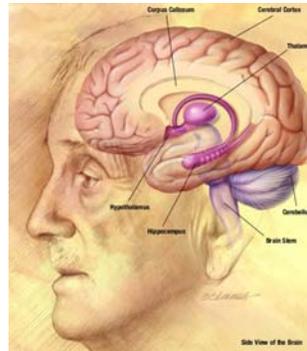


Brain Food– How to Keep the Aging Brain Vibrant

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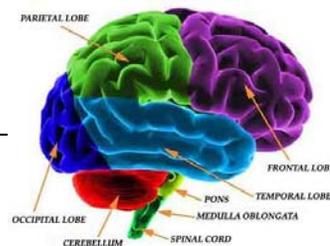
The Aging Brain

- Can You Age Proof Your Brain?
- Research has shown that we can **improve and protect the health of our brain *at any age***



The Aging Brain

- More than **77 million baby boomers** who are now facing retirement
- They want to know if careful attention to diet can help **protect the aging brain** from problems with nerve cell signals involved in memory and cognition
- Their independence, quality of life, and even economic status will largely be defined by their ability to traffic information signals in the brain as they age



- Just as a healthy diet can help fend off chronic diseases like heart disease and type 2 diabetes, **what you eat can also help you keep your mental edge as you age**
- Studies have identified links between a heart-healthy diet – such as the traditional Mediterranean diet – and a brain-healthy diet

Brain Food

- Study after study has found a relationship between **what we put in our mouths and how well we can perform important thinking and memory tasks.**
- While certain nutrients may specifically assist brain function, there is also the **totality of our diets** to consider.
- One recent U.K. study found that a diet high in saturated fat actually caused damage to neurons that control energy and appetite in mice.



- The triangle connecting a **healthy heart, a healthy brain and a healthful diet** has a strong scientific base
- Heart healthy nutrition promotes **healthy blood vessels** – open and free of atherosclerosis – that provide nutrients to the heart
- Likewise, diet helps to maintain the integrity of the **blood vessels of the brain.**
- A healthy heart pumps oxygen and **nutrients to the brain**

The Aging Brain

- To say the brain is a complex organ is a huge understatement!
- This amazing organ performs a variety of functions - from those that are voluntary to those that are involuntary such as *breathing and keeping our hearts pumping*
- The brain is the **central control** for our entire bodies - from the subconscious to the conscious

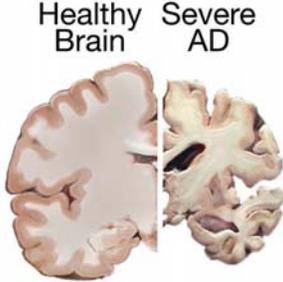




- Unlike changes in our skin over time, **changes to the brain aren't visible**
- But the brain DOES change
- After age 60 these changes become apparent in our abilities to perform certain functions as we once did
- In fact, it has been proven that the **brain actually shrinks when we hit our 60s!**

The Aging Brain

- We have all learned a great deal about how our diet can reduce risks associated with heart disease, diabetes and cancer
- Those diseases have dominated our health concerns (and research) for much of the past half century
- Sometime in the 1980s, however, Americans began to turn their attention to the diseases of older age, especially Alzheimer's and dementia
- Alzheimer's disease is a **progressive disease that destroys brain cells and is the most common form of dementia**



Healthy Brain Severe AD

- Alzheimer's, like many of the gravest diseases of old age, is a brain disease that entails a gradual failure that we term "**neurodegeneration**"
- Between 1979 and 2010, brain condition-related deaths rose a shocking **66% in men and 92% in women** according to the *New England Journal of Medicine*
- *The U.S. is ranked #1 in terms of deaths related to **neurological diseases** and there are 5.4 million Alzheimer's patients currently on record*
- *Experts predict that this statistic will **double by the year 2030***



- Will diet turn out to be part of the explanation?
- Research shows that up to **54% of Alzheimer's cases in the U.S. could have been avoided** if proper attention was given to lifestyle factors – most notably, **diet, physical activity, and quitting smoking**

