

Dementia-IQ

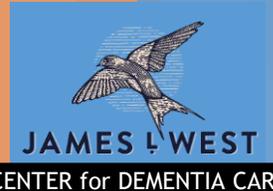
Powered by James L. West Center for Dementia Care

Healthy Brain Aging *The Power of Diet and Exercise for Brain Health*

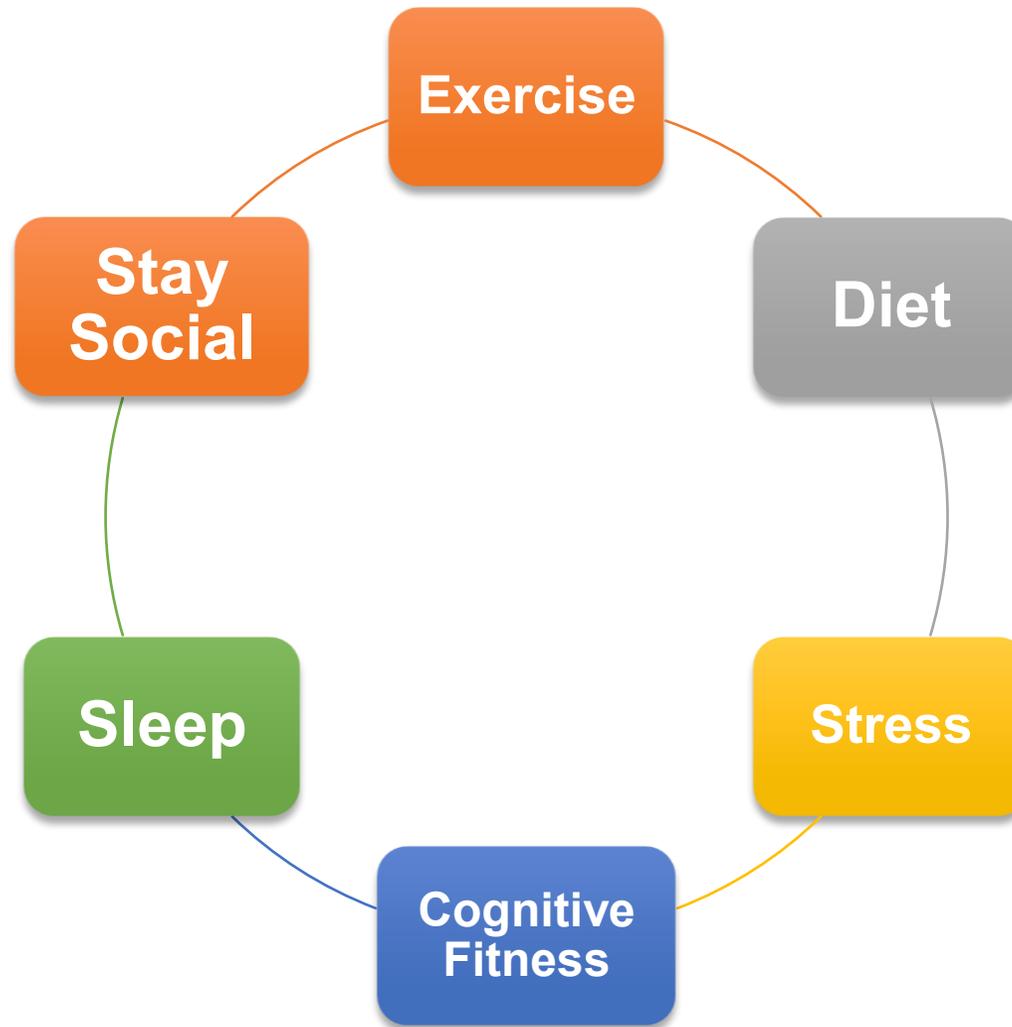
James L. West Center is a faith inspired, not-for-profit organization serving persons impacted by dementia. As a trusted expert, we provide personalized, innovative care and support for families, as well as specialized education for caregivers, healthcare professionals and the community at large.

- Residential & Respite Care
- Senior Day Program on Harris Parkway
- Short-term dementia specific rehab
- In Home Care (coming July 1)
- Dementia-IQ: Free education and support resources
(English & Spanish)

Please call us at 817-877-1199 to learn more how we can best help your family.



