



Brain Defense

By: Gary E. Foresman, MD

Preserving function, specifically preserving our memory has become a virtual obsession in American culture. When we look at practical strategies to enhance a graceful aging process, we must not only look at how to defend our brain, but also how to defend the rest of our body.

Let us, as always, start with lifestyle. Please review the “[Foundations of Health](#)” document found prominently on the home page of our website (www.middlepathmedicine.com). This article reviews all of my primary care strategies. I find that most medical illnesses, when inadequately treated, lead to memory loss. Please see your physician and ensure you have been treated adequately for the following conditions:

High Blood Pressure

Your average systolic blood pressure (top number) should be under 135, even if it takes going through several medicines or supplements to reach this goal.

High Blood Sugar

Not just diabetes; if your fasting blood sugar is > 100 you have a serious problem. Another very useful and simple test, known as the A1C measures your average blood sugar. Most labs have a normal range up to 5.9, however anything above a 5.5 deserves evaluation and treatment.

Dyslipidemia

A fasting lipid panel (no eating for 12 hours) with determinations of triglycerides, LDL “bad” cholesterol, HDL “good” cholesterol help determine your cardiovascular risk and provides vital markers indicative of healthy aging.

Smoking Cessation

If you continue to smoke, which is of course your choice and your right, it pretty much makes no sense to discuss how to improve the aging of your brain.

Other Surrogate Markers

to be considered by yourself and your physician include:

- (a) homocysteine—an amino acid which is a key marker of B vitamin metabolism
- (b) fibrinogen and Lp(a)- markers of hypercoagulability and
- (c) hsCRP – highly sensitive C-reactive protein, a marker of inflammation.

There appears no question that chronic inflammation and oxidation are the primary instigators of damage to the brain. The appropriate treatment of these problems begins with stress reduction, exercise, diet, and the aggressive treatment of medical conditions that affect the whole body, not just the brain. If we age gracefully, our brain will age gracefully.

The most prevalent theories on aging of the brain and subsequent memory loss include chronic oxidative stress – with inadequate free-radical scavenging capacity, chronic inflammation due to lifestyle indiscretions, and advanced glycation end products (AGE) which basically means insulin resistance and abnormal sugars stuck to your proteins. No one doubts that there is a genetic role, but memory loss is clearly and primarily an environmental illness. We have already referenced lifestyle interventions necessary in the prevention and treatment of memory loss, and can now focus on nutritional supplements.

Although I do not intend to discuss medicines used for Alzheimer's, I do want to mention a memory enhancing medicine, memantine (Namenda). It is the first in a new class of medicines known as NMDA receptor antagonists. I feel that the effectiveness of this medicine proves what has been stated for so long about "excitotoxins" such as MSG and aspartame (NutraSweet), being potent brain toxins. These food additives are direct agonists of the very receptor which this drug blocks. Regular sodas induce the metabolic syndrome which leads to memory loss. Diet sodas not only induce metabolic syndrome at the same rate as regular sodas, but also contain a substance (aspartame) which acts as a direct excitotoxin to the brain.

The list of supplements for enhancing memory, reducing inflammation and providing antioxidant protection seems endless. I will list the supplements according to what I have found most useful in my clinical practice. As always, if you don't choose a quality supplement at the dosages listed, you cannot expect the same positive results. Please refer to the "Basic Nutritional Protocol", found on the home page of our website (www.middlepathmedicine.com), that serves as the foundation for a supplement routine. Consider the following as only a partial list of supplements to consider specifically for memory enhancement:

Alpha Lipoic Acid: 300mg sustained release - 1 tab twice per day.

An excellent antioxidant, insulin sensitizer, and regenerator of mitochondrial function. Best when used in conjunction with Acetyl L Carnitine. Also see [Alpha Lipoic Acid](#) in our "Supplement of the Week" series.

Acetyl L Carnitine: 500 mg

1 tab twice per day; a marvelous antioxidant and complimentary mitochondrial regenerator when used with Alpha Lipoic Acid. Also see Acetyl L Carnitine in our "Supplement of the Week" series.

Vinpocetine: 10 mg

1 tab twice per day; research indicates that this periwinkle derivative has better antioxidant, anti-inflammatory, and microcirculation enhancing properties when compared with ginkgo biloba, its more famous memory enhancing herb.

Huperzine A: 50mcg – 1 tab once per day, 5 days on, 2 days off.

An excellent enhancer of the “memory-neurotransmitter” acetylcholine. Not to be used with memory enhancing medicines unless supervised by a physician.

Phosphatidyl Serine: 150mg capsule twice per day.

Important in both acetylcholine and dopamine neurotransmission. Studies conflict on the utility of this supplement, however I have often found it useful when used for mild memory loss.

Although there are hundreds of other supplements in tens of other categories, these are the supplements most consistently useful in treating the early stages of memory loss, and stabilizing the clinical course of more severe dementia. If someone has significant memory loss, they will require appropriate history, physical exam, laboratory evaluation and an individualized treatment plan. As always, any decision about supplements should be made between you and a healthcare professional knowledgeable about their use.

Your Journey to Health and Healing,
Gary E. Foresman, MD

References:
Upon Request

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