The Aging Brain

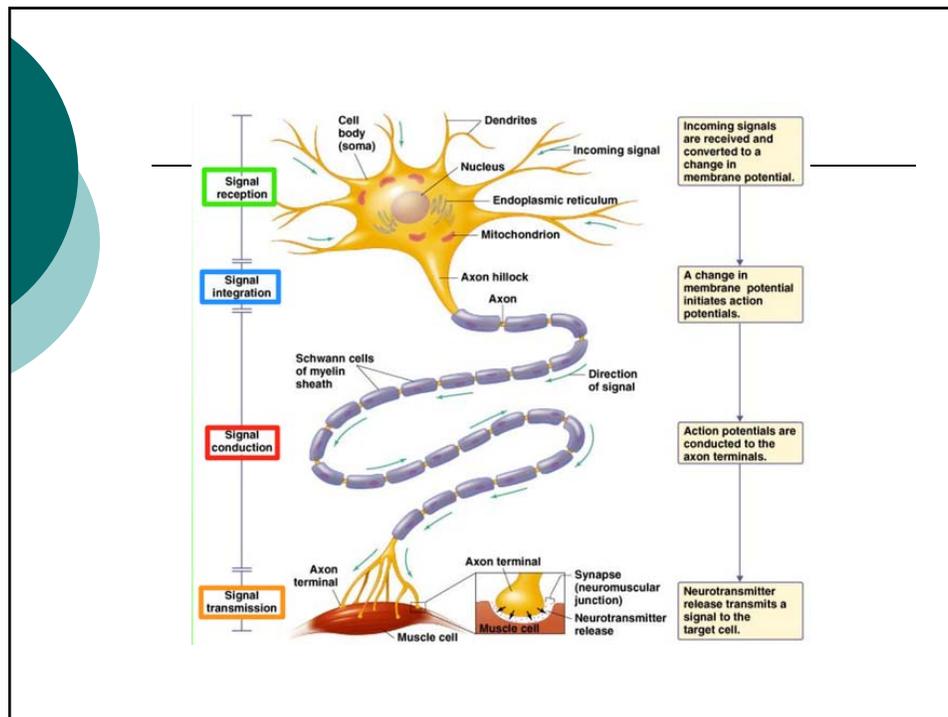


- To understand the answer to that question we must first ask why the aging human brain is such fertile ground for neurodegenerative diseases, such as Alzheimer's and Parkinson's
- Even in normal, non-diseased brains, we can observe with aging a **gradual decrease in communication among neurons**

The Aging Brain

- White matter in the brain starts to degrade even earlier than our 60s
- This affects **memory** and the dendrites and axons, which are the electrical transmitters of the brain, begin to shrink





The Aging Brain

- The brain's billions of neurons "talk" to one another through **chemical neurotransmitters** that convey signals through neural pathways
- These chemical transporters – which include norepinephrine, serotonin, and dopamine – are key to signal movement

The Aging Brain

- Although people naturally lose brain cells throughout their lives, the process of neuronal death *does not necessarily accelerate with aging*
- There is a LOT of individual difference
- Loss of mental agility may be less due to loss of brain cells than to the cells' failure to communicate effectively

The Aging Brain



- To put it simply – old neurons, like some long-married couples, do not talk to each other as much anymore
- Some communication is lost
- Think of this as trying to make a call on your cell phone: the phone illuminates, you dial the number, but you receive a message that says “call failed”
- The fault is NOT with your phone but with the ability to communicate the signal to a tower, to a satellite and so on until the signal reaches the next phone

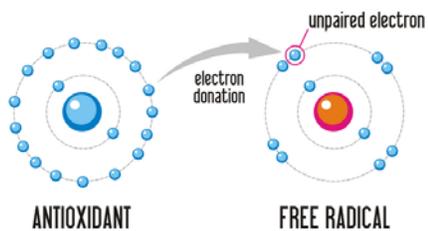
Free Radicals

- Free radicals can do damage to the aging brain
- Antioxidants help to squelch free radicals!



-
- A free radical is an atom or group of atoms that has an unpaired electron and is therefore unstable and highly reactive.
 - Free radicals may be formed through natural human physiological processes as well as from the environment.
 - They may be the result of diet, stress, smoking, alcohol, exercise, inflammation, drugs or exposure to sunlight and air pollutants.

How antioxidants reduce the free radicals



- The result is what we call a free radical cascade, an enormous chain reaction of free radicals that quickly wreaks havoc on living tissue.

It is estimated that the chain reaction can trigger 6.023×10^{21} billion molecules to react per second!