Influencers of Brain Health



This information provided in this program is for educational purposes only. We intend this information to be helpful and encourage you to consult with a qualified healthcare professional regarding any questions or concerns. By accepting the material provided to you in any format, you agree to not hold James L. West Center for Dementia Care and/or any organizational affiliates, liable for any claim or loss.

Normal Healthy Brain Aging

Use It or Lose It!

- ▶ Certain parts of the brain may shrink.
 - ▶ prefrontal cortex and the hippocampus
- ▶ Reduction in the brain's neurotransmitters.
- ▶ The number of neurons is reduced, and white matter may degenerate and decrease in amount.
- ▶ Arteries narrow, are less pliable, and there is less growth than new capillaries.
- ▶ Adaptive neuroplasticity - use it or lose it!
 - ▶ Lifestyle
 - ▶ Learning new skills/knowledge
 - ▶ Overall health
 - ▶ Environment
 - ▶ Genetics
- ▶ These factors play a role in optimal brain function, and continued to adapt and change over a lifetime



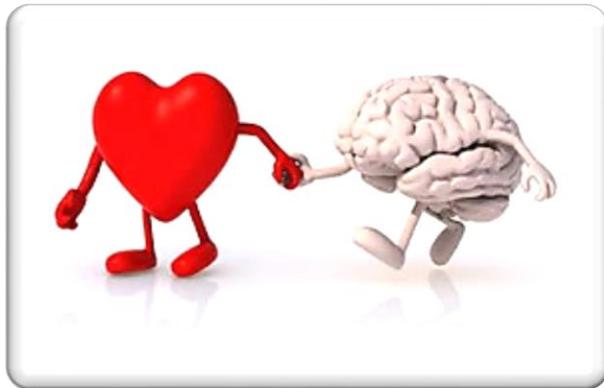
Over

7 MILLION

Americans are living
with Alzheimer's

Known Risk Factors *We Can Influence*

What is good for you heart
is good for your brain



- ▶ Heavy Alcohol Use
- ▶ Substance Abuse
- ▶ Smoking
- ▶ Atherosclerosis
- ▶ High/Low/Untreated Blood Pressure
- ▶ LDL Cholesterol
- ▶ High Homocysteine
- ▶ Head Injury
- ▶ Depression*
- ▶ Chronic Stress
- ▶ Obesity/Overweight
- ▶ Diabetes



BRAIN
FOOD



Head-Heart Connection



A brain healthy diet not only helps your heart and brain to function optimally it:

- Strengthens the immune system
- Reduces stress response in the body
- Increases energy
- Increases resiliency (physically, mentally & emotionally)
- Reduces risk for other illnesses



DIET

*Please consult with a trusted doctor

- ▶ Components of a brain healthy diet
- ▶ Mediterranean diet
- ▶ MIND Diet
- ▶ Supplements & Vitamins
- ▶ Brain Draining Foods

Do you eat to live or live to eat?

*“Let food be thy medicine and
medicine be thy food”*

-Hippocrates



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A Healthy Diet Should include:

- Omega-3 fatty acids
 - *“cold water” fish- halibut, mackerel, wild salmon, tuna, trout*
 - *fish, flax seed, avocado, walnuts*
- Antioxidants
- Leafy greens & Dark Vegetables
 - *Plant based diets contain all nutrients a body needs*
 - *Current studies suggest a plant-based diet is the best for heart and brain health*
- Healthy Fats
 - *In general fats that come from plants are healthier than fats from animals like nuts, avocados, seeds, olive oils, beans*



A Healthy Diet Should include:

- **Berries & Organic Dark Fruit**

- *contain flavonoids that improve cognition and give color to berries*

- **More color and variety**

- *naturally, colored whole foods like purple eggplant, green zucchini, brown mushrooms, orange carrots, white parsnip...*

- **More fiber**

- *get fiber from whole grains, fruit, leafy greens*
 - *21 grams for women/day*
 - *30 grams for men/day*

- **More fluids**

- *water, juice, soups, fruits, vegetables*
 - *reduce alcohol and caffeine*



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Antioxidants



- Free radicals are unstable molecules that damage cells, DNA and collagen.
 - Waste substance from cells as body processes food and reacts to the environment
 - Generated from the aging process and stress
 - May play a part in diseases like cancer, diabetes and heart disease



