

Nutrition Tips for a Healthy Brain

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Continuing with our 'green' theme:



Plant-based St. Patrick's day foods

- ▶ Green smoothie
- ▶ Irish soda bread
- ▶ Irish stew
- ▶ Shepherd's pie
- ▶ Colcannon
- ▶ Corned Jackfruit & cabbage



March is Colon Cancer Awareness Month

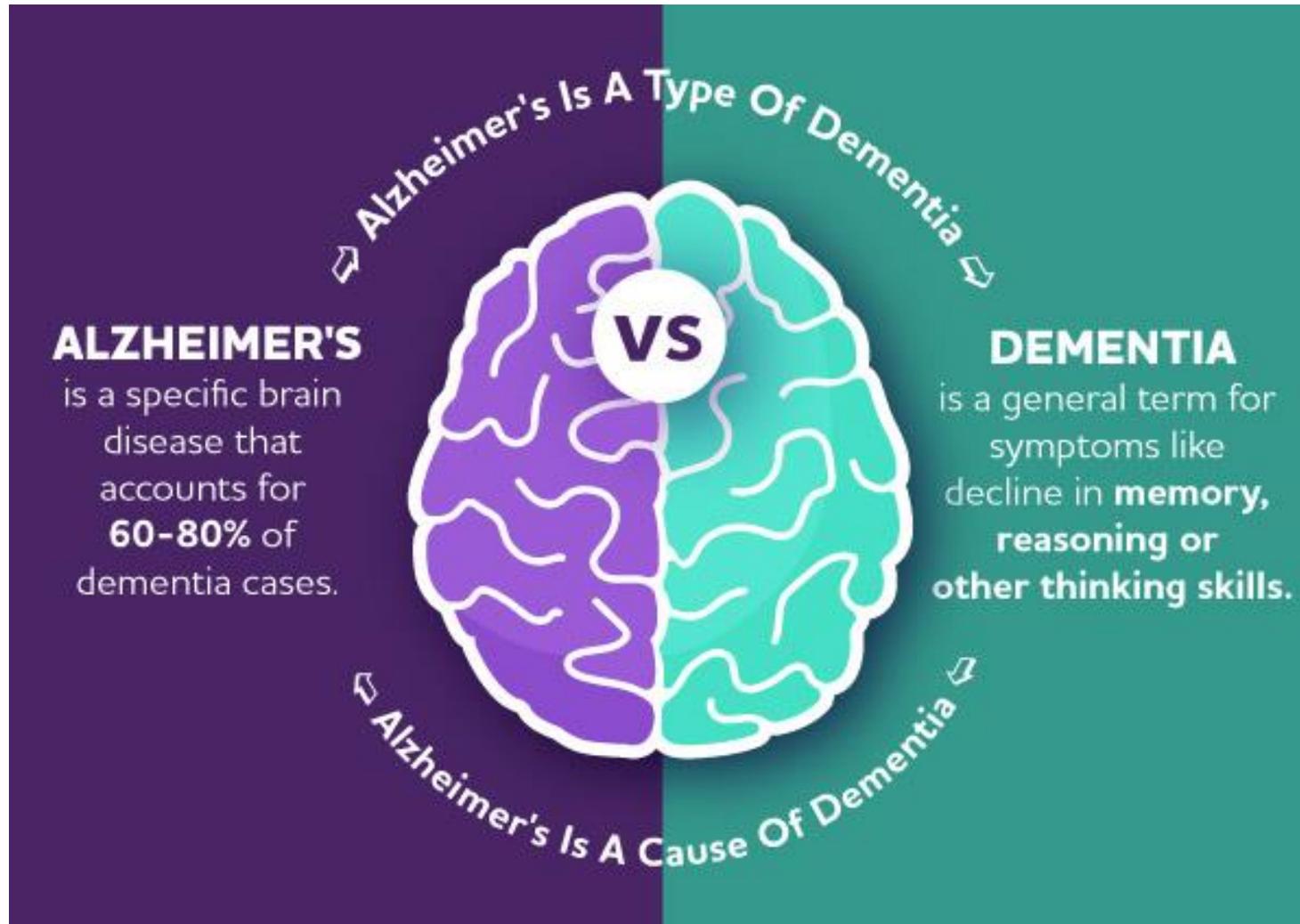
- ▶ 50,000 people will die this year from colon cancer (2nd most deadly cancer)
- ▶ Other countries don't have as much colon cancer – Western Diet contributing?
- ▶ Dr. Will Bulsiewicz:
 - ▶ 1. Get colonoscopy – every 10 years starting at 45 yo, unless first degree relative history
 - ▶ 2. Eliminate red meat and processed meat
 - ▶ WHO states processed meat is carcinogenic and red meat probably is
 - ▶ 3. Choose plant-based diet
 - ▶ AHS-2 found diet reduced risk of colon cancer
 - ▶ Vitamins, minerals, fiber, phytochemicals, antioxidants – all cancer protective
 - ▶ 4. Crank up the fiber
 - ▶ Every 8 grams of fiber reduces risk 8%
 - ▶ Fiber is preferred fuel of the gut microbiome
 - ▶ 95% of Americans don't meet fiber recommendations