Free Radicals

- Free radicals **damage DNA**
- Experts say DNA in each cell in body can take a damaging hit from free radicals **104 times a day!**
- Oxidize cholesterol – **cause plaque**
- **Damage** structure and function of tissues in the body and brain
- Cause everything from ***wrinkles to heart and brain disease***

Free Radicals

- Smoking –huge source of free radicals
- Radiation from sunlight
- Every day breathing and metabolism
- Young people – internal antioxidant system very effective at preventing free radical damage
- As get older – system becomes overwhelmed
- Damage accumulates faster as you age

Free Radicals

- Fortunately – body has built-in system for **neutralizing free radicals** so they cause less damage
- Apple with lemon
- Think of cells throughout body like apple slices



Antioxidants

- Antioxidants offer up their own electrons to the roving bands of free radicals
- When dietary antioxidants give up electrons – they don't become free radicals themselves – they remain harmless



Antioxidants

- Body needs antioxidants **ALL DAY LONG**
- Important to take in antioxidants continually
- Antioxidants: Vitamins A, C, E, and minerals that support body's antioxidant enzymes
- Plant chemicals phytochemicals

The Aging Brain

- Important that they come from **FOODS!**
- Antioxidants from supplements can be pro-aging or pro-oxidant if we take too many
- Research on Vitamin A supplements in smokers

Allium sulphur compounds: Leeks, onions, garlic

Anthocyanins: Eggplant, grapes, berries

Beta carotene: Pumpkin, mangoes, apricots, carrots, spinach, parsley

Catechins: Red wine, tea

Copper: Seafood, lean meat, milk, nuts, legumes

Cryptoxanthins: Red peppers, pumpkin, mangoes

Flavonoids: Tea, green tea, red wine, citrus fruits, onion, apples

Indoles: Cruciferous vegetables such as broccoli, cabbage, cauliflower

Lignans: Sesame seeds, bran, whole grains, vegetables

Lutein: Corn, leafy greens (such as spinach)

Lycopene: Tomatoes, pink grapefruit, watermelon

Manganese: Seafood, lean meat, milk, nuts

Polyphenols: Thyme, oregano

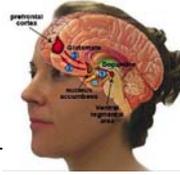
Selenium: Seafood, offal, lean meat, whole grains

Vitamin C: Oranges, berries, kiwi fruit, mangoes, broccoli, spinach, peppers

Vitamin E: Vegetable oils, nuts, avocados, seeds, whole grains

Zinc: Seafood, lean meat, milk, nuts

The Aging Brain



- Studies indicate that the brain can be particularly vulnerable to oxidative stress
- **Weighing just 3 pounds** the brain accounts for only **2%** of the body's total mass
- Yet at rest it **uses 10% of the body's oxygen and it uses up to 50% of the body's total oxygen during mental activity**

The Aging Brain

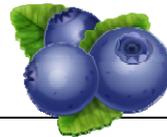
- As though oxidative stress were not bad enough, it has an evil twin!
- Recent research shows that **inflammation** in the central nervous system also plays an important role in aging



The Aging Brain

- By middle age, indicators of inflammation have already increased in the brain
- In older age, *an inflammatory agent called tumor necrosis factor (TNF)* is produced in higher amounts than are seen in younger brains
- Can foods/supplements quench the fire?

The Aging Brain



- Neuroscience Laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston researchers are looking at the beneficial effects of certain dietary compounds to learn how they affect brain function

The Aging Brain

- Vitamins and minerals in plant foods provide **protective antioxidants**
- But fruits, vegetables, nuts, seeds, and grains contain **thousands** of other types of compounds that contribute significantly to the overall dietary intake of antioxidants

BROCCOLI						
alanine	chlorophyll <i>a</i>	glutamic acid	linolenic acid	palmitic acid	selenium	tri-terpenes
alpha-carotene	chlorophyll <i>b</i>	glycine	lutein	pantothenic acid	serine	tryptophan
alpha-tocopherol	copper	histidine	lycopene	phenolic acid	sodium	tyrosine
anthocyanin	coumarins	indoles	lysine	phenylalanine	starchyose	valine
arginine	cryptoxanthin	iron	magnesium	phosphorus	stearic acid	water
ascorbic acid	cystine	isoleucine	manganese	potassium	sucrose	xanthophylls
aspartic acid	flavonoids	isothiocyanates	methionine	proline	sulfides	zeaxanthin
beta-carotene	folate	leucine	monoterpenes	raffinose	sulfoxide	zinc
calcium	fructose	lignin	niacin	riboflavin	thiamin	
cellulose	glucose	linoleic acid	oleic acid	s-methyl-l-cysteine	threonine	