- Antioxidants inhibit oxidation
 - A substance like vitamin C or E that removes potentially damaging oxidizing agents, or free radicals in a living organism.
- Antioxidants are nature's way of protecting the body.
 - Help stop or limit the damage caused by these free radicals

Foods high in antioxidants are: berries, dark chocolate, pecans, beans (red, black, kidney, pinto), artichokes



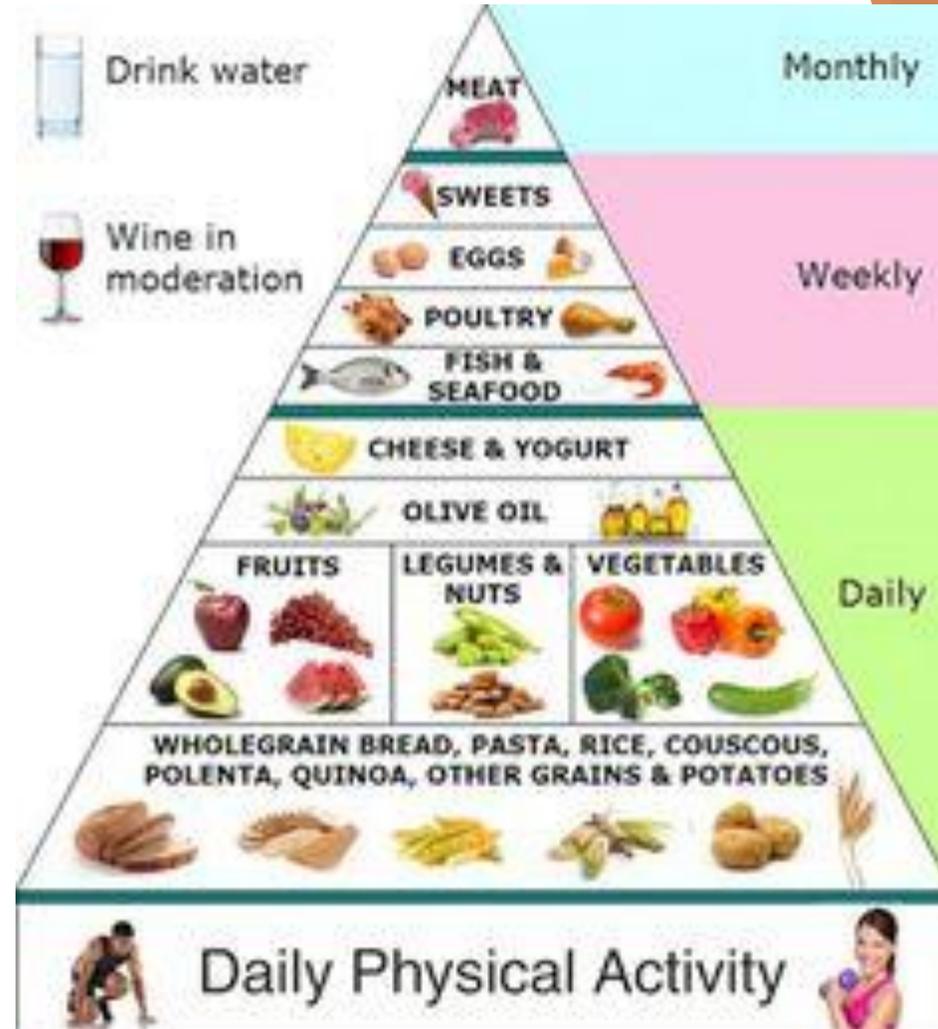
Antioxidants

- ▶ Vitamin C.
 - ▶ Yellow bell Peppers, oranges, tomatoes and berries.
- ▶ Vitamin E.
 - ▶ sunflower seeds, almonds, spinach and avocados.
- ▶ Beta carotene.
 - ▶ sweet potatoes, carrots, dark leafy greens.
- ▶ Lipoic Acid
 - ▶ Spinach, yams, tomatoes, beets
- ▶ Minerals - Selenium & Manganese.
 - ▶ Brazil nuts, oysters, tuna, quinoa, almonds and cocoa.
- ▶ Coenzyme Q10.
 - ▶ Meats, vegetable oils, nuts, seeds, salmons, fresh fruits and vegetables.
- ▶ Flavonoids
 - ▶ Plants like grape seed extract.
- ▶ Phenols
 - ▶ Produced by plants especially cranberries and red grapes.
- ▶ Polyphenols
 - ▶ Fruits and beverages such as tea and red wine.
- ▶ Phytoestrogens
 - ▶ Soy and tofu.