Hot off the Press: Vegetarians have a lower risk of dementia

- ▶ Tsai JH, Huang CF, Lin MN, Chang CE, Chang CC, Lin CL. Taiwanese vegetarians are associated with lower dementia risk: a prospective cohort study. *Nutrients*. Published online January 28, 2022.
- ▶ Researchers compared dementia incidence rates with vegetarian and nonvegetarian dietary patterns.
- ▶ N = 5,710 participants under the age of 60 from the Tzu Chi Vegetarian Study (TCVS).
- ▶ Adjusted for age, smoking and alcohol intake, and other confounding factors
- ▶ Those who followed a vegetarian diet in midlife had a lower risk of developing dementia than nonvegetarians.
- ▶ Plant-based diets reduce inflammation and improve weight, glycemic control, blood pressure, gut microbiota, cholesterol, and heart health associated with reduced risk for dementia later in life.

Alzheimer's vs. Dementia

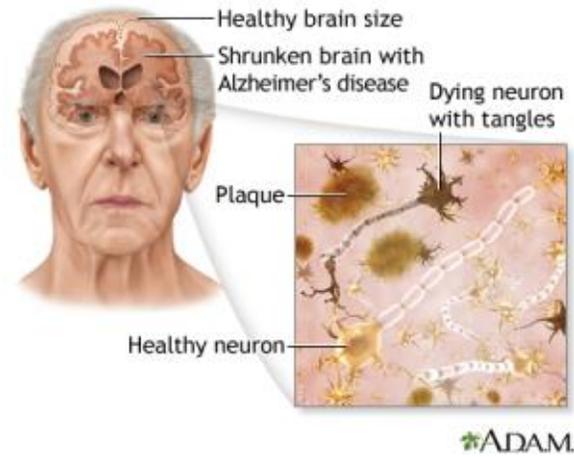
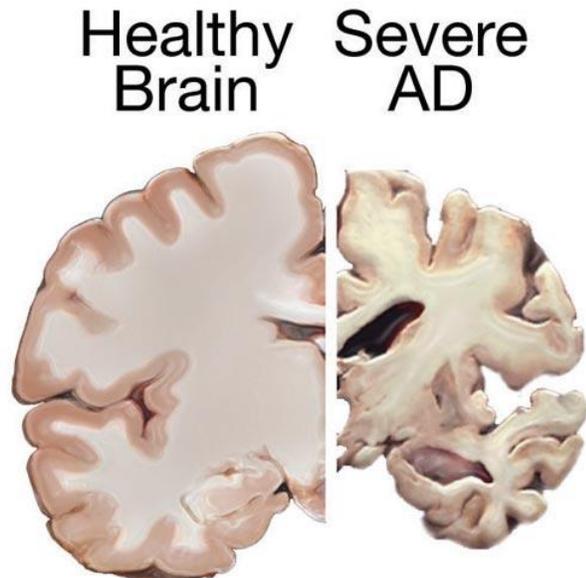


