

Paul D. Nussbaum, Ph.D.  
Clinical Neuropsychologist  
Adjunct Associate Professor of Neurological Surgery  
University of Pittsburgh School of Medicine  
[drnuss@zoominternet.net](mailto:drnuss@zoominternet.net)  
[www.paulnussbaum.com](http://www.paulnussbaum.com)  
412-471-1195

### **Your Brain Health**

The single greatest system ever designed in the history of the universe is your brain. Your brain is responsible for your every thought, emotion, and behavior. Unfortunately we humans do not know much about our brains and it is time to change that.

#### **Brain Basics:**

1. Your brain weighs 2 to 4 pounds.
2. Your brain is comprised of 60% fat and is the fattiest system in your body.
3. Your brain consumes 25% of the blood from every heartbeat.
4. Your brain has two sides or hemispheres (left hemisphere and right hemisphere).

Left hemisphere helps you with language, detail, and analysis

Right hemisphere helps you with faces, spatial orientation, sounds.

5. Your brain has a Cortex and Subcortex.

Your Cortex is conscious and helps you learn, remember, communicate, Read, write, orient to space, process sensory information, and personality.

Your Subcortex processes subconscious motor or procedural behaviors such as dressing, driving, and typing on your computer.

Your Cortex and Subcortex interact as a beautiful symphony.

6. Your hippocampus is the structure in your brain (sits in the middle of each temporal lobe just under each temple on your skull) that enables you to learn.

### New Ideas about Your Brain:

The human brain (like the animal brain) can generate new brain cells. This new brain cell development (neurogenesis) occurs in the hippocampus.

The human brain is now thought to have “neural plasticity” or be a system that is highly dynamic, constantly reorganizing, and malleable. It is shaped by environmental input.

Our brains need exposure to environments that are enriched, complex and novel. Environments that are passive and rote do not help the health of your brain.

Exposure to enriched environments across your lifespan will lead to new brain cell development and increased cellular connections (“**Synaptic Density**”). Synaptic Density or **Brain Reserve** may help to delay the onset of neurodegenerative diseases such as Alzheimer’s and related dementias.

### **Your Brain Health**

1. Brain health begins in the womb and needs to be promoted across your lifespan.
2. Engage in the novel and complex not the rote and passive.
3. Consider the following Brain Health Lifestyle to build up your brain reserve:

#### Five Domains of the Brain Health Lifestyle:

##### Socialization

Do not isolate or segregate as you get older. People who isolate have a higher risk for dementia.

Join groups and social organizations in your community.

Maintain and build your friendship and family network.

Be forgiving.

Develop hobbies.

Do not retire.

##### Physical Activity

Walk between 7,000 and 12,000 steps daily. Walking several times a week reduces the risk of dementia.

Buy yourself a pedometer to remind yourself to walk and to keep track of your daily steps.

Dance as this is a behavior that reduces the risk of dementia.

Garden and Knitting reduce the risk of dementia.

Aerobic exercise will help the heart and thereby feed the brain with the necessary blood and oxygen. It also promotes cognitive functioning such as memory and is now believed to relate to positive structural changes in the brain.

Use both sides of your body more often: Become ambidextrous.

### *Mental Stimulation*

Learn a second language.

Read and write (use your nondominant hand) on a daily basis: the more complex the better.

Learn sign language as it increases IQ and increased IQ reduces the risk of dementia.

Play board games as board game playing reduces the risk of dementia.

Travel reduces the risk of dementia because it involves a new and complex environment.

Play a musical instrument.

Listen to classic music as it helps to increase learning.

Go to [www.fitbrains.com](http://www.fitbrains.com) for a daily cognitive workout

Problem solve.

### *Spirituality*

Pray on a daily basis as it enhances your immune system.

Attend regularly a formal place of worship as it relates to better quality of life and longevity.

Learn to meditate in order to slow down. Animals exposed to environments that are too stimulating demonstrate slowed brain development.

Learn relaxation procedures with deep breathing and muscle relaxation.

Slow down and do not be afraid to say “no”.

### Nutrition

Eat 80% of what you intend to eat at each meal. Reasonable caloric restriction can increase your longevity.

Eat with utensils and you will eat less and also eat healthier foods.

Increase your intake of Omega 3 fatty acids. This includes fatty fish such as salmon, sardines, and herring. Several ounces of salmon weekly reduce the risk of dementia. Walnuts and unsalted nuts are also good for you.

Increase your intake of antioxidants. This includes Vitamins C and E. Colored fruits (grapes, apples, cantaloupe, and berries) and vegetables are good for you. The FDA recommends five servings of fruit and vegetables a day.

Decrease your intake of processed foods and red meats. Lean meat such as chicken breast without skin is relatively okay.

Green leafy vegetables are good for you.

Eat one sit down meal with others a day. This activity provides many brain boosting effects at once (classic music, language, eating with utensils, slowing down, eating healthier foods).

### **Begin Your Brain Health Program Today!!**

Order Dr. Nussbaum's new book *Your Brain Health Lifestyle: A Proactive Program to Preserve Your Life Story* (1-800-827-7903)