



The MIND Diet

UNC Rex Nutrition Services

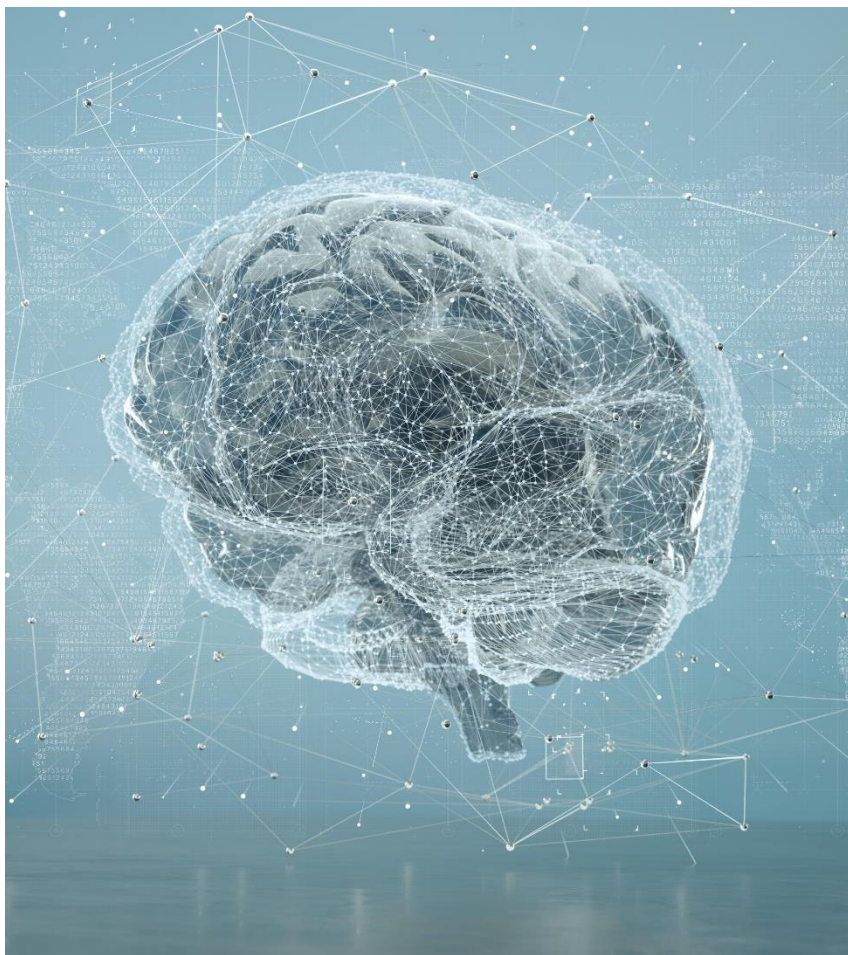
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Objectives

- Learn the science behind the MIND diet
- Look at the differences between the Mediterranean Diet, DASH Diet and MIND Diet
- Determine which dietary approach best suites you!

History and Background



- 1997- Rush University Medical Center in Chicago started the Rush Memory and Aging Project (MAP) using senior residents in the Chicago area
- From 2004 – early 2013 participants were asked to complete an optional “food frequency questionnaire”
- 923 agreed to complete the questionnaire

The MIND Diet Study



Looked for correlations in the food questionnaires, MIND Diet parameters, and the incidence of Alzheimer's Disease in these 923 volunteers



144 of the 923 participants developed Alzheimer's Disease, and incidence directly correlated to how closely their diets adhered to the MIND Diet parameters

Participants who:

- Adhered strictly to the diet
 - 53% decrease in risk
- Adhered moderately well/part of the time
 - 35% decreased risk
- ***The longer an individual followed the diet, the lower their risk of developing AD***

Considerations

Observational study only



Results need to be confirmed via randomized controlled trials to verify outcome and establish cause and effect relationships

What is the MIND diet?