Brain Health Facts

- ▶ Alzheimer's is the 6th leading cause of death in the United States
- ▶ One in three seniors die with Alzheimer's or dementia— more than breast cancer and prostate cancer combined.
- ▶ More than 6 million Americans living with Alzheimer's
- ▶ Deaths from heart disease have declined 7.3% between 2000 and 2019 BUT deaths from Alzheimer's have increased by 145%
- ▶ In 2021 alone, estimated costs for Alzheimer's and dementia will reach \$355 billion and by 2050, at the current pace of the disease, costs are expected to be over \$1.1 trillion
- ▶ Since it is known that once a person has developed AD, there is little that can be done –**prevention appears to be the key**

Key factors in brain diseases

- ▶ Plaques are deposits of a protein fragment called beta-amyloid (BAY-tuh AM-uh-loyd) that build up in the spaces between nerve cells.
- ▶ Tangles are twisted fibers of another protein called tau (rhymes with “wow”) that build up inside cells.



BE HEALTHY FOR GOOD WITH + | LIFE'S SIMPLE 7 | +

Making small changes every day can add up to big improvements in your overall health. Life's Simple 7 outlines a few easy steps you can take to live a healthier lifestyle.

Two of these steps, Get Active and Eat Better, can help jump-start your whole health journey. Making choices that help you eat smart and move more can also help you lose weight, control cholesterol, manage blood pressure, reduce blood sugar and stop smoking.^{1-7,9}



1 GET ACTIVE

Try to get at least 150 minutes per week of moderate aerobic exercise or 75 minutes per week of vigorous exercise (or a combination of both), preferably spread throughout the week. Even short bursts of exercise can be beneficial, and all those little steps will lead to big gains in the long run.⁴

2 EAT BETTER

Eat a colorful diet full of fruits, vegetables, whole grains, low-fat dairy products, poultry, fish and nuts. Try to limit sugary foods and drinks, fatty or processed meats and salt.¹



3 LOSE WEIGHT

Maintaining a healthy weight is important for your health. To lose weight, you need to burn more calories than you eat. Learning to balance healthy eating and physical activity can help you lose weight more easily and keep it off.⁵

4 CONTROL CHOLESTEROL

Cholesterol comes from two sources: your body (which makes all the cholesterol you need) and food made from animals. Eating smart, adding color and moving more can all help lower your cholesterol.^{2,6}



5 MANAGE BLOOD PRESSURE

Blood pressure is the force of blood pushing against blood vessel walls. Sometimes the pressure in arteries is higher than it should be, a condition known as high blood pressure. Stress and poor diet have both been linked to high blood pressure, so it's important to be well and eat smart to help positively influence your blood pressure numbers.^{1,7}

6 REDUCE BLOOD SUGAR

Blood glucose (aka sugar) is an important fuel for your body. It comes from the food you eat, so it's important to eat smart. Cut out added sugars by checking nutrition facts labels and ingredients, limiting sweets and sugary beverages, choosing simple foods over heavily processed ones and rinsing canned fruits if they are in syrup.¹ And you can move more, because moderate-intensity aerobic physical activity can also help your body respond to insulin.⁸



7 STOP SMOKING

Not smoking is one of the best things you can do for your health. Smoking damages your circulatory system and increases your risk of multiple diseases, but the good news is that your lungs can begin to heal themselves as soon as you stop. Moving more can help you on your journey, since physical activity can help you manage stress.⁹

