is still an interest, they are also looking for foods that energize and rejuvenate. You might say they are looking for foods to slow down the aging process and maintain the fountain of youth. Could it be possible that certain foods have the power to do this? The answer is yes. Providing meal choices which slow down the aging process, increase longevity and improve the quality of life are features that can be attained with a smart menu for the golden years.

### Download Smart Menus for Golden Years

As we age, it becomes more important to eat nutrient-rich foods as opposed to just eating calorie-controlled diets. In other words, making the calories count is the key to good health and longevity. As we age, the amount of calories required to maintain a healthy body weight naturally decreases because the natural aging process includes a loss of muscle mass and an increase our body's percentage of

body fat. Keeping physically active is important to minimize the extra weight gain around the waist and to maintain the body's lean muscle mass. In fact, much of the health risk associated with aging could be kept at a minimum if we can keep the extra weight around the waist away. Eating well and keeping physically active is the best way to accomplish this.

Providing meal choices which slow down the aging process, increase longevity and improve the quality of life are features that can be attained with a smart menu for the golden years. Some of the nutrients to be featured in foods include calcium, zinc, antioxidants, fiber, iron, folacin, and vitamins A,C, and B6. It is also necessary to recognize that aging is affected by genetics and lifestyle-- especially stress. The most common health problems of aging affect the cardiovascular system and mental function, such as memory. Alzheimer's Disease has gained an incredible amount of interest as it pertains to how the brain functions.

The effects of aging take a toll on the nervous system due to oxidation. Oxygen radicals, which damage cell membranes and DNA, are often the cause of Alzheimer's and Parkinson's disease. Medical studies have found that memory impairment and difficulties in concentration can be reduced with fruit and vegetables high in antioxidant activity. Dr James Joseph of the USDA Human Nutrition Research Center on Aging at Tufts University found that diets supplemented with spinach, blueberries or strawberries prevented age induced declines in motor learning and memory. All three foods improved short term memory, however, only blueberries, improved balance/coordination and reversed nerve cell dysfunction. Even though spinach has an equal amount of antioxidant activity, it was not effective in reversing damage caused by aging. Blueberries may have additional antioxidant benefits since they contain anthocyanins, the indigo pigments.

Cardiovascular risk factors such as obesity, high cholesterol, and high blood pressure also appear to slow down mental functioning at an earlier age. Two studies presented at the 9th International Conference on Alzheimer's Disease and Related Disorders suggest that losing weight, changing diets to minimize the risk for heart disease and diabetes, as well as staying mentally and socially active may reduce the risk of Alzheimer's Disease.

A study by Harvard Medical School, and colleagues evaluated participants in the Nurses Health Study, which has followed the diets and health status of 13,000

women since 1972. The researchers calculated the women's intake of fruits and vegetables between 1984 and 1995 and correlated these values with performance on tests of cognitive function conducted between 1995 and 2003, when the women were in their 70s. Increased consumption of fruits and vegetables did not affect the overall decline in the women's cognitive scores. However, the researchers found that subjects with the highest consumption of green leafy vegetables and cruciferous vegetable, such as spinach and broccoli--both high in folate and antioxidants such as carotenoids and vitamin C--declined less than women who ate small amounts of these vegetables.

Miia Kivipelto, M.D., Ph.D., of the Karolinska Institute in Stockholm, and colleagues from Sweden and Finland presented data from a group of nearly 1,500 older subjects,

followed for an average of 21 years. Study participants who were obese in middle age were twice as likely to develop dementia later in life. For those subjects who also had high cholesterol and hypertension in midlife, the risk of dementia was multiplied six times. Inflammation and impeded blood flow to the brain may be among the factors that leave the obese individual more vulnerable to developing Alzheimer's. Medical experts fear that today's current obesity crisis may contribute to the future incidence rates of Alzheimer's cases.

**Cooking for health (and flavor).**

Incorporating a core of healthy foods and their combinations into your menus is an easy and efficient way to maximize the opportunity to include nutrient rich foods, but also to take advantage of dream team combinations which would have a synergistic effect for maximizing the health benefits and boosting health and longevity.