- **Mediterranean-DASH Intervention for Neurodegenerative Delay**
- Developed by Rush University Medical Center's nutritional epidemiologist Dr. Martha Clare Morris & colleagues
- Made by modifying and combining **Mediterranean and DASH diets**
 - largely plant-based & limits high-fat foods
- May promote brain health and reduce an individual's risk of developing Alzheimer's disease (AD)
- Generally nutritious eating plan & good for overall health

Mediterranean Diet Pyramid

A contemporary approach to delicious, healthy eating

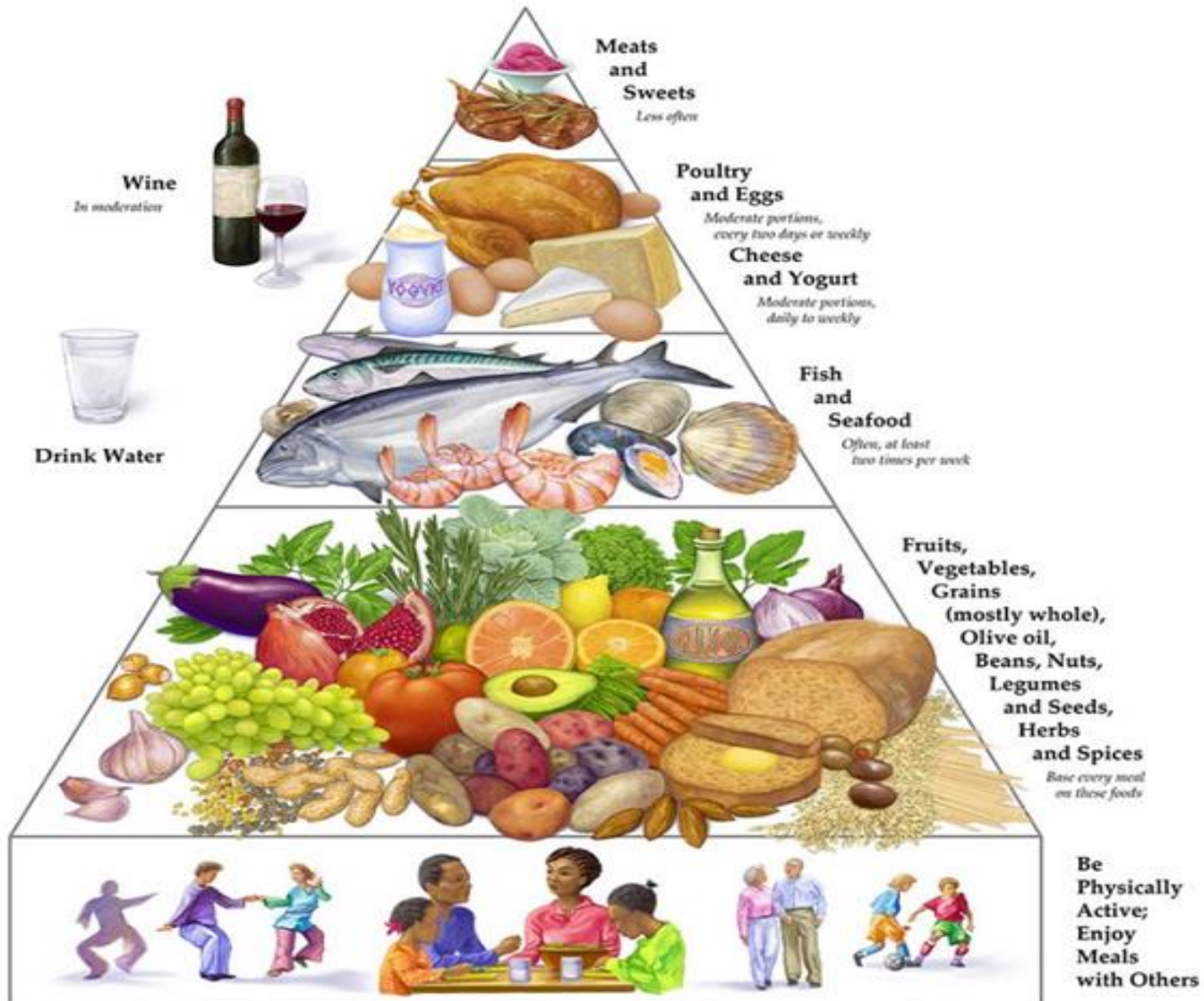


Illustration by George Middleton

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**Be
Physically
Active;
Enjoy
Meals
with Others**

**EX
CARE**

Mediterranean Diet

Veggies – 2 or more svgs daily

Fruit – 2-3 or more svgs daily

= **9 svgs per day** is average in Mediterranean countries

– **Antioxidant-rich fruit:**

prunes, raisins, blueberries, blackberries, strawberries, raspberries, plums, oranges, red grapes, and cherries

– **Antioxidant-rich vegetables:**

kale, spinach, Brussels sprouts, alfalfa sprouts, broccoli, beets, red bell peppers, onions, corn, and eggplant

- **Fish and Shellfish** – 3 or more 3-5 oz svgs per week, 1+ should be fatty fish (salmon, tuna, sardines, mackerel, trout)
- Most Mediterraneans ***eat fish daily***
- **White Meat** – boneless, skinless poultry – 1 svg = 3 oz
- **Beans & Legumes** – 3 or more ½ c. svgs per week
- **Grains** – 100% whole wheat bread

Mediterranean Diet (cont.)