LEARN MORE AT
HEART.ORG/MYLIFECHECK

1. Mozaffarian D, Cohen J, A S, Appel L J, Berka L E, Brounstein C, Karmally M, et al. (2014). Recommended dietary pattern to achieve adherence to the seven diet-heart Association/American college of cardiology (AHA/ACC) guidelines. A scientific statement from the American Heart Association. *Circulation*, 130(11), e117. [DOI: 10.1161/01.cir.0000000000000042](https://doi.org/10.1161/01.cir.0000000000000042)

2. Warburton DE, Nicol CW, Bredin SS. Health benefits of physical activity: the evidence. *CMAJ*. 2006;174(6):806.

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4. U.S. Department of Health and Human Services. (2016). *Recommended Physical Activity Guidelines for Americans*. 2nd Edition.

5. Hill J, Wyatt H B, Peters A. (2012). Energy balance and obesity. *doi.org/10.1146/annurev-phbio-111111.087213*

6. Third report of the national cholesterol education program (NCEP) expert panel on detection, evaluation, and treatment of high blood cholesterol in adults (adult treatment panel III) final report. *Circulation*. 2002;106(25):2893-2949.

7. Giovannelli J, Zhou L, Li C, Wang C, Kivimaki M, Benjamin E J, Vittinghoff T D, et al. (2017). A brain-observational study of smoking-related blood pressure reactivity. *Journal of the American Heart Association*. [DOI: 10.1161/JAHA.117.006053](https://doi.org/10.1161/JAHA.117.006053)

Achieving Simple 7 lowers risk of Alzheimer's, too. Stopping smoking and reducing blood sugar are especially important. 2019 Report by Global Council on Brain Health

Modifiable Risk Factors for Dementia/Alzheimer's

- Hypertension
- Diabetes
- Obesity
- Smoking
- Cognitive inactivity (low education)
- Physical Inactivity
- Social Isolation
- Depression
- Hearing Loss
- **These are associated with progressive cognitive decline and Alzheimer's**



Diabetes

Prediabetes: blood glucose (blood sugar) is higher than normal

Diabetes: greatly elevated blood glucose levels



Preventing diabetes OR controlling your diabetes lowers your risk for:

- Heart attack
- Stroke
- Blindness
- Kidney failure
- and **may improve brain health**

Risk factors for developing diabetes:

Non-modifiable

- **Family History**
- **Ethnicity** (African American, Alaska Native, American Indian, Asian American, Hispanic/Latino, Native Hawaiian, or Pacific Islander)
- **Older Age** (over 45)



Modifiable

- **Overweight**
- **High blood pressure or history of heart disease or stroke**
- **Physical Inactivity**
- **History of Gestational Diabetes** or gave birth to a baby weighing 9 pounds or more
- **Polycystic Ovary Syndrome (PCOS)**
- **Low HDL (“good”) cholesterol,**
- **High triglycerides**
- **Have acanthosis nigricans** (dark, thick, and velvety skin around your neck or armpits)

What to do:

If you have prediabetes:

- Increase activity to at least 30 mins 5 times a week
- Talk with your doctor to see if you need a medication
- Follow a lower fat healthy diet – plant-based is recommended
- Lose weight if you need to
- Go to a pre-diabetes class!

If you have diabetes:

- Work with your doctor or diabetes educator to bring blood glucose to goal
- Follow a consistent carbohydrate diet – plant-based preferred
- Increase movement at least 30 mins 5 times a week
- Ask for a referral to meet with a diabetes educator

Need Help? Ask for a Referral....

- ▶ Sutter Health System:
 - ▶ Referral to Diabetes Education
 - ▶ 916-774-8885
- ▶ Univ. of California Medical Center:
 - ▶ Referral to Health Management and Education (HME)
 - ▶ 916-734-0718, www.livinghealth.ucdmc.edu
- ▶ Dignity Health
 - ▶ Referral to Diabetes Education
 - ▶ 916-733-5798
- ▶ Kaiser
 - ▶ Diabetes Care Management Program for all with diabetes
 - ▶ Also online program available

Hypertension

High Blood pressure is when the force of the blood flowing through your blood vessels, is consistently too high.