BLACK PEPPER		
beta-caryophyllene	linolenic acid	piperonal
cadinene	magnesium	potassium
calcium	myristic acid	phytosterols
dietary fiber	niacin	riboflavin
dihydrocarveol	oleic acid	sodium
iron	palmitic acid	thiamin
lauric acid	phosphorus	water
linoleic acid	piperidine	zinc

The Aging Brain

- They are challenging the long-accepted belief that the central nervous system, which includes the brain, is not capable of regenerating itself.
- They are finding the brain **DOES** make new neurons – a process called "**neurogenesis**" into old age – just at a slower pace

The Aging Brain



- In one study rats were fed – from adulthood to middle age – vitamin E, strawberry extracts, or spinach extracts
- Animals receiving the high-antioxidant diets did **NOT experience the age-related cognitive performance losses see in control rats fed standard chow**
- Equivalent intake in humans would be eating a **pint of strawberries or a cup of blueberries a day**

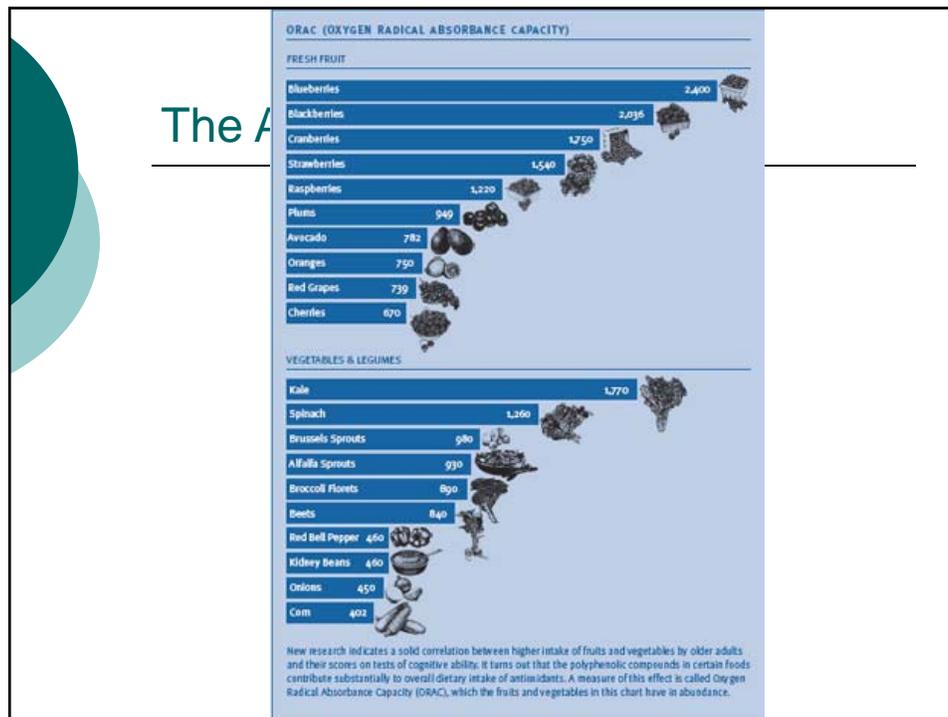
The Aging Brain



- In another study, published in the Journal of Neuroscience, showed a reversal of functional loss among rats on special diets
- Each of three groups of rats, equivalent in age to 63-year-old humans, was fed a different high antioxidant extract
- Control group fed standard chow
- After 8 weeks (10 years in rat life) **rats fed the spinach, strawberry, or blueberry extracts effectively reversed age-related deficits in neuronal and cognitive function**

The Aging Brain

- In addition, the blueberry-fed group far outperformed their peers while traversing a rotating rod to test balance and coordination
- Examination of the brain tissue of those blueberry-fed rats showed **much higher levels of dopamine than were found in the other groups**
- Dopamine can affect the way the brain controls movements