<b>Sources of Carotenoids, (Vitamin A)</b>	Bright orange vegetables: carrots, sweet potatoes, and pumpkin Tomatoes, red sweet peppers Leafy greens such as spinach, collards, turnip greens, kale, beets, green leaf lettuce and romaine Orange fruits such as mango, cantaloupe, apricots, and grapefruit
<b>Sources of Vitamin C</b>	Citrus fruits, kiwi, strawberries, guava, papaya, cantaloupe Broccoli, peppers, tomatoes, cabbage, Brussels sprouts Leafy greens like spinach and mustard greens
<b>Sources of Potassium</b>	Cooked greens like spinach, squash Bananas, dried fruits, cantaloupe, honeydew melons Tomatoes, beet greens, soybeans, cooked dry beans
<b>Iron</b>	Meats, beans, peas, lentils
<b>Zinc</b>	Meats, eggs, seafood
<b>Vitamin B12</b>	Meat, poultry, fish, and eggs
<b>Folic Acid</b>	Leafy Greens, black eye peas, lentils, whole grains
<b>Monounsaturated Fats</b>	Olives, olive oil, avocado, canola oil, nuts
<b>Omega 3 Oils</b>	Cold water fish, walnuts, flaxseed
<b>Flavonoids, Polyphenolics</b>	Blueberries, red wine

reference: USDA Dietary Guidelines, 2005 publication

Omega three fatty acids, primarily found in salmon, mackerel, trout, sardines, flaxseed, and walnuts, have been linked to the prevention of certain kinds of cancer, ulcerative colitis, psoriasis, arthritis, Alzheimer's Disease, and depression. This antidepressant effect is of no surprise when one considers that 60% of the brain matter is comprised of fat. They make it easier for receptors on the brain cells to process different mood related signals and also maintain healthy brain cell activity.

## A Core of Healthy Foods to Choose From

### **Whole Grains**

Provide fiber and many other additional nutrients known to protect against diverticulosis, improve blood sugar control, colon cancer, and reduce the risk for heart disease.

### **Blueberries and Strawberries**

Provide antioxidants, particularly from the flavonoid family which are known to reduce risk factors associated with memory loss and cancer.

### **Tomatoes and Bell Peppers**

A perfect combination for a wide variety of pigments of red, orange, and yellow.

Carotenoids and antioxidants from this group are important for preventing heart disease.

Serve these with a healthy fat and maximize their health benefits. Improve taste acuity and enjoyment by using creative ways to boost flavor, such as herbs, spices, roasting, and flavorful oils. Lycopene, a nutrient which is found commonly in tomato products, is now well known for its ability to act as an antioxidant and decrease risk factors associated with macular degeneration.

### **Fats: Olives, nuts, olive oil, avocado, and omega 3 oils**

Science has confirmed that the type of dietary fat we consume (saturated, monounsaturated and polyunsaturated) impacts many different aspects of health. This is a message, which emphasizes the quality of the fat as part of a

healthy diet rather than solely the quantity of dietary fat we consume. The type and balance of dietary fats we consume alter the production of an important group of biological compounds known as eicosanoids. These compounds can affect blood pressure, inflammation, blood clotting, immune function, certain cancers and coronary heart disease.

Eating less saturated fat, eliminating partially hydrogenated oils and emphasizing more unsaturated oils, such as mono or polyunsaturated oils, in our daily meals is important for long term good health and is essential to preventing heart disease among all ages. The monounsaturated fats are not only the most flavorful, such as olives, avocados, nuts, and peanuts, but they also appear to have additional health advantages when compared overall to other fats.

### **Leafy Greens**

Salads can offer more nutrient rich choices if they are based on dark green leafy greens, such as radicchio, endive, escarole and dandelion. The traditional salad can still include black olives, hard boiled eggs, tomatoes and a flavorful vinaigrette, but will offer much more nutrients than one made with iceberg lettuce.

### **Lean Meats, beans, pulses and legumes**

These foods provide the body with iron and zinc. These are two nutrients which play a role in appetite and taste acuity. Make smart menu combinations by combining lean meats, beans, pulses and legumes with high vitamin C foods such as fruit salsas, broccoli, tomatoes and bell peppers. These combinations will help the body better absorb the iron found in foods.

Zinc improves taste acuity in people where the body stores are low. Zinc can also play an important role in combination with vitamin K for wound healing. Another interesting combination is zinc along with vitamins C and E and the phytochemicals lutein and beta carotene because they can slow down the age related macula degeneration. Zinc can be found in meats, eggs, and seafood. The dream team combinations would be meats, eggs and seafood with kale, spinach, broccoli, and cantaloupe. The important color combinations would be dark green, orange, and yellow.

Low levels of vitamin B12 have been associated with memory loss and linked to age related hearing loss in older adults. As we age, the amount of the chemical in the body needed to absorb vitamin B12 decreases. To avoid deficiency, older

adults are advised to eat foods rich in B12 regularly, including meat, poultry, fish, eggs and dairy.

Living life to the fullest is now encompassing the smartest menu choices combined with the importance of enjoying meals as part of a healthy and active lifestyle.

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