Maintain Memory and Cognitive Function – A Natural Strategy

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Although the brain changes with age, a growing body of research suggests that the lifestyle factors such as social activities, intellectual stimulation, physical activity and diet play a key role in maintaining cognitive health.

Far from being an “inevitable” consequence of aging, we now understand that cognitive decline and memory deficits are the predictable results of a lifetime of oxidative and inflammatory injury that
damages brain cells and limits their ability to communicate with one another.

We live in unique times and there is no doubt in my mind that it can affect your health. Social and economic problems on a global scale provide an endless stream of stress. The combination of stress and the growing number of environmental toxins provides a one-two punch that can affect your health. As the elderly population increases and people live longer, developing and implementing strategies for maintaining cognitive health should be a priority for both individuals and societies.

A crucial step in maintaining cognitive health is to eliminate, or at least limit the intake of synthetic chemicals that have a damaging effect on the brain. Eliminating neurotoxins from your diet is not as easy as it may sound. The Environmental Working Group (EWG) recently published results of a study to determine how early in life do synthetic chemicals begins to accumulate in the body. Researchers analyzed blood samples taken from infants, born in U.S. hospitals, for the presence of more than 400 industrial and consumer product chemicals. The results were startling. Researchers found that the babies averaged 200 contaminants in their blood. Among the toxins identified was mercury, fire retardants, pesticides and a chemical used in the production of Teflon, PFOA. In total, the babies’ blood contained traces of 287 chemicals many of which are well-established neurotoxins.

**Plant-Based Antioxidants**

A healthy diet is a key factor in maintaining cognitive health. In fact, the food choices you make throughout life can increase, or decrease, your risk for many age-related diseases that cause premature death or disability. A review of several long-term studies conducted by the Harvard School of Public Health, and involving almost 300,000 subjects show that subjects who ate a diet rich in plant-based antioxidants were at a lower risk for breast and prostate cancers, heart disease, diabetes, and stroke. Eating fresh fruits and vegetables is important to your health, but equally important is that they be natural and free of any pesticide residue. If you want to be healthy, keep in mind that the quality of the food you eat is as important as the quantity of food you eat.

Wash all fruits and vegetables under running water just prior to serving. Even better, buy as much organic produce as you can. Conventionally grown produce will always include system pesticide residue no matter how carefully you wash it. Organically grown produce is becoming more accessible every day. Large grocery chains like Wal-Mart now have entire sections devoted to organic and natural foods. However, you should still wash organic produce under running water to remove any microorganisms on the surface. According to the CDC, food borne illnesses are responsible for more than 250,000 emergency room visits each year.

There is overwhelming scientific evidence that even small doses of pesticides and other chemicals can cause cumulative and lasting damage to human health, especially during fetal development and early childhood. I have read enough about these toxic chemicals to know that I should avoid them at all costs. Buy as much organic fruits and vegetables as you can. If you are lucky, enough to have local farms nearby get to your local farmers market. Once you try local produce, you will never again accept the washed-out taste of produce shipped thousands of miles across the country.

**Dietary Fat – Brain Food**
Despite the importance of fresh fruits and vegetables, to maintain cognitive health your diet must include good dietary fats. The controversy surrounding fat makes no sense to me. In our society, with more than 60% of the population overweight, fat has become a demon. Conventional thinking is you should eat low-fat and keep your blood cholesterol levels as low as possible. However, becoming a fat-phobic is arguably the worst thing you can do for your brain. When you remove fat from your diet, you deprive your brain of one of its most important building blocks.

Researchers from Boston University recently completed a review of data on more than 2,000 men and women who originally participated in the Framingham heart study. Their goal was to determine the relationship between total cholesterol and cognitive function. Published results showed that not having ENOUGH dietary cholesterol could cause a measurable deficit in mental functioning. When a group with the lowest cholesterol levels was compared with the higher cholesterol level group (240-380), the participants with the lowest levels of cholesterol were 80% more likely to perform poorly on tests of similarities, word fluency, attention, and concentration.

**Exercise Your Brain**

Little more than a decade ago, scientists thought that the brain was hardwired and as we aged and the hardwired connection began to fail, so did the brain. We have since learned that with a minimal amount of physical exercise, intellectual stimulation and proper nutrition, you can minimize age-related memory deficits and cognitive decline. We now know it is possible for the brain to seek new connections when old ones fail. Memory exists because there is communication among millions of brain cells. When brain cells die, it stops communication in that area. However, given the proper stimulation, your brain will seek an alternate path around the damaged cells.