The Aging Brain

- Another rat study looked at the aged brain's ability to change physiologically – a condition scientists refer to as “neuronal plasticity”
- The neuronal plasticity study investigated the physiological link between nutrition and the memory-control hippocampal area of the brain
- This area is critical for **short-term memory as well as forming new memories**



The Aging Brain

- The capacity of the hippocampus to produce new neurons is thought to be greatly diminished during aging
- But this study found that **rats fed blueberry extracts had increased neurogenesis and a proliferation of new neurons**
- In maze tests the blueberry-fed rats showed improvement in cognition over chow-fed peers



The Aging Brain

- Brigham and Women's Hospital and Harvard Medical School, co-authored an epidemiologic study of berry intake in relation to memory decline
- Published in the *[Annals of Neurology](#)*, researchers used a sample of more than 16,000 women from the [Nurses' Health Study](#), one of the longest ongoing studies looking at women's health in the U.S.
- The average age of the women sampled was 74.



The Aging Brain

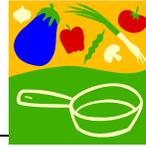
- After analyzing data on the participants' cognitive function, measured at two-year intervals, as well as their food consumption over the years, researchers concluded that **women with highest intake of berries delayed their cognitive aging by as much as two-and-a-half years**
- Researchers concluded that "we also found that greater intakes of total flavonoids were associated with slower decline in memory.
- So it appears that consuming a wider range of flavonoid-rich foods (e.g., tea, apples, oranges) might be helpful for memory as well



The Aging Brain

- Research studies show that **what is beneficial for your heart is also beneficial for your brain**
- Plant foods are high in antioxidants and anti-inflammatory compounds
- Polyphenolic compounds, which are found in many fruits and vegetables, affect neuronal communication directly, enabling neurons to "talk to each other" more effectively

The Aging Brain



- Upwards of **4,000 polyphenolic compounds** are widely found in fruits, vegetables, nuts, seeds and grains
- Some have antioxidant, anti-allergic, anti-inflammatory, antiviral, antiproliferative (prevents cell proliferation) or anticarcinogenic effects

The Aging Brain

- Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER) stud
- Researchers assessed the effects on brain function of a comprehensive intervention aimed at addressing some of the most important **risk factors** for age-related dementia, such as **high body-mass index and heart health.**



The Aging Brain

- 1260 people from across Finland, aged 60-77 years, were included in the study, with half randomly allocated to the intervention group, and half allocated to a control group, who received regular health advice only.
- All of the study participants were deemed to be at risk of dementia, based on standardized test scores.



The Aging Brain

- The intensive **intervention** consisted of regular meetings over 2 years with health professionals, with participants given comprehensive advice on **maintaining a healthy diet**, **exercise programs** including both muscle and cardiovascular training, **brain training exercises**, and **management of metabolic and vascular risk factors** through regular blood tests, and other means.

The Aging Brain

- After 2 years overall test scores in the **intervention group were 25% higher** than in the control group.
- For some parts of the test, the difference between groups was even more striking--for **executive functioning** (the brain's ability to organize and regulate thought processes) **scores were 83% higher in the intervention group, and processing speed was 150% higher.**

Junk Food



- Researchers in Australia conducted a series of studies showing a **poor diet to be associated with cognitive decline**
- 5,731 older adults – lower risk for depression among participants with better quality diets, and **increased anxiety was observed with a higher intake of process and unhealthy foods**



Eat Like A Mediterranean

- Two newly published studies have confirmed a 2006 finding that the **Mediterranean diet** may protect against mental decline with aging
- Journal of the American Medical Association: eating a Mediterranean diet is linked to **less late-life cognitive impairment**
- 1,880 people who followed a Mediterranean-style diet were at **40% lower risk of Alzheimer's over 5.4 years than those with the lowest adherence**



Eat Like A Mediterranean

- Participants diets were scored on a scale of 0-9, with higher scores assigned for greater consumption of fruits, vegetables, legumes, fish, whole grains and lower consumption of meat and dairy
- Higher score for a higher ratio of monounsaturated fats to saturated fats
- Higher score for mild to moderate alcohol consumption (2 drink/day for men, 1 drink/day for women)