Get checked!

The best way to know if your blood pressure is in range

Blood Pressure Categories



BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Risk factors for Hypertension

Non-modifiable

- Family history
- Age and Gender
 - Until age 64, men are more likely to get high blood pressure than women are.
 - At 65 and older, women are more likely to get high blood pressure
- Ethnicity (African-Americans higher risk)
- Chronic Kidney Disease



Modifiable

- Lack of physical activity
- Unhealthy diet (Diet high in sodium)
- Overweight or Obese
- Drinking too much alcohol
- Sleep apnea
- High cholesterol
- Diabetes
- Smoking and tobacco use
- Stress

What to do for hypertension:

- Follow a plant-based diet or DASH diet: low sodium, high in fruits and vegetables, whole grains, low in alcohol
- Limit your sodium intake (<1500 mg/day)
- Lose the processed foods
- Stop shaking salt at the table
- Increase movement to at least 30 mins 5 times a week
- Reduce and manage stress
- Quit smoking (1-800-no-butts)
- Ask for a referral to meet with a registered dietitian



What are the best eating styles for your brain?

- ▶ Anti-inflammatory foods (fruits, veggies, whole grains)
- ▶ Low in saturated and trans fats
- ▶ Lower in calories (to maintain healthy weight)
- ▶ High in veggies
- ▶ High in fiber
- ▶ Low in animal products
- ▶ High in spices (cloves, ginger, rosemary, turmeric)
- ▶ Include vitamin-E rich foods (nuts, seeds, veg oils, greens)

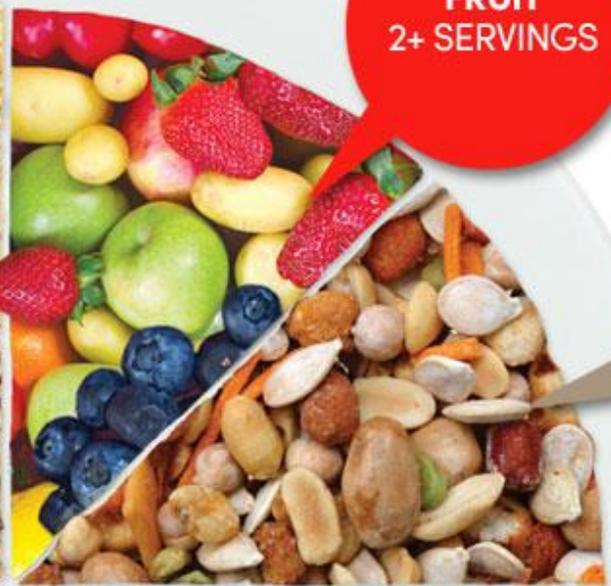


**GRAINS &
STARCHY
VEGETABLES**
5+ SERVINGS



**BEANS &
LENTILS**
3+ SERVINGS

FRUIT
2+ SERVINGS



SEEDS & NUTS
1-2 SERVINGS



VEGETABLES
4+ SERVINGS



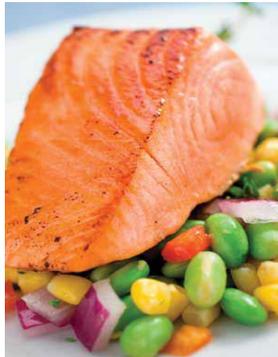
Whole food plant-based diet research

- ▶ Dr. Dean Ornish
- ▶ Reversing Alzheimer's Study
- ▶ The first randomized control trial looking to see if progression of early stage Alzheimer's can be reversed by a comprehensive lifestyle medicine program – no drugs, devices or surgery
- ▶ Eat well, Love more, Stress less, Move more
- ▶ Whole foods, low fat and sugar, plant-based + moderate activity + stress management techniques including meditation + psychosocial support
- ▶ Stay tuned.....

