

# How to Build a Better Brain

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The following information about [MindMattersRx](#) is what I have been telling my patients since the formula was finalized nearly one year ago. I will have the long-winded version that only some patients want to hear, in writing soon for those of you with further interest. I believe it is reasonable to assume that I do not need to spend time convincing you that your brain is aging and that this is not a good thing. Therefore, I will immediately jump into what to do about it.

## Which Carnitine is which?

According to my 28-year-old Biochemistry textbook, Carnitine enables cells to get energy from burning fat, which is the major energy generating process during fasting, exercise and high fat intake. Clinical studies have shown benefits to supplementation for weight loss, muscle building, blood sugar regulation, blood flow in the legs, heart function and much more.

Acetyl Carnitine functions as Carnitine but has additional benefits due to its ability to cross the blood brain barrier. While encouraging the release of many neurotransmitters, (gets brain cells talking to each other more effectively) it also multiplies many times over the effects of nerve growth factor, a major stimulator of nerve cell re-growth and repair. The same pharmaceutical company that discovered this, went on to demonstrate that a special version of Acetyl Carnitine; Acetyl Carnitine Arginate actually duplicates the effects of nerve growth factor. Together, Acetyl Carnitine and Acetyl Carnitine Arginate powerfully stimulate re-growth and repair of nerve cells and dramatically increase the number of connections between cells. This is especially important, as it is currently believed that the loss of connections, not the loss of cells is the critical factor in memory and other aging brain problems.

In addition Acetyl Carnitine has been shown to prevent the buildup of the protein lipofuscin, a marker of brain cell aging. Acetyl Carnitine Arginate prevents the build up of the protein beta amyloid, which has been implicated as a major factor in Alzheimer's disease.

## I can do that too.

Once science determined that loss of connections between nerve cells is the critical factor in deteriorating brain function many substances were evaluated for their ability to cause new growth of axites and dendrites (the connecting parts of nerves) and establish new connections. Not surprisingly many supplements commonly used for brain support were shown to enhance this outgrowth and reconnection.

The herb, gotu kola, (centella asiatica) used for centuries in Asia for its restorative properties, especially memory improving and general anti aging effects, has been shown to stimulate the outgrowth of axites and dendrites.

Uridine, naturally occurring in breast milk, and added to infant formulas, has long been known to be necessary for the developing brain but was only recognized as important in adult brains in the 1960's. Cytidine is made from Uridine and both play central roles in the DNA/RNA/protein manufacturing system. Recent research has shown Uridine to be a stimulator of axite and dendrite out growth as well.

## **I never even heard of that before**

Astaxanthin is a member of the Vitamin A family that crosses the blood brain barrier possessing unique and powerful antioxidant properties. Amongst its many abilities, Astaxanthin can substitute for Vitamin E in preventing certain chemical reactions that are particularly nasty.

Lipid peroxidation is a membrane damaging chemical reaction well known to affect brain cells. Caused by certain pro-oxidant and pro-inflammatory substances, including many common pain relievers, the reaction spreads like a contagious disease from oxidized fat molecules to normal ones. Vitamin E and Astaxanthin both halt this oxidizing process. They also prevent the oxidation of "bad" cholesterol (LDL) which can only start the cycle of blood vessel injury and plaque buildup if allowed to oxidize.

The problem with Vitamin E is the science suggesting that commonly used dosages may be unhelpful or even harmful under some circumstances. Astaxanthin has 100 to 500 times the antioxidant properties of Vitamin E and easily crosses the blood brain barrier stopping the abnormal oxidation in the nerves of the eye and brain without the potential side effects of the large doses of Vitamin E required to do the same job.

One last thing bears mentioning here, we did not use the commonly available, 10%pure, highly unstable, oil-based Astaxanthin. It took a year to find this particular 99% pure, highly stable Astaxanthin and we didn't suffer the delay in production out of stubbornness. We stuck with it to ensure that [MindMattersRx](#) is the best nerve re-growth and repair product available.

Well there you have it, the basics on how to rebuild a brain. I hope you have as much success with [MindMattersRx](#) as my patients and I have. Although I realize one may wonder about placebo effect, after only one week of use, significant improvements in sleep, dreaming, mood, memory and energy have been noted.

Thank you for your interest.

Doctor Harold