

## **Omega-3 Fats Linked To Prevention Of Alzheimer's Disease and Dementia**

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Recent studies indicate that higher intake and blood levels of omega-3 fats are associated with reduced risk of age-related cognitive decline, dementia and Alzheimer's disease. The Atherosclerosis Risk in Communities Study, which followed 2251 individuals (aged 50-65), showed that higher blood levels of omega-3 fats were associated with reduced risk of decline in verbal fluency. The Zutphen Elderly Study, which followed 210 elderly men (aged 70-89) for five years, showed that men who consumed an average of approximately 400 mg per day of omega-3 fats (from fish) had significantly less cognitive decline over the five year period than did those consuming approximately 20 mg per day. The Framingham Heart Study showed that persons with blood levels of omega-3 fats (phosphatidylcholine DHA) in the top 25% had a significantly (47%) lower risk of developing all-cause dementia than did those in the bottom 25%. In addition, Alzheimer's patients have been shown to have less DHA (an omega-3 fat) in the regions of the brain most affected by Alzheimer's disease (the frontal lobe and hippocampus).

Experimental studies have shed light on the ways in which omega-3 fats may reduce risk of these conditions. For example, omega-3 fats have been shown to reduce brain inflammation, increase blood circulation to brain cells, inhibit abnormal clots in blood vessels within the brain. More recently, omega-3 fats were shown to improve nerve transmission among brain cells and support brain cell repair mechanisms.

The most recent finding, however, was reported in the Journal of Neuroscience (Dec. 2007, Qiu-Lan Ma and fellow researchers), showing that omega-3 fats inhibit the build up of amyloid plaque in brain cells. The accumulation of amyloid plaque (a protein) in brain cells is a hallmark feature of Alzheimer's disease, and is considered to be the main culprit leading to brain cell disruption, which manifests as memory loss, confusion, personality changes and other Alzheimer's signs and symptoms. These researchers discovered that omega-3 fats (particularly DHA) increases the number of receptors (the LR11- receptor) on human and murine (mice) brain cells, which in turn transmits signals within the cell that block the accumulation of amyloid protein.

Taken together, my advice is to ingest at least 400 mg per day, on average, of omega-3 fats. This means consuming 3-4 fish servings per week. In addition, I personally take 2-3 capsules per day of a supplement containing 400 mg each of fish oil, flaxseed oil and borage seed oil. For those allergic to fish and seafood I strongly recommend flaxseed oil supplementation (1200 mg, 2-3 capsules per day) as an alternative.