

# Brain Matters

## Simple Strategies for a Healthy Brain



By Dr. Linda Marquez Goodine  
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Did you know that your brain determines every aspect of your life? It works on your behalf 24 hours a day, 7 days a week. So doesn't it make sense that you create a brain span that matches your life span?

Your lifestyle determines how your brain functions and your risk for brain disease. You have control of your lifestyle choices.

The statistics are frightening according to the CDC:

- 1 in 8 seniors have Alzheimer's
- 1 in 8 children are diagnosed with a brain development disorder such as autism, ADD, and ADHD
- Anti-depressants are the 2<sup>nd</sup> most prescribed drugs in the country
- Dementia is more feared than heart disease and cancer by older Americans

Dementia is one of the most expensive medical conditions in the U.S. According to The World Health Organization, "the neurological burden is expected to become an even more serious and unmanageable threat to public health."

"Dementia is a general term for a decline in mental ability severe enough to interfere with daily life", according to the Alzheimer's Association.

# Some Brain Facts



- The human brain weighs about 3 pounds
- Brain consistency is like tofu
- The weight of your brain is 2% of total body weight
- Humans have more brain cells at the age of 2 than at any other time of their life
- The brain uses 20% of the total oxygen and blood in your body
- The brain takes the longest of any organ to develop and goes through more changes than any other organ
- The brain does not have any pain receptors therefore cannot feel pain

# What may contribute to brain degeneration and function?

- Environmental toxins like heavy metal and mercury
- Plastics (water bottles, food containers)
- Tetrabromobisphenol – fire retardants in new furniture, carpets, mattress
- Tetrachloroethylene – dry cleaning and upholstery products
- Mycotoxins – a type of fungi found in stored grains and most food supply
- Genetically Modified Organisms (GMO's) – alter the genetic codes in DNA
- Stress affects our ability to remember and learn
- Cortisol (anti-stressor hormone) squeezes vessels from the forebrain where conscious reasoning occur and forces blood to hindbrain creating a stimulus response from a reactive behavior or not thinking at all

## Some signs of a degenerating brain which can lead to dementia.

- Anemia – impaired oxygen levels to the cells and tissues
- Decreased blood flow as in low blood pressure and oxygen saturation levels
- Decreased motility or constipation; our 2<sup>nd</sup> brain in the gut

# Strategies for optimizing brain health

## FASTING

Intermittent fasting once a week for a 24-36 hour period promises favorable health benefits. A decrease in calorie reduction by 30% allows for activation of NRF2 pathways, which helps detox free radicals. Free radicals have been linked to systemic cellular damage and premature aging.

It can also increase synaptic plasticity which is a biological marker of learning and memory, enhances performance on memory tests, decreases the risk of neurodegenerative diseases like Alzheimer's and Parkinson's.

Some will try *the 8-on and 16-off method* which can be no food after dinner at 8 pm for 16 hours and have the next meal about noon the next day.

There is a *24 hour fast* which means no food only water from dinner to dinner. This is always tough for some and of course any fast should be approved and supervised by your primary care provider.

## WATER

Many people don't drink enough water. Lack of water can affect the brain in numerous ways including focus, memory, brain fog, headaches, depression, anger, brain fatigue and many more.

Over 70 % of the human body is composed of water and every function in the body including the brain depends on water.

Some guidelines as to how much water to consume is half your weight in ounces. Drinking 12 to 16 ounces of water as soon as you wake up is a great habit to start your day off right. Drinking at least 6-12 ounces on the hour from 8 am to 5 pm, may help you track your water intake. If you have frequent trips to the bathroom cut back on your water intake after 7 pm. However, waking up to urinate may also be a sign of another health issue that can warrant a visit to your doctor.



## **EXERCISE**

Voluntary exercise can stimulate Brain Derived Neurotrophic Factor (BDNF) aka a brain fertilizer. Some of the best forms of exercise are short burst activities that can be implemented in your walks, bike rides or even in your cardio equipment at your gym. You will know if you are stimulating BDNF, if you are exercising and unable to sing during this time, however you can talk during this time with a challenge.

Even 10 minutes a day of short bursts exercises can make a difference, however the goal is to do this a couple of times a day perhaps in the morning and evening. Other forms of exercises that are helpful are strength training, flexibility and balance.