Eat Healthy FAT



- According to the Mayo Clinic, the risk for cognitive impairment or full-blown dementia is **42% LOWER** in people who eat a diet higher in healthy fats and lower in carbohydrates
- Getting enough good fat is crucial for a healthy brain – approximately **60% of your brain matter consists of fat!**

Eat Healthy FAT

- Eliminate or significantly reduce consumption of “bad fats” like the ones in fried and processed convenience foods
- Keep **saturated fats from animal low in the diet**
- A study published in the *Annals of Neurology* found that older women who ate the **most saturated fat had the poorest scores on cognitive function and memory tests over 4 years compared to women who at the least**

Eat Healthy FAT

- Eat **brain-healthy good fats like the ones in fish oil, avocados and walnuts**
- The same study showed that those who ate the most monounsaturated fat, found in **nuts and olive oil** scored higher on cognitive function and were at lower risk of mental decline



Go Fish



- One study found that older adults who ate baked or broiled fish at least once weekly had **greater volume of gray matter in the areas of the brain important to Alzheimer's** disease, and showed slower rates of developing dementia or mild cognitive impairment
- **Only 3.2%** of the subjects who ate the most fish developed either dementia or mild cognitive impairment, while nearly **31%** of non-fish eaters suffered cognitive decline



Go Fish

- One component of fish that may be brain boosting is the **omega-3 fatty acid, DHA**
- Researchers studied the effects of supplementing with DHA and DHA + lutein
- Both the lutein and DHA groups showed improvements in verbal fluency the **combined DHA + lutein** group also demonstrated improvements in memory and learning



Carbohydrates

- A study published in the New England Journal of Medicine showed that **higher blood sugar levels are tied to increased risk for dementia**, even in those WITHOUT diabetes
- Eating less carbohydrates, especially simple carbohydrates, is one of the most important things you can do for a healthy brain

Carbohydrates

- **Eliminate simple carbohydrates from your diet.** These include: sugar, bread, baked goods, pasta, white rice, and potatoes.
- Replace simple carbohydrates with limited amounts of complex carbohydrates, which break down slower in the body. These include: **vegetables, fruits, legumes and some whole grains.**
- **Fill up on fiber** – these foods clean your insides and keep you feeling fuller, longer! High-fiber foods include: broccoli, berries, flax seeds, nuts, celery, and sweet potatoes.

Eat Like A Mediterranean

- Also, participants with the **highest level of activity were at 33% lower risk of Alzheimer's than the least-active subjects**
- Most active group averaged **1.3 hours of vigorous exercise, 2.4 hours of moderate activity or 4 hours of light activity per week**
- Association of physical activity with Alzheimer's disease risk was **independent** to that of diet

B Vitamins

- Numerous studies have shown that low levels of the B vitamins folic acid and vitamin B12 may lead to **rapid deterioration of brain function in the elderly which can lead to dementia and Alzheimer's disease**
- Proton Pump inhibitors deplete vitamin B 12 stores
- Study from Australian researchers investigated cognitive function in a group of 900 older adults with high levels of psychological distress who were living in the community

B vitamins



- Subjects were divided into 2 groups
- One group: 400 micrograms folic acid and 100 micrograms vitamin B12 along with promotion of physical activity
- Other group received placebo treatment
- At study's end the **folic acid + vitamin B12 group showed improvements in cognitive functioning, particularly in immediate and delayed memory performance, compared to the group receiving placebo treatment**

Coffee and Tea



- Tea contains the amino acid **L-theanine**, which shows **neuroprotective effects**
- **Coffee** too appears to protect the brain
- This might occur through antioxidant or anti-inflammatory mechanisms or through a reduction in brain levels of amyloid-beta, an abnormal protein that is part of Alzheimer's disease pathology



- **Coffee** also aids memory
- Researchers from the University of Innsbruck in Austria found that giving people the caffeine equivalent of two cups of coffee improved memory skills, reaction time, and neuron signaling in the brain as compared to brain activity without caffeine.
- The long-term benefits are even more mind-boggling. In a European study of 676 older men, those who averaged **three cups of daily coffee** experienced less mental decline than nondrinkers over a ten-year period.