Mediterranean Diet

- Primarily plant-based foods
- Studies have linked the Mediterranean diet to:
 - Decrease in LDL cholesterol
 - Lower risk for cancer, Parkinson's disease, Alzheimer's disease (35-50%), and premature death
 - Lower risk for cognitive decline in later life



Meet The 'MIND' Diet

(It Slashes Alzheimer's Risk By 35%)

The Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) Diet is proof that noshing your way to brain benefits doesn't have to involve following a strict regimen.



At least three servings of whole grains a day

A salad and one other vegetable a day

A glass of wine a day

A serving of nuts a day

Beans every other day

Poultry and berries at least twice a week

Fish at least once a week

Limit unhealthy-brain foods, especially butter (less than one tablespoon a day), cheese, and fast or fried food

Source: Rush University Medical Center
Alzheimer's & Dementia: The Journal of the Alzheimer's Association

YAHOO! HEALTH

Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND)

- Hybrid of Mediterranean & DASH Diet
- All 3 diets found to reduce risk of cardiovascular conditions
- MIND showed those who had high adherence reduced AD risk as much as 53% & those who had a moderate adherence still benefitted at 35% reduced risk.

Easy to follow - 15 Dietary components

10 brain healthy food groups

- Green leafy vegetables
- Nuts
- Beans
- Fish
- Olive Oil

Other Vegetables

Berries

Whole Grains

Poultry

Wine

5 unhealthy groups to limit

- Butter/Stick Margarine
- Cheese
- Red Meats

Sweets/Pastries

Fried/Fast Foods



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Brain healthy diet also consists of:

- ▶ Maintaining a normal body weight
- ▶ Reduce the intake of foods high in fat and cholesterol
- ▶ Drinking PLENTY of water
- ▶ Eat “smart/brain healthy” foods
- ▶ Drinking alcohol in moderation**
- ▶ Drinking coffee in moderation**



Supplements

**Talk to a trusted doctor before taking any type of supplement*

- Best way to get vitamins & minerals is through your food
- “bioavailable” = our bodies know how to process them
- If not able to get through diet or you’re deficient you can take a supplement
- Supplement industry is largely unregulated so buy from a reputable source

▶ Folic acid

- ▶ essential to brain function and emotional health. It is a component of DNA and RNA and used in brain cells and central nervous system.
- ▶ Folic acid also affects the production of neurotransmitters in the brain. It increases nitric oxide in the brain, which protects against oxidative damage. Low folic acid levels have been associated with depression, sleep issues, confusion, appetite loss, nausea, and seizures.
- ▶ **FOUND IN:** Dark leafy greens such as spinach as well as chickpeas, pinto beans, lima beans, asparagus, papaya, avocado, and whole grains.



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Supplements

- ▶ **Vitamins B6 and B12** are essential for normal brain function as you age. Deficiencies in these B vitamins have been linked to elevated homocysteine levels. More common for older adults to be deficient in vitamins B6/B12
 - ▶ **Vitamin B6 IS FOUND IN:** chickpeas, beef liver, tuna, salmon, chicken breast, fortified breakfast cereal.
 - ▶ **Vitamin B12 IS FOUND IN:** clams, beef liver, fortified breakfast cereal, trout, salmon, tuna, milk.
- ▶ **Vitamin E** has antioxidant effects; Some research suggests that people who eat a diet high in vitamin E-rich foods are 25% less likely to develop dementia than those with the lowest vitamin E intake.
 - ▶ **FOUND IN:** Sunflower seeds and oil, almonds, hazelnuts, peanut butter, corn oil, spinach, broccoli.
- ▶ **Vitamin D** is important for calcium metabolism, bone, cardiovascular and brain health. Deficiencies in vitamin D come from many reasons which include obesity, poor diet and lack of exposure to sunlight. Vitamin D can be eaten or manufactured in sun-exposed skin.
 - ▶ **FOUND IN:** Oily fish, eggs and mushrooms.



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Brain Draining Foods

Many of the same foods that are damaging to your heart and blood vessels can also be bad for your brain because they increase your risk for artery clogs that lead to strokes.

