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ALL ABOUT SUPPLEMENTS

DMAE

The Smart Supplement

By Stephen Laifer



Nutritionists and folklorists alike have long touted the benefits of a diet rich in seafood. Fish contains no saturated fat or carbohydrates and is a good source of protein, minerals, and vitamins. The omega-3 fatty acids found in fish oils help lower cardiovascular risk. Fish and shellfish also are among the best sources of iodine, which vital for healthy thyroid and brain function.

Another lesser-known compound in fish, dimethylaminoethanol (DMAE), is increasingly favored by medical practitioners for its role in boosting brain power. DMAE has shown positive results in the treatment of a variety of cognitive and disruptive disorders, including attention-deficit hyperactivity disorder (ADHD) and memory lapses. DMAE is even being used in skin care products designed to treat sagging skin and age spots.

Help for Alzheimer's

MAE is found in high levels in sardines and anchovies, but small amounts of it are also produced naturally in the human brain. DMAE is believed to work primarily by speeding the production of acetylcholine, a crucial neurotransmitter responsible for carrying messages between brain cells and from the brain to the muscles that control body movements.

Acetylcholine, a synthesized product of choline, is also involved in higher brain functions such as learning, recall, and memory.¹ Animal studies show that taking DMAE can boost levels of choline in the brain,² which in turn increases the body's ability to produce acetylcholine, resulting in a corresponding increase in memory ability and potency. Evidence suggests that DMAE crosses the blood-brain barrier more effectively than choline itself,³ enabling it to reach the brain and increase the brain's choline levels more efficiently.

Calmer Kids

Parents of children with ADHD know firsthand the difficulty of getting their children to remain focused in a typical structured learning environment. Prescription drugs like Ritalin® (methylphenidate) have long been a common choice in the treatment of ADHD, but a growing number of physicians find Ritalin® and related medications to be potentially dangerous. As a result, more parents are investigating alternative (and more natural) therapies like DMAE, which have shown promising results and fewer potentially adverse side effects in a number of studies.

A prescription form of DMAE, called Deaner or Deanol, was already in use in the 1960s and 1970s for the treatment of learning and behavioral problems associated with shortened attention span.⁴ As early as 1959, treatment with DMAE was demonstrated to result in significantly improved test scores.⁵ A 1974 report on DMAE focused on two 10-week, double-blind, placebo-controlled trials involving 124 children with ADHD-related diagnoses. In one of these trials, positive results using DMAE were comparable to those using Ritalin®.⁶ Similar positive results were also seen in a 1975 study, wherein a placebo-controlled trial in 74 children found that DMAE at 500mg daily was as effective as methylphenidate.⁴

In 1983, the FDA insisted on additional studies to prove the effectiveness of Deaner. Because the clinical trials would have been more expensive than the product's sales could support, Deaner was taken off the market. DMAE, however, has continued to be available as a natural nutritional supplement, and is a subject of more recent investigations into so-called "smart drugs."



To A Higher Power

Given the ever-increasing pressures to achieve in modern society, it was only natural that a compound long used to treat brain dysfunction and memory disorders would be explored for its potential use as a memory enhancer and brain “booster.”⁷

Research has shown that DMAE’s cholinergic effects help produce brain chemicals such as acetylcholine that are necessary for mental sharpness.⁸ Some individuals accordingly report that DMAE supplementation causes a noticeable boost in their ability to concentrate.

DMAE users also routinely report better memory (especially short-term memory), as well as improved focus, mental clarity, and sleep patterns, all of which may be particularly valuable

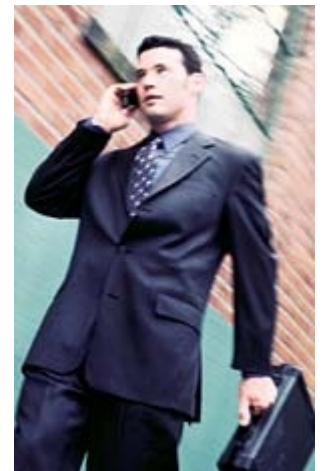
for those who work in high-pressure or deadline-oriented environments.

Many nutritionally aware physicians routinely prescribe DMAE in combination with additional memory enhancers such as phosphatidylcholine, a dietary supplement. DMAE’s action as an acetylcholine precursor may help with the memory lapses that commonly occur with normal aging.

Healing Properties

Other aspects of the human aging process tend to be more visible than memory lapses. Treatment for sagging skin has become a multibillion-dollar industry, as growing numbers of older adults undergo expensive (and often recurrent) invasive surgical procedures. Recent studies involving a gel formulation containing DMAE have shown that the compound can increase skin firmness, even in younger subjects.⁹ Thirty healthy adults between the ages of 36 and 49 were given tests that measured changes in skin tautness after application