Just as you can increase your muscle structure with physical exercise, you can increase your memory with intellectual stimulation. Throughout your life, your neural networks reorganize and reinforce themselves in response to new stimuli and learning experiences. Forcing the mind to learn new experiences is what stimulates brain cells to grow and connect with each other in complex ways. It is important to challenge your brain to learn new and novel tasks, especially tasks that you have never done before. Good exercise for the brain is reading a book, or a magazine or the daily newspaper. Learning a tai chi or yoga routine is a great way to attain fitness above and below the shoulders.

If you are right-handed, try using your left hand more during the day. Switch the hand you are using to control the computer mouse. It will feel awkward for a while, but with practice, you will be amazed at your progress. Try this exercise with other everyday tasks. Use your opposite hand to brush your teeth, dial the phone or operate the TV remote. You may feel uncomfortable, but your brain is learning a new skill and it will strengthen neural connections and even create new ones. Your brain needs constant exercise to stay in peak shape. Brain scans confirm that when learning new skills, more blood flows into infrequently used neural zones. Connections form where few existed before. More oxygen reaches little-used zones of the brain. Challenge your mind every day. Learn to play chess or a musical instrument. Learn a new language. Participate in social activities. Social interaction has been shown to maintain memory and cognitive function. Keeping your brain active will keep it young.

**Physical Activity and Brain Function**
Researchers at the University of Illinois at Urbana examined the effects of exercise and physical fitness on memory, cognitive function and brain structure. They focused on the hippocampus, a brain structure that is vital to memory. The function of the hippocampus is closely related to the size. Numerous studies have shown that bigger is usually better. Studies have also shown that the hippocampus shrinks with age, a process that coincides with cognitive decline. Now, researchers have found that elderly adults who are more physically fit tend to have bigger hippocampi and better memory than those who are less fit. The study, published in the journal Hippocampus, shows that hippocampus size in physically fit adults, accounts for about 40 percent of their advantage in memory.

Earlier studies found that physical exercise increases hippocampus size and memory in rodents, but the new study is the first to demonstrate that exercise can affect hippocampus size and memory in humans. Participants in the study, 59 to 81 years of age, walked for thirty minutes 3 days a week. Using MRI imaging, the researchers could see a difference in the structure of the hippocampus and when the participants were tested there was a 15% improvement on memory and attention. We are beginning to understand that the brain can constantly adapt and rewire itself. Even as we age, our bodies are capable of growing new brain cells.

**Recommendations:**

A vast array of targeted nutrients is available to help maintain memory and cognitive function. There is strong evidence that certain nutrients play important roles in improving the quality of life of older adults by addressing the factors involved in age-related cognitive decline. These nutrients together with healthy lifestyle choices, therefore, makeup a vital part of any long-term brain health regime. Fundamental to a cognitive health plan is ensuring your body has sufficient amounts of key nutrients. As you age, the body’s ability to digest and absorb nutrients decreases. This can lead to sub-clinical nutritional deficiencies in the elderly. If you do not presently take a daily multi vitamin you are leaving a gaping hole in your cognitive health program. A high quality multivitamin/mineral formula will buffer nutrient-depleted westernized diets so that your brain is not “running on empty.” There is overwhelming evidence an adequate supply of B vitamins, especially Folic Acid, helps support brain health. Folic acid has been extensively researched for its brain protective powers and has brought some impressive results. I recommend a high quality multi-vitamin formula like our recently reformulated Daily Essentials.

**Phosphatidylserine – Critical for Brain Structure**

An emerging superstar in neuroscience is the naturally occurring phospholipid Phosphatidylserine (PS), pronounced (FOS-fuh-tie-dul-SEHR-een). PS is a vital component of cell membranes and in particular brain cell membranes. Nearly 10% of every neuronal membrane is PS. To underline the importance of PS to the brain, the total amount of PS in the body is about 60 grams, 30 grams of which is in the brain. But, as we age, the amount of available PS in the body begins to decline and recent research indicates that taking supplemental PS can help the aging brain.

In the body of more than 3,000 studies on PS, there is growing evidence that supplemental PS is important to maintaining cognitive function. When it comes to natural supplements and health claims, the FDA proceeds at a snail’s pace; yet even the FDA has taken notice of PS. According to the FDA, “consumption of phosphatidylserine may reduce the risk of dementia and cognitive dysfunction in the elderly.” They do, however, attach the caveat “limited and preliminary scientific
research suggests that phosphatidylserine may help maintain cognitive function, but there is still little scientific evidence supporting this claim.” While the FDA looks for the conclusive evidence, I have decided to take 200mg of PS daily.