- ▶ Added SUGAR - stimulates brain reward center (cravings). Linked to diabetes, obesity both of which are bad to brain health
 - ▶ Sugar has many names - read all ingredients
 - ▶ Glucose and fructose - very common and often found together
 - ▶ Glucose can be metabolized by nearly every cell in your body, while fructose is metabolized almost entirely in the liver
- No reason to avoid sugar that's naturally present in whole foods.**
- ▶ Red meat, butter, cream, cheese, whole milk
 - ▶ high in saturated fat, increases LDL cholesterol. Link btw. Saturated fat and memory**
- ▶ Refined or enriched flour
 - ▶ strips away healthiest parts of the grain (fiber rich bran & vitamin rich germ).
 - ▶ The refining process creates an easy-to-digest "foodstuff" that quickly floods bloodstream with glucose= blood sugar spikes them plummets= you feel hungry sooner.
 - ▶ Too much effects blood pressure & diabetes risk



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Brain Draining Foods

- ▶ Trans fats (hydrogenated vegetable oils)
 - ▶ Made to increase shelf life in packaged foods
 - ▶ Increases LDL, decreases HDL, raise risk for blood clots, boost inflammation
 - ▶ Should've be removed from foods by end of 2018, check nutrition label*
 - ▶ Look for partially hydrogenated oil in ingredients list even if it says 0 trans fat (only have to list it if ½ gram or more)

- ▶ Sodas
 - ▶ high in added sugars, artificial colors & flavors
- ▶ Diet sodas
 - ▶ opt for beverages with no added sugars or artificial sugars like saccharin, acesulfame, aspartame, neotame, and sucralose. Stevia, which is derived from the stevia plant, is thought to be safe.

• Amount of food



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**AS WE AGE, AN ACTIVE LIFESTYLE
+ REGULAR EXERCISE
= BETTER BRAIN FUNCTION**

Experts agree...

Regular exercise added to an active lifestyle
ALSO helps your mind stay fit



AARP

- ▶ Weather and exercise
- ▶ Meds and other conditions and exercise
- ▶ The older body - blood vessels/heart walls and exercise



Exercise

**Talk to a trusted doctor before you start an exercise routine*



Being physically active is your brain's best friend.

Can increase Hippocampal volume & Prefrontal cortex
(Cleveland Clinic Study of 100 older men and women)

Some studies suggest growth of hippocampus is stronger if you enjoy the activity you're doing.

Combining aerobics and strength training is better than either activity alone. Adding 2-3 strength sessions to your weekly routine may cut your risk of Alzheimer's in half.

Exercise

**Talk to a trusted doctor before you start an exercise routine*



**Real cognitive benefits =
challenge yourself!!**

Some exercise is better than none (event 5 min. of moderately vigorous exercise is shows benefit)

There will be benefits no matter what your previous activity level was and/or age - Just start

Needs to be a part of long-term routine

Exercise - Your Brain's Best Friend

- ▶ Increases blood flow, and strengthens blood vessels that carries oxygenated blood to brain cells
 - ▶ Nourishes and fosters growth on new vessels in hippocampus, cerebellum and other regions in the brain
- ▶ Lowers blood pressure, reduces risk of diabetes and breast & colon cancer
- ▶ Strengthens muscles and bones; decreases risks of falls
- ▶ Increases levels of BDNF (brain derived neurotropic factor)- a protein that improves brain cell communication and encourages growth and strengthen neurons
- ▶ Maintain integrity of gray & white matter - fundamental to fast transmission of nerve signals
- ▶ Enhances cognitive control, reduces impulsivity, and promotes better decision making (executive function)



Exercise - Your Brain's Best Friend

- ▶ Improves sleep - helps establish the sleep/wake cycle
- ▶ Can ease symptoms of depression and anxiety when it is a part of a long-term routine.
- ▶ Aerobic exercise and weight training seem to help make the brain more flexible.
 - ▶ Neuroplasticity is the ability of your brain to change when you learn and experience new things.