- **Nuts and Seeds –**
 - 1+ ¼ cup servings per week
 - **Healthy Fat –**
 - olive oil (& canola oil) used in place of butter or margarine
 - avoid saturated fats, hydrogenated or partially hydrogenated fat (trans fats)
 - **Other Foods –**
 - 3-4 eggs per week
 - small amounts of dark chocolate
 - 3-5 oz wine, preferably red, with a meal- optional
- AVOID:**
- Red & processed meat, trim all visible fat
 - High-sugar/high-fat foods
 - High-fat dairy products—
2% & whole milk, butter, margarine, ice cream, high fat cheese
 - Soda & other sugary drinks

DASH Diet

Dietary Approach to Stop Hypertension

- **Grains:** 7-8 daily servings
- **Vegetables:** 4-5 daily servings
- **Fruits:** 4-5 daily servings
- **Low-fat or fat-free dairy products:** 2-3 daily servings
- **Meat, poultry, and fish:** 2 or less daily servings
- **Nuts, seeds, and dry beans:** 4-5 servings per week
- **Fats and oils:** 2-3 daily servings
- **Sweets:** try to limit to less than 5 servings per week



Both Diets:

- Help prevent and treat heart disease & high blood pressure
 - Could help prevent cancer and diabetes
- Focus on
 - Whole, plant-based foods
 - Low in sugar & saturated fats, high in heart healthy fats
 - Rich in antioxidants and phytonutrients
- Incorporate tea, fresh herbs & spices
 - Help to prevent chronic disease
 - **Anti-inflammatory**

What the MIND diet emphasizes

- **Green leafy vegetables:**
 - 1 salad daily; 6+ servings a week
- **Vegetables:**
 - 1+ serving a day
- **Berries** (especially blueberries & strawberries):
 - 2+ servings a week
- **Nuts:**
 - 5+ servings a week
- **Beans and legumes:**
 - 3+ servings a week
- **Whole grains:**
 - 3+ servings a day
- **Fish:**
 - 1+ servings a week
- **Poultry:**
 - 2+ servings a week
- **Olive oil** = primary oil used in cooking
- **Wine:**
 - 5 oz/day



What the MIND diet limits/avoids

- **Red meat:** <4 servings a week
- **Fried & fast foods:** <1 serving a week
- **Butter & stick margarine:** <= 1 tablespoon of butter a day; never margarine
- **Cheese:** <= 1 serving a week
- **Sweets and pastries:** <5 servings a week



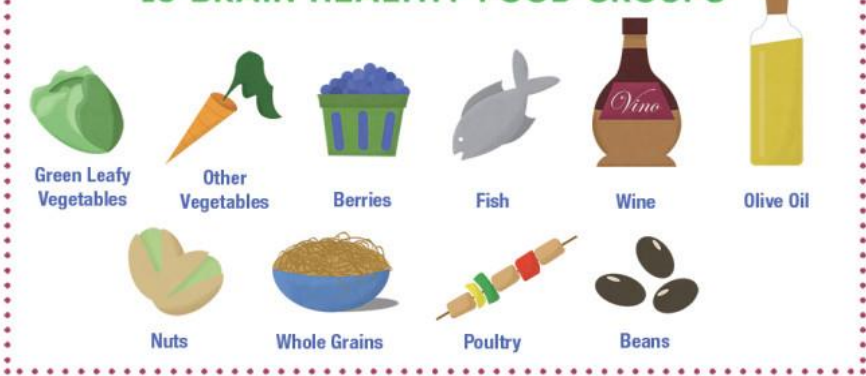
THE MIND DIET

LOWER YOUR RISK OF ALZHEIMERS DISEASE

The new MIND Diet developed by Rush University Medical Center researchers is associated with a reduced risk of Alzheimer's Disease based on one Chicago based study.