**Antioxidants are Fundamental**

Overwhelming scientific evidence suggests that increased levels of oxidative stress and/or antioxidant deficiencies are risk factors for progressive cognitive decline. This free-radical damage is usually prevented by the body’s natural defenses, but these defenses decline with age and oxidative stress may contribute to cognitive decline. Taking supplemental antioxidants is fundamental to maintaining cognitive health. One antioxidant that keeps showing up in research papers is **alpha lipoic acid** (ALA). Researchers call this semi-essential nutrient “the universal antioxidant” because it is both water and fat soluble. But what makes ALA such an exceptional antioxidant is its ability to regenerate other antioxidants like Vitamin C and Vitamin E, Glutathione, the master antioxidant and Co Enzyme Q10, which is so important in the production of energy from active muscle groups like the heart. To keep antioxidant levels high, take 200-600mg of alpha lipoic acid daily.

**ALA and ALC Dynamic Duo**

Taking **acetyl L-Carnitine** with alpha lipoic acid has a synergistic impact on cognitive health. Acetyl L-Carnitine (ALC) is a unique form of the amino acid L-Carnitine and is well-suited for cognitive support. ALC readily crosses the blood-brain barrier and an important byproduct of ALC is the key neurotransmitter Acetyl Choline. There is growing scientific interest in this combination since a landmark study published in the prestigious Proceedings of the National Academy of Sciences. The study focused on the association between oxidative stresses, mitochondrial function and memory. Mitochondria are “little organs” found in virtually all cells, in the human body, and are the power plant of the cell. For decades, researchers have called the mitochondria the “weak link in aging.”

According to co-author Dr. Troy Hagen, the combination of alpha lipoic acid and acetyl L-Carnitine “significantly reversed the decline in overall activity, typical of aged rats, to what you see in a middle-aged to young adult rat. This is equivalent to making a 75- to 80-year-old person act middle-aged. We’ve only shown short-term effects, but the results give us the rationale for looking at these things long term.” I am a big fan of ALC; I take 1000mg daily. ALC also has excellent cardiovascular benefits. Remember, the main function of L-Carnitine in the body is to mobilize fat and fat is your heart’s #1 fuel of choice.

**Omega III Essential Fatty Acid – DHA**

Omega III essential fatty acids are the number one deficiency is our westernized diet. Unless you are eating fish several times per week, or taking supplemental fish oil supplements, you are not getting enough DHA (docosahexaenoic acid). DHA is a significant component of brain tissue and the turnover of DHA in the brain is very fast. Decreases in DHA in the brain are closely associated with cognitive decline. I do not eat much fish, but I do take supplemental omega III fats in the form of fish oil capsules. I get the same Omega III fats, but without the mercury and other environmental toxins found in conventionally farmed fish. Hundreds of studies have shown that fish oil capsules are an effective way to increase your body’s reserves of the important Omega II derivatives, EPA, with its exceptional benefits to the cardiovascular system and DHA, the most abundant fat found in
your brain.

If you are taking fish oil capsules that have a “fishy after-taste”, or is hard to digest and causes you to burp fish for hours, you are taking the wrong fish oil. It took me some time, but I found the freshest, purest and most concentrated fish oil supplement and it doesn’t taste like fish. Through an exclusive and patented flavoring process, Nordic Naturals Pro DHA is enhanced with 100% natural strawberry flavoring in the oil and soft gelatin capsule. Two capsules of Pro DHA contain 450mg of DHA, a perfect maintenance dose for your cognitive health program. Nordic Naturals also makes the finest Arctic Cod Liver Oil, another great source of DHA. It might seem hard to believe, but this is one great tasting Cod Liver Oil….just ask my grandson.

Maintaining brain health is essential if the pursuit of a longer life is to have any meaning. While various factors threaten our cognitive health there is much that we can do to prevent its decline. Science provided some remarkable discoveries within the last decade. We now know that with intellectual stimulation and physical exercise, we can minimize what was once thought to be inevitable. Researchers have identified targeted nutrients that can slow or even reverse age-related cognitive decline. These supplements offer a smart option for maintaining brain health throughout life. Because antioxidants and cellular building blocks like Omega III fats and phosphatidylserine are involved in vital functions in virtually all organ systems, supplementation to prevent age-related cognitive decline may also help protect against other age-related conditions.

One Comment to “Maintain Memory and Cognitive Function – A Natural Strategy”

Artex Group says:
1. May 28, 2014 at 8:52 pm

Very informative article about brain health and cognitive functions and how to help as you grow older.

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