



## **KETO OS and Cognitive Function**

In animal research, supplementation of Medium Chain Triglycerides (MCTs), **as found concentrated in KETO OS**, is noted to improve brain health and function. It tends to reduce neurodegeneration, and improves learning abilities in aged dogs. MCTs are thought to be a cognitive enhancer and support optimal brain function by increasing circulation of ketone bodies. If you supplement MCTs, it will provide your brain with an alternative energy source (ketones) as opposed to solely glucose (sugar).

In small scale human trials, MCT supplementation boosted cognition in individuals with cognitive impairment and mild forms of Alzheimer's disease after just a single dose.

While not everyone improved from the MCT treatment, those with certain genetics experienced notable improvement.

- [Source: http://www.ncbi.nlm.nih.gov/pubmed/20141643](http://www.ncbi.nlm.nih.gov/pubmed/20141643)
- [Source: http://www.ncbi.nlm.nih.gov/pubmed/19664276](http://www.ncbi.nlm.nih.gov/pubmed/19664276)

### **Neurodegenerative diseases**

There is significant speculation that various MCTs may be beneficial for preventing or helping treat various neurodegenerative diseases like Alzheimer's. In fact, some pharmaceutical companies have even resorted to developing marketable MCTs (with glycerin and caprylic acid) for the treatment of mild to moderate Alzheimer's symptoms. In a double blind study with this formulation (Axona), it was found to prevent cognitive decline over a 90 day treatment period.

The brain's primary energy source is typically that of glucose (sugar), but among patients with neurodegenerative diseases, neurons aren't able to utilize glucose for performance. Therefore cognition tends to decline in part as a result of non-use. MCTs are a viable glucose alternative, providing individuals with ketones which can help fuel the brain. There is even speculation that MCT supplementation may help prevent dementia in certain individuals.

- [Source: http://www.ncbi.nlm.nih.gov/pubmed/21830350](http://www.ncbi.nlm.nih.gov/pubmed/21830350)

### **Neuroprotection**

It has been hypothesized that increasing serum levels of ketones may protect the brain. Thus supplementation of MCT oil should be speculated to act as a **neuroprotective agent**. Although the mechanisms by which MCTs protect the brain is unknown, researchers believe that ketones help reduce free radicals (reactive oxygen species) throughout the brain.

The ketones may provide neuroprotection as a result of their antioxidant effects, reducing the possibility of excitotoxicity. They are known to decrease formation of glutamatergic free radical production. Therefore it is important to consider the possibility that MCTs may protect and enhance brain function.

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