- **Berries** are loaded with anthocyanins, powerful phytochemicals that give these delicious edible gems their vibrant purple, red and blue hues.
- A 2012 Harvard study found that **women who ate at least one cup of blueberries and strawberries per week experienced a sizeable 2.5-year delay in mental decline relative to women who rarely ate berries.**
- With that in mind (pun intended!), try adding blackberries, blueberries, raspberries, or strawberries to your yogurt, cereal, pancake and muffin batter

Berries

- Animal studies have long indicated a link between berry consumption and brain health.
- But a recent study published in the *Annals of Neurology* found that a diet high in blueberries, strawberries and others were linked to a slower mental decline in areas like memory and focus in a large sample of middle-aged women

Kale

- Turns out **kale** is just as beneficial for your brain as it is for your ticker.
- In a 25-year Harvard study of more than 13,000 women, participants who ate **high amounts of vegetables experienced less age-related decline in memory over the years, and leafy greens such as kale were among the most impressive.**



Spinach

- Spinach is rich in the antioxidant lutein, which is thought to help protect against cognitive decline, [according to researchers from Tufts University](#).
- And [a longitudinal study at Harvard Medical School](#) found that women who reported eating the most leafy green and cruciferous vegetables had a markedly lower rate of cognitive decline, compared to those who ate the least.

Nuts and Seeds

- **Nuts and seeds** — among the most celebrated heart-healthy foods — promote smooth, steady blood flow, which is critical for keeping your memory sharp.
- Their nutrient claim to fame? Unsaturated fats, which help to [improve cholesterol](#) levels and **ease inflammation, ensuring a continuous supply of oxygen and nutrients to your brain.**
- Swap your afternoon candy bar for a handful of almonds, cashews, pistachios or seeds (try sunflower or pumpkin) and you'll be well-fueled to tackle your afternoon workload



- **Beets** may be another secret weapon against memory loss.
- Researchers at the Translational Science Center found that giving older adults a daily dose of beet juice helped to increase blood flow to the area of the brain associated with dementia.
- At home, try mixing grated raw beets into coleslaw, or enjoy the classic, elegant combo of roasted beets, goat cheese, and arugula in a salad or sandwich. Here's a time-saving tip: Check the produce section for convenient vacuum-sealed pouches of cooked, peeled beets

Depression

- Researchers reported in the *British Journal of Psychiatry* in 2009 that a **processed foods dietary pattern** –one that is rich in processed meat, sweet desserts, fried food, refined cereals and high-fat dairy – is a **risk factor for depression in middle-aged people** compared to a whole foods pattern rich in fruits, vegetables and fish
- Results matched those found in earlier studies

Depression

- November 2011 issue of *Journal of Rheumatology* published research suggesting that **inflammation** contributes to the development of depression
- Many depressed people **have higher levels of inflammation in their bodies which appears to promote depression through many biological pathways**
- Major depression is strongly associated with c-reactive protein (CRP), a biomarker of levels of inflammation in the body that is linked to promotion of chronic diseases such as heart disease

Best Foods to Beat Depression

- Wild salmon, oatmeal, edamame, lentils, tomatoes, chickpeas, spinach, ground flaxseed, chile peppers, garlic, eggs, nuts and seeds, green leafy vegetables and blackberries



Water



- When a person becomes dehydrated, their brain tissue **actually shrinks**.
- Several studies have shown that [dehydration can affect cognitive function](#)
- Dehydration can impair short-term memory, focus and decision making

Other Ways to Stay Sharp



- Get Moving
- “If you do only one thing to keep your brain young, exercise,” says Art Kramer, PhD., professor of psychology and neuroscience at the University of Illinois
- Higher exercise levels can reduce dementia risk by 30-40% compared with low levels

Exercise



- Physically active people tend to maintain better cognition and memory than inactive people
- They also have **substantially lower rates of different forms of dementia, including Alzheimer's disease**
- Physical activity can trigger the **growth of new nerve cells and promote nerve growth**
- Most experts recommend **150 minutes a week** of moderate activity
- Research showed even 15 minutes of regular exercise 3 times per week helped maintain the brain

Seek out new skills

- Learning is like Rogaine for your brain: it spurs the growth of new brain cells
- When you challenge the brain you increase the number of brain cells and the number of connections between those cells
- Can't just keep doing the same thing – like daily crossword puzzle
- Have to learn NEW things, like sudoku or a new form of bridge, or learning how to use the computer

Say “Omm”

- Chronic stress floods your brain with cortisol which leads to impaired memory
- Harvard researchers studied men and women trained in a technique called mindfulness-based stress reduction (MBSR)
- Form of meditation which involves focusing one's attention on sensations, feelings, and state of mind
- MBSR has been shown to reduce harmful stress hormones
- MRI scans of participants brains showed density of gray matter in hippocampus increased significantly in the MBSR group compared to control

Pump some iron

- Older women who participated in a yearlong **weight-training program** at the University of British Columbia at Vancouver did 13% better on tests of cognitive function than a group of women who did balance and toning exercises



Spice it up!