Majority of studies find regular physical exercise decreases risk for AD & cardiovascular problems



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Some Research on Exercise

- ▶ Annals of Internal Medicine - 1740 people of 65 - those who exercised more than 3x week were 34% less likely to develop dementia. They also scored higher on tests of attention, verbal fluency & memory.
- ▶ Public Library of Science - People with MCI were put in either a multicomponent exercise group or an education control group.
 - ▶ Exercise group = improved logical memory, maintained general cognitive function, reduced whole brain cortical atrophy, lowered cholesterol, increased brain-derived neurotrophic factor (encourages neurogenesis)
- ▶ Northeastern University - benefits of aerobic exercise on executive functioning (planning, attention & working memory). 6 months of exercise produce visible functional changes in the brain. Even on those who have begun to see cognitive decline show improvements as they become more active.



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How Much Exercise?

- ▶ Standard recommendations advise 30 minutes of *moderate physical activity* most days of the week, or **150 minutes a week**.
- ▶ Doubling this amount up may give your brain even more benefits. Some studies show the length of each individual session matters, too. Some of the best benefits come in exercise sessions that last 45-60 minutes.
- ▶ If 30 - 60 minutes seems daunting; add 5 to 10 minutes each week until you reach your goal
- ▶ Move more throughout the day
- ▶ Canadian study of Health & Aging suggests:
 - ▶ 30 minutes a day 6 days a week increases cellular function



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Types of Exercise

Cardio/Aerobic

- ▶ Heart beats faster to pump additional oxygen to your muscles and brain
 - ▶ Jogging
 - ▶ Brisk walking
 - ▶ Cycling
 - ▶ Swimming
 - ▶ Hiking
 - ▶ Dancing
 - ▶ Stair climbing
 - ▶ Soccer, basketball, tennis
 - ▶ Mowing the lawn

Strength/Resistance Training

- ▶ Aim for two 30-minute sessions each week (in addition to aerobic exercise)
- ▶ Work all major muscle groups
 - ▶ Free weights; barbells, dumbbells
 - ▶ Weight machines
 - ▶ Resistance bands
 - ▶ Use your own body weight



Types of Exercise

Mind-Body

- ▶ **Yoga and tai chi** are based on the principle of focusing body, mind, and breath to achieve **physical fitness and mental relaxation**.
- ▶ Their movements are slow and deliberate and mind-body exercises exert effects on the body like moderate-intensity exercise, including **better lung function and lower blood pressure**.
- ▶ How much? - 1-2 sessions a week



A collection of exercise equipment including a grey sneaker, a black dumbbell, a blue handle, a red foam roller, and two pink wristbands, all arranged on a light green textured mat.

Brain Health & Exercise

An exercise program is only 1 part of overall fitness. Engage in an hour or more of daily exercise but **aim to get more active overall.**

- ▶ **Pay attention to diet and sedentary rate= can offset benefits of exercise.**
- ▶ **Practice Safety 1st!**
 - ▶ **Talk to doctor before you begin an exercise program**
 - ▶ **Living with heart disease, diabetes, osteoporosis, arthritis, lung disease...take special precautions**

Tracking progress

- ▶ Results are measure of success!
 - ▶ Weight loss, endurance, strength, speed
 - ▶ Start slow!
- ▶ Join classes
- ▶ Get in friendly competitions
- ▶ Try something new with friends
- ▶ Have an accountability partner
- ▶ Smart Apps - great way to see the needle move
 - ▶ Motivate & educate
 - ▶ Different functions - either collect data or give you data
 - ▶ Record blood pressure/pulse (touch screen collection not proven to be accurate)
 - ▶ Physical activity (movement sensors largely accurate)
 - ▶ Healthy eating
 - ▶ Medication reminders

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- * Strive for progress not perfection.
- * Make small changes and add keep adding small changes.
- * Reward yourself along the way.
- * Add variety & keep it simple.
- * Develop a plan - life happens and can knock us off track - set goals but be flexible.
- * Find exercises that work for you and that you enjoy.
- * Talk to a trusted doctor before you start a “diet” and/or exercise plan and if you develop problems.

Healthy Brain Aging = Whole Person Wellness



- ▶ Manage Risk Factors
- ▶ **Exercise**
- ▶ Eat Brain & Heart Healthy Foods
- ▶ Quality Sleep
- ▶ Lifelong Learning
- ▶ Negative Thinking
- ▶ Manage Stress
 - ▶ Meditation
- ▶ Spiritual Activity
- ▶ Stay socially active
- ▶ Know the Warning Signs



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