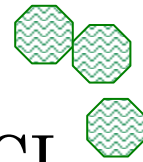


MONTIFF INC

*Don Tyson's Advanced Nutraceuticals*



# Pure N-Acetyl-L-Carnitine HCL

**N-Acetyl-L-Carnitine**, the ester form of Carnitine, is quickly absorbed into the brain 6. It has significant effects on healthy neurological function, 6,7 especially on age-related changes on dopamine receptors, 7 that are associated with poor memory problems<sup>1, 2</sup>. N-Acetyl-L-Carnitine helps prevent oxidation of the mitochondria 6,8, enhances acetylcholine production 7,6 and is beneficial to those with peripheral neuropathies with pain 4.

Each Capsule of Montiff Pure N-Acetyl-L-Carnitine contains 500 mg. of the *highest quality* N-Acetyl-L-Carnitine.

## **RECOMMENDED TO ENHANCE STRUCTURE & FUNCTION RELATING TO NUTRITIONAL NEEDS AND DEFICIENCIES PERTAINING TO:**

- Enhances acetylcholine production and promotes healthy neurological function.<sup>7,6</sup>
- Memory problems caused by age related changes to dopamine receptors and amino acid levels in the brain. <sup>5,7</sup>
- Protecting the neurons and mitochondria from oxidative damage and slowing down the progression of dementia in Alzheimer's patients.<sup>1,2</sup>
- Peripheral neuropathies with pain.<sup>4</sup>
- Preventing myocardial and tissue ischemia.<sup>3</sup>
- Protecting against aging and the related hearing deficiencies.<sup>8</sup>
- Lipid activity and may have a positive effect on lowering cholesterol.<sup>6</sup>

## **WHAT IS N-ACETYL-L-CARNITINE?**

- N-Acetyl-L-Carnitine is the ester form of L-Carnitine, which is a naturally occurring amino acid metabolized from Lysine and Methionine, and synthesized in the human brain, liver, and kidney by the enzyme ALC-transferase. These molecules are part of the biochemical pathways of the cell system and are esterified in the Krebs' Cycle. Carnitine is involved in lipid metabolism and helps prevent oxidation of the mitochondria, and enhances acetylcholine production. N-Acetyl-L-Carnitine supplementation has beneficial effects in the brain & neurological function, with positive results in myocardial and tissue ischemia. It also helps lower age related cholesterol levels.
- N-Acetyl-L-Carnitine is involved in preventing age-related effects on the brain protecting neurons from oxidative damage, and has helped those with pain due to peripheral neuropathies. Because of the neuroprotective factors, studies demonstrate encouraging results in patients with neurodegenerative disorders such as dementia and Alzheimer's, slowing down the progression of these conditions. It has also been helpful to AIDS patients who have damage to neurons due to this virus.

## **N-ACETYL-L-CARNITINE AND BRAIN & NERUOLOGICAL FUNCTION**

N-Acetyl-L-Carnitine has neuroprotective properties and effects metabolites involved in energy and phospholipid metabolism, and may be responsible for a reduction in brain glycolytic flow promoting utilization of alternative energy sources, such as lipid substrates or ketone bodies. Supplementation has shown to have a positive effect on age-related changes in the dopaminergic system, effecting the striatal dopamine receptors, acetylcholine and brain amino acid levels. It may also help prevent progressive loss of myocardial sympathetic nervous function in diabetic patients. Some studies also suggest that N-Acetyl-L-Carnitine may also have antidepressant effects.

## **DIMENTIA AND ALZHEIMER'S**

A correlation has been shown between age and N-Acetyl-L-Carnitine, since there is a drastic reduction of Carnitine levels in older people. It has antioxidant actions that prevent free radical damage to the neurons, thus helping to avert age-related memory problems. Several studies demonstrate that supplementation reduced the progression of senile dementia and Alzheimer's, especially with early-onset patients under 65 who have rapidly progressing symptoms. The pathology of Alzheimer's involves abnormal brain process of energy resulting in brain cell death. N-Acetyl-L-Carnitine acts as a precursor to acetylcholine, helping to enhance brain cell energy and restore membranal changes that are due to age factors.

## **NEURODEGENERATION DUE TO AIDS**

The AIDS virus tends to destroy neuronal activity in the brain, as well as produce peripheral neuropathies with pain. N-Acetyl-L-Carnitine supplementation was effective in helping to prevent membranal deterioration as well as restore the membranal tissue. It also helped reduce painful peripheral neuropathies in AIDS patients.

## **EFFECTS ON ISCHEMIA**

N-Acetyl-L-Carnitine has been shown to be beneficial in preventing myocardial and tissue ischemia.

## **EFFECTS ON AGE-RELATED HEARING IMPAIRMENT**

Reactive oxidative metabolites (ROM) damage DNA, cause aging, and have been associated with atherosclerosis, arthritis, autoimmune disease, cancers, heart disease, and impaired neurological function. Hearing impairment is a result of aging caused by these products of oxidative metabolism. N-Acetyl-L-Carnitine helps slow the decline as well as the reverse of damage to the mitochondria. Supplementation showed a positive effect on auditory response on a study reported in the American Journal of Otology, 2000.

## **OTHER POSSIBLE POSITIVE EFFECTS OF N-ACETYL-L-CARNITINE**

- **CHOLESTEROL** - It may have a lowering effect on esterified cholesterol and arachidonic acid levels related to aging.
- **ATHLETES** – It may have a positive effect on skeletal muscle and may help in the recovery from training and injuries.
- **PERIPHERAL NEUROPATHIES WITH PAIN.** Patients were administered 0.5gm-1 gm. per day for 3 weeks, and 62.5% showed improvement.

**DIRECTIONS:** Take 1-2 capsules per day of **Pure N-Acetyl-L-Carnitine** (500mg.) or as needed, **on an empty stomach.** (N-Acetyl-L-Carnitine is also in Montiff's Ultra Carnitine formula, along with Carnitine Fumerate). Take with a full glass of water or fruit or vegetable juice on an empty stomach. **Do not take with milk or dairy products.**

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