



Wellness Minute

Health Information You Can Use On Your Path To Wellness

Acetyl-L-Carnitine

Fuel for the Brain

- Parkinson's
- Alzheimer's
- ALS
- Brain Fog



The Benefits of Acetyl-L-Carnitine

“Acetyl-L-carnitine [is beneficial] for preventing and treating neurodegenerative diseases such as ALS, Parkinson's disease, and Alzheimer's.”

Any nutrient that directs and carries fatty acids into the mitochondria to be used as fuel has my full attention. You see, the mitochondria in our cells are the energy factories. They make and store energy. One of the common factors with every major chronic condition is mitochondrial impairment, meaning the mitochondria are not working efficiently. Therefore, they don't supply enough energy for our cells to function at peak capacity. Reduced amounts of energy means cells are not repairing. If they are not repairing inflammation occurs.

Let me put it another way; it takes energy to put out the metabolic fires that accompany everyday metabolism. You hear all the time how the real dis-

ease is inflammation. If our cells don't have energy to repair, the result will be inflammation.

So, when I hear about nutrients that supply energy to the mitochondria in our cells and help them function more efficiently, I get excited. One such nutrient is Acetyl-L-Carnitine. Acetyl-L-carnitine is modified from the amino acid L-carnitine. L-carnitine is made from two other amino acids; lysine and methionine. Both L-carnitine and acetyl-L-carnitine play an important role in the metabolism of fats allowing them to be burned in the mitochondria.

Think of both forms of carnitine like a forklift that carries long chain fatty acids across the inner mitochondrial membrane

to be used as energy. But Acetyl-L-carnitine has the added advantage of entering the brain more easily, where it improves brain cell function, memory, and chelates excess iron from the brain.

I was fascinated to learn that Acetyl-L carnitine also produces critical components called phospholipids that are needed for cell membranes and for efficient brain function. As we age, levels of these phospholipids in the brain decline. Think about it, as we age, our repair system, especially in our brain, becomes more susceptible to stress, injury, and free radical damage. At the same time, when our brain is more susceptible, our antioxidant defenses, which fight free radicals decline. For example,

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by the time we reach 70, DNA damage has 15 times the effect that it does at age 20.

Another benefit of Acetyl-L-carnitine is the increase and utilization of acetylcholine, an essential neurotransmitter in the brain. This is important for two reasons: first, acetylcholine plays a major role in memory and learning; and second, it operates a powerful system the brain uses to suppress inflammation.

Acetyl-L-carnitine has been shown to raise pain thresholds, meaning it took more severe injury to cause the same amount of pain. Acetyl-L-carnitine is another nutrient that has relieved neuropathy. Several studies have demonstrated the ability of acetyl-L-carnitine to repair damage in diabetic nerves. It has also been shown that diabetics have low acetyl-L-carnitine levels in their peripheral nerves. Acetyl-L-carnitine also protects peripheral nerves, the spinal cord, and the brain against several harmful pathological events, including trauma, loss of blood supply or ischemia, hypoxia, chemical toxins, and seizures.

Acetyl-L-carnitine has also attracted a good deal of interest for preventing and treating neurodegenerative diseases such as ALS, Parkinson's disease, and Alzheimer's. Here's why: when we have an infection in our body, our immune system, via our white blood cells, attack the infection. The brain also has an immune

system to protect it using microglial cells. Microglial cells protect the brain from infection and toxins. But when these microglial cells are overactivated they can cause inflammation and damage to the brain. Many neurodegenerative disorders such as Parkinson's and Alzheimer's have been linked to overactivation of the microglial cells. NAC short for N-Acetylcysteine and acetyl-L-carnitine have been shown to suppress microglial activation, which triggers the most destructive elements of these disorders. In addition, acetyl-L-carnitine has shown to be effective for protecting hearing, vision, balance, memory, learning, and muscle strength, as well as improving behavior.

Acetyl-L-Carnitine from Biotics Research Corporation contains 500 mg of the grade one amino acid acetyl-L-carnitine (ALC). Standard doses range from 1 capsule two times a day for anti-aging prevention to 2 capsules three times a day for therapeutic applications.

So, here we have a product that enhances mitochondrial function, protects the brain, increases and enhances many essential neurotransmitters like acetylcholine. It's been high on my radar for many years. Talk to your wellness clinician about Acetyl-L-Carnitine and other nutrients that support mitochondrial function and see if it's something that makes sense for you.