- Herbs and spices like **black pepper, cinnamon, oregano, basil, parsley, ginger and vanilla** are high in antioxidants, which may help build brainpower
- Scientists are particularly intrigued with **curcumin**, the active ingredient in turmeric, common in Indian curries
- Indians have lower incidence of Alzheimer's and one theory is it's the curcumin
- It **bonds to amyloid plaques** that accumulate in the brains of people with the disease
- Animal research shows **curcumin reduces amyloid plaques** and lowers inflammation levels
- Human studies also found that those who ate curried foods frequently had higher scores on standard cognition tests





Reduce your risks

- Chronic health conditions like **diabetes, obesity and hypertension** are often associated with dementia
- Diabetes, for example, roughly **doubles the risk for Alzheimer's** and other forms of dementia
- Controlling the risk factors can slow the tide



Check vitamin deficiencies

- Older adults don't always get all the nutrients they need from foods, due to declines in digestive acids or because their medications interfere with absorption
- Older adults at risk of vitamin B12 deficiencies had smaller brains and scored lowest on tests measuring thinking, reasoning and memory researchers found
- Doctors can run a test for B12 deficiency



Get a social life

- Having multiple social networks helps lower dementia risk, a 15-year study of older people found
- A rich social life may protect against dementia by providing emotional and mental stimulation
- In one study subjects in a Univ. of Michigan study did better on tests of short-term memory after just 10 minutes of conversation with another person



Find Your Purpose

- Discovering your mission in life can help you stay sharp
- Study at Rush University Medical Center of more than 950 older adults found that participants who approached life with clear intentions and goals at the start of the study were less likely to develop Alzheimer's disease over the following 7 years



The Aging Brain

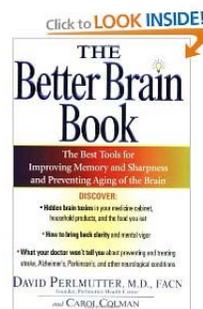
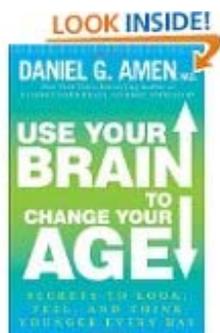
- Alzheimer's disease and dementia *isn't inevitable*
- Many experts now believe you can prevent or at least delay dementia – even if you have a genetic predisposition
- Reducing Alzheimer's disease risk factors like obesity, diabetes, smoking and low physical activity by just 25% could prevent up to **half million cases** of the disease in the United States according to a recent analysis from the University of California, San Francisco



The “New Millennium”

- 2000 BC: “Here, eat this root.”
- 1000 BC: “That root is heathen. Here, say this prayer.”
- 1850 AD: That prayer is superstition. Here, drink this potion.”
- 1940 AD: “That potion is snake oil. Here, swallow this pill.”
- 1985 AD: “That pill is ineffective. Here take this antibiotic.”
- 2004 AD: “That antibiotic doesn't work anymore. Here, eat this root.”

- The **Self-Administered Gerocognitive Exam (SAGE)** is designed to detect early signs of cognitive, memory or thinking impairments. It evaluates your thinking abilities and helps physicians to know how well your brain is working.
- You may want to take SAGE **if you are concerned that you might have cognitive issues**. Or you may wish to have your family or friends take the test if they are having memory or thinking problems.
- After you complete the test, **take it to your primary care physician**. Your doctor will score it and interpret the results. If indicated, your doctor will order some tests to further evaluate your symptoms or refer you for further evaluation.
- If your score does not indicate any need for further evaluation, your doctor can keep the test on file as a baseline for the future. That means, you can take the test again in the future, and the doctor can see if there are any changes over time. Google: SAGE test for cognitive function





Let's Get
Cooking!