### **Strength Training**

- Twice a week
- 1 – 2 sets of 8-12 repetitions per muscle group
- Exercise all major muscle groups with compound exercises
- Squats, lunges, chest press, shoulder press, lat pull downs
- Rest 2 days in between your workouts

### **Flexibility**

- 3-4 days a week
- Short 10 minute sessions
- Stretch muscles through full range of motion and hold for about 1 minute
- Yoga, stretching and Tai Chi are great

### **Balance**

- 2-3 days a week
- Walk on heels and toes
- Stand on one leg
- Sit to stand
- Stand heel to toe
- Walk backwards and sideways
- Try Tai chi or yoga





## **MEDITATION**

Meditation is one of the most effective ways to chart new pathways in the brain. Richie Davidson from the Center for Healthy Minds at the University of Wisconsin Madison is sure of 3 things

1. You can train your brain to change
2. The change is measurable
3. New ways of thinking can change it for the better

Meditation helps with brain connections between regions and helps decrease DMN Default Brain Network which equates to the monkey thoughts, wandering mind, thinking of the past and future.

Meditation can increase the grey matter or cortical thickness of the brain in different regions that are responsible for:

- Cognitive flexibility
- Monitoring of attention conflicts
- Planning
- Problem solving
- Emotion regulation
- Learning and memory



## **SLEEP**

Most people think that our body shuts down during sleep, however it's the opposite. The body is very active during sleep especially in repairing and regenerating tissues, including the brain. If you have a sleep deprived person this affects their cognitive abilities and ability to perform simple daily tasks. Just ask any mom caring for their new born or a sleep deprived soldier or college student cramming for an exam.

During sleep your glymphatic system is active and can help remove a toxic protein beta-amyloid for brain tissue. The accumulation of Beta amyloids are found in the brains of those with Alzheimer's Disease. Think of your glymphatic system as your brain's detox system.

- Sleep for 7-9 hours
- Get to bed by 9 pm -10 pm
- Diffuse lavender oil to help sleep
- Remove all electronics from bedroom including alarm clocks, televisions, cell phones
- Keep room dark

## **OTHER STRATEGIES**

- Music – listening or playing
- Crafts
- Story telling
- Laughter
- Crossword puzzles
- Word Search
- Reading
- Stress management
- Social engagement and groups
- Nutrition – eat real food that include organic vegetables, organic fruit, wild caught fish, organ meats, grass fed beef, organic turkey and chicken that has been humanely raised, fermented foods
- Avoid processed foods, sugars, industrial oils, gluten (wheat, oats, rye, barley)

## **HELPFUL NUTRIENTS FOR THE BRAIN**

- Curcumin activates the NRF2 pathway – 1 gram/day
- Fish Oils (EPA/DHA) 1- 3 grams/day (the higher the better) – activates the NRF2 pathway which has anti-oxidant effects
- Resveratrol – 500 mg/day – great for NRF2 pathway activation
- Probiotics – 30 billion day nourishes the gut AKA 2<sup>nd</sup> brain which makes over 30 neurotransmitters like Serotonin (good mood), Dopamine (reward, pleasure, take action), GABA (sedative, action and relaxation)
- Coconut oil – 2 tablespoons/day which is rich in MCT, medium chain triglycerides, which breaks down to ketones, fuel for the brain

## **ONE LAST THING.....**

If you're serious about getting healthy, regaining your health, or losing weight and want to live life to the fullest, then give us a call at Innovative Health & Wellness Lake Havasu City at 928-854-7666 and schedule an appointment to create your road map to optimal wellness. Let us help you regain your health!

## **ABOUT THE AUTHOR**

Linda Marquez Goodine is an author, speaker, holistic nutritionist and holds a doctorate degree in Chiropractic Medicine. Dr. Linda is committed to helping patients find the root cause of their health problems and fix them with natural solutions so they can feel normal again.

She graduated in 1992 from Southern California University of Health Sciences (former Los Angeles College of Chiropractic). Her post graduate studies have extended in Functional Medicine, Obesity Related Issues, Digestive Health, Brain Health, Thyroid Health, Chronic Fatigue, Chronic Pain and Women's Wellness.

Dr. Linda has been interviewed on television, radio and has contributed to a national health column, in addition to workshops at churches, Fortunate 100 companies, women's organizations and associations.

Dr. Linda is married to her high school sweetheart, has 3 children and enjoys spending time with her family.

Sources: [www.WebMD.com](http://www.WebMD.com); [www.mindful.org](http://www.mindful.org); [www.nih.gov](http://www.nih.gov); [www.healthybrains.org](http://www.healthybrains.org); [www.PDF.org](http://www.PDF.org); [www.CDC.org](http://www.CDC.org); [www.waterbenefitshealth.com](http://www.waterbenefitshealth.com); [www.sciencificamerican.com](http://www.sciencificamerican.com)