MIND Diet: Mediterranean- DASH Intervention for Neurodegenerative Delay

2015 study found a lowered risk of Alzheimer's disease:
53% in participants who strictly followed the diet
35% in those who followed it moderately well

Eat more often:



Eat less often:



MIND diet associated with reduced incidence of Alzheimer's disease
Morris, Martha Clare et al.
Alzheimer's & Dementia: The Journal of the Alzheimer's Association, Volume 11, Issue 9, 1007 - 1014
<http://dx.doi.org/10.1016/j.jalz.2014.11.009>

WHAT'S ON THE MIND DIET?



AT LEAST **THREE SERVINGS** OF WHOLE GRAINS EACH DAY

AT LEAST ONE DARK GREEN SALAD AND ONE OTHER VEGETABLE EACH DAY



BERRIES AT LEAST **TWICE** A WEEK



AT LEAST A ONE-OUNCE SERVING OF NUTS EACH DAY



BEANS OR LEGUMES AT LEAST EVERY OTHER DAY



POULTRY AT LEAST **TWICE** A WEEK



FISH AT LEAST **ONCE** A WEEK



If you don't drink alcohol, purple grape juice provides many of the same benefits.

A FIVE-OUNCE GLASS OF RED WINE EACH DAY



NO MORE THAN ONE TABLESPOON A DAY OF BUTTER OR MARGARINE; CHOOSE OLIVE OIL INSTEAD



CHEESE, FRIED FOOD AND FAST FOOD NO MORE THAN **ONCE** A WEEK

PASTRIES AND SWEETS LESS THAN **FIVE TIMES** A WEEK



Specific foods that have been studied

- ▶ Curcumin (compound of Turmeric)
 - ▶ Antioxidant, anti-inflammatory, antibacterial
 - ▶ Conflicting results
- ▶ Flavonoids
 - ▶ Antioxidants
 - ▶ Anthocyanins in blueberries
 - ▶ Cocoa
- ▶ Caffeine
 - ▶ May reverse cognitive impairment and lower brain Beta-Amyloid (in mice)
 - ▶ Human studies conflicting



Specific foods....

- ▶ Resveratrol

- ▶ Polyphenol in grapes and red wine
- ▶ Strong antioxidant and anti-inflammatory actions



- ▶ Minerals

- ▶ Magnesium deficiency may increase oxidative stress and impairs memory
- ▶ Magnesium-rich foods: nuts, seeds, beans, whole grains, soy

- ▶ Vitamin supplements

- ▶ Mixed results

Specific foods....

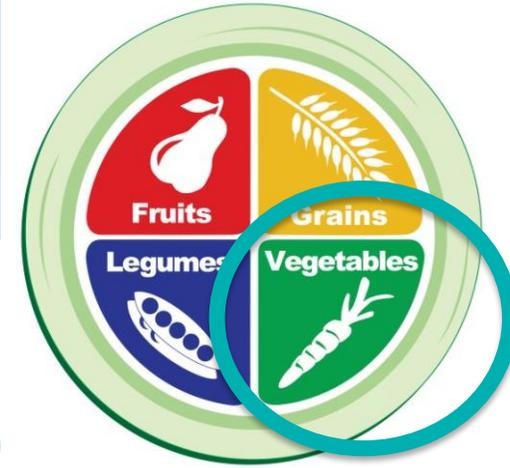
- ▶ Soy
 - ▶ Previous studies have had conflicting results
 - ▶ New 2020 study found soy isoflavones improve overall cognitive function and memory



Vegetables

- Eat more than 3-5 servings per day
- 1 serving =
 - 1 cup raw or $\frac{1}{2}$ cup cooked vegetables
 - 2 cups leafy greens

Make it routine - every lunch and every dinner!