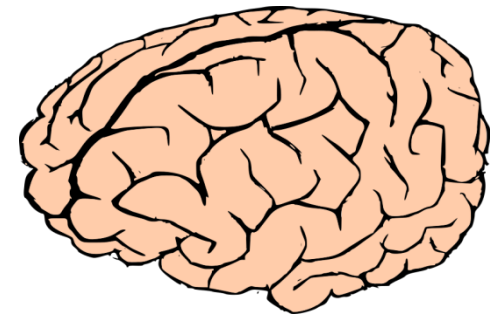
10 BRAIN HEALTHY FOOD GROUPS



<p>DAILY</p> <p>1 SALAD</p> <p>1 OTHER VEGETABLE</p> <p>3 SERVINGS OF WHOLE GRAINS</p> <p>1 GLASS OF WINE</p>	<p>MOST DAYS</p> <p>SNACK ON NUTS</p> <p>EVERY OTHER DAY</p> <p>BEANS</p>	<p>TWICE PER WEEK</p> <p>POULTRY</p> <p>BERRIES</p> <p>ONCE PER WEEK</p> <p>FISH</p>	<p>5 UNHEALTHY FOOD GROUPS TO AVOID</p> <p>RED MEATS</p> <p>BUTTER & STICK MARGARINE</p> <p>SWEETS</p> <p>CHEESE</p> <p>PASTRIES</p> <p>FRIED & FAST FOOD</p>
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Alzheimer's Disease is the 6th leading cause of death in the United States. Over 5.1 million American's have Alzheimer's Disease in 2015 but it is expected to rise to 7.1 million by 2025. This study only shows an association between a healthy diet and a lowered risk of Alzheimer's.

Why Does It Work?



- The brain lesions that cause AD are made up of a substance called beta amyloid
 - These lesions destroy the brains synapses or neural connections.
- There is clear scientific evidence that ***a diet high in sugar and refined starches*** increases the amount of beta amyloid in the spinal fluid and brain

Why Does It Work?



- A study by JAMA Neurology (June 2013) reported:
 - A diet high in sat fat & sugar **decreased ApoE levels** (chemical responsible for clearing beta amyloid from the brain)

In other words...

- High saturated fat & sugar intake = less clearing of beta amyloid (low ApoE)
- High sugar/refined starches intake = more beta amyloid
- A double whammy against brain health!



Focus of MIND Diet is:

- Low saturated fat
- Low added sugar
- Consistent intake of **anti-inflammatory** foods



Anti-inflammatory Foods-- Examples

- Fruits – especially berries
- Vegetables – especially cruciferous, dark orange and green leafy
- Whole grains
- Olive oil, canola oil
- Avocado
- Flaxseed
- Chia seed
- Coffee (some, not as much as tea)
- Fresh herbs and spices
- Black, green and white tea
- Beans
- Nuts
- \geq 70% dark chocolate (sparingly)
- Dried fruit (sparingly)
- Fatty fish (omega 3's) – salmon, tuna, herring, sardines – preferably wild caught

MIND Diet – Should I follow it?

- Consider family history of chronic diseases
- If there are cognitive issues
 - MIND diet
- If high risk for hypertension & stroke - DASH diet
- If heart disease, diabetes, cancer -Mediterranean diet



Questions & Final Thoughts

The Mediterranean, DASH & MIND diet all promote anti-inflammatory foods, more plant foods (beans/lentils, whole grains, fruits & vegetables), fewer processed foods and added sugars

Check out [rexhealth.com/recipes](https://www.rexhealth.com/recipes) and [rexhealth.com/cookingclasses](https://www.rexhealth.com/cookingclasses) for recipes and cooking demonstration videos

Contact a dietitian-

Rex Wellness Centers- call scheduling office at 919.784.3419

UNC Meadowmont & NW Cary- email

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The Research Behind the MIND Diet

MIND diet slows cognitive decline with aging.

Martha Morris, Christy Tangney, Yamin Wang, Frank Sacks, Lisa Barnes, David Bennett, Neelum Aggarwal.
Alzheimer's & Dementia: The Journal of the Alzheimer's Association. September 2015.

MIND diet associated with reduced incidence of Alzheimer's disease.

Martha Morris, Christy Tangney, Yamin Wang, Frank Sacks, Lisa Barnes, David Bennett, Neelum Aggarwal.
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Suzanne Craft, Ph.D., Professor of Medicine, Wake Forest School of Medicine, Winston-Salem, N.C.; Deborah Blacker, M.D., geriatric psychiatrist and director, Gerontology Research Unit, Massachusetts General Hospital, and professor of epidemiology, Harvard School of Public Health, Boston; June 17, 2013, *JAMA Neurology*, online