Fruit

- Eat 2-4 servings per day
- 1 serving =
 - 1 cup of fruit
 - 1 medium sized fruit



Whole Grains

- Aim for 3+ servings of whole grains/day
- 1 serving =
 - 1 slice of bread
 - 1 cup of ready-to-eat cereal
 - ½ cup of cooked rice, cooked pasta, or cooked cereal
- Intact grains preferred



Choose fats wisely

Limit Saturated fats and avoid all Trans Fats



diet.net

Replace with Monounsaturated and Polyunsaturated fats - and watch portions



Stay Hydrated

Limit alcohol, high sugar, high salt, & caffeinated beverages



Replace with water, decaffeinated tea



Higher sugar intake associated with higher risk of Alzheimer's

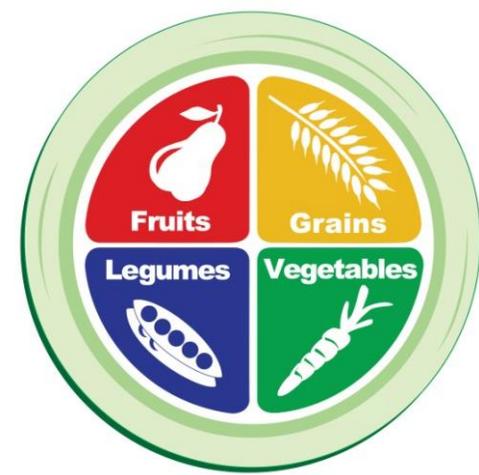
Meal Guidelines

Eat more often:

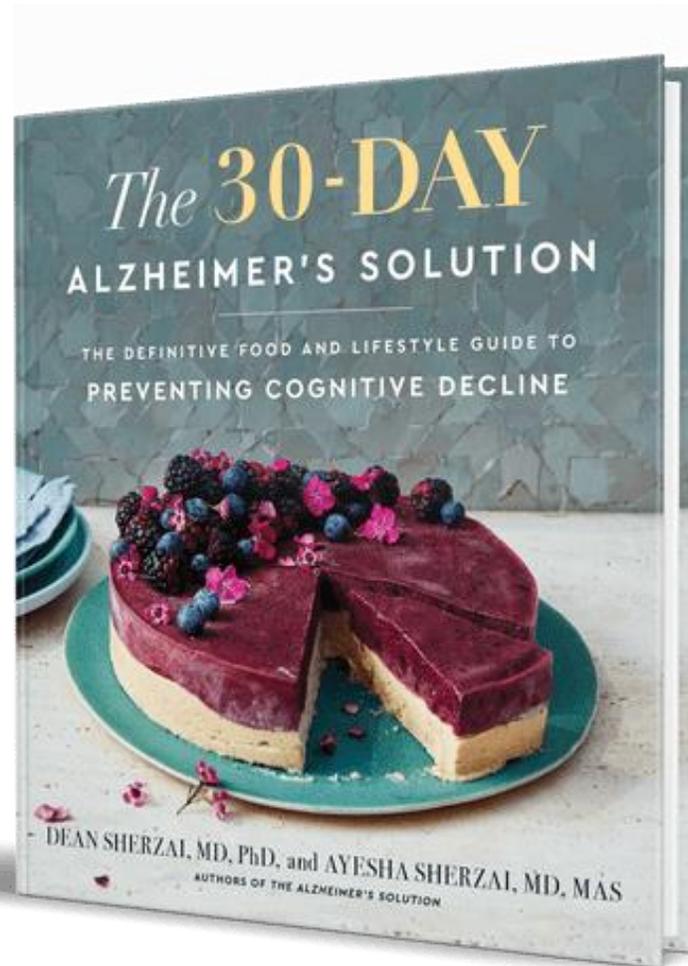
- ▶ Green leafy vegetables (other vegetables too)
- ▶ Berries (and other fruits)
- ▶ Nuts and seeds
- ▶ Whole grains
- ▶ Beans and lentils
- ▶ Use heart healthy fats in moderation: avocado, olives, nuts
- ▶ If you must: Fish & lean poultry (but plant foods preferred)

Eat less often:

- Red meats
- Butter and stick margarine
- Cheese
- Pastries and sweets
- Fried foods
- Alcohol



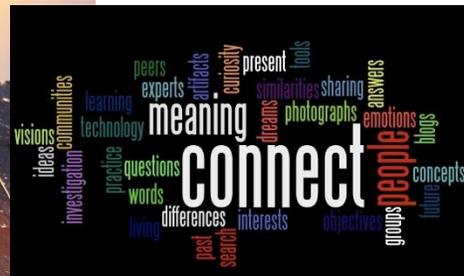
30 Day Alzheimer's Solution



NEURO



- ▶ N = Nutrition
- ▶ E = Exercise
- ▶ U = Unwind (decrease stress)
- ▶ R = Restorative sleep
- ▶ O = Optimize cognitive reserve & connections



The Neuro 9

- ▶ 1. Green leafy vegetables - 3 cups/day raw (1.5 cups cooked)
- ▶ 2. Whole grains - 3 ½ cup servings/day
- ▶ 3. Seeds - 2 Tbsp/day
- ▶ 4. Beans & legumes - 3 ½ cup servings daily
- ▶ 5. Berries - ½ cup/day
- ▶ 6. Nuts - ¼ cup/day
- ▶ 7. Cruciferous veggies (broccoli, cabbage, Brussels, cauliflower) - 1 cup/day
- ▶ 8. Tea (green, white, black or Oolong) - 1 cup/day
- ▶ 9. Herbs & Spices - at least ¼ teaspoon daily

10 Ways to Love your Brain (from alz.org)

- ▶ 1. Break a sweat
- ▶ 2. Hit the books
- ▶ 3. Butt out
- ▶ 4. Follow your heart (take care of your heart and your brain might follow)
- ▶ 5. Heads up (avoid head injury)
- ▶ 6. Fuel up right
- ▶ 7. Catch some zzz's
- ▶ 8. Take care of your mental health
- ▶ 9. Buddy up
- ▶ 10. Stump yourself - challenge your mind



alzheimer's association®

What will you do? SMART Goal

- ▶ Specific - “I will eat greens...”
- ▶ Measurable - “5 days a week...”
- ▶ Attainable
- ▶ Relevant
- ▶ Time-bound - “for 4 weeks.”
- ▶ Rewards: something that will help you on your journey
 - ▶ “I will go out dancing or take a day trip or invite friends over”

My recipe today: Green Sheet pan meal

Sheet Pan Dinner - Template

- 1¼ cups quick-cooking whole grains (such as quinoa or instant brown rice)
- 8 cups fresh vegetables, cut into 1- to 2-inch pieces
- 1 15-oz. can of beans or lentils, rinsed and drained (or 1½ cups cooked frozen peas, edamame, or lima beans)
- 1 tablespoon desired ground spices (or 3 tablespoons chopped fresh herbs)
- 3½ cups vegetable broth or water
- Citrus juice, salad dressing, or your favorite sauce, for drizzling
- Chopped nuts, seeds, or nutritional yeast, for garnish

Instructions

- ▶ Preheat the oven to 400°F. Sprinkle the grains over the bottom of a 15×10-inch rimmed baking sheet.
- ▶ Toss together the vegetables, beans, and spices in a large bowl. Spread the mixture in a single layer over the grains. Carefully pour the vegetable broth or water into the pan. Cover the sheet pan tightly with foil or invert another baking sheet on top. Bake 20 minutes.
- ▶ Remove foil covering. Roast the uncovered sheet pan dinner 15 to 20 minutes more, or until the grains are tender and the vegetables are beginning to brown.
- ▶ To serve, drizzle with citrus juice or preferred sauce and sprinkle with your chosen garnish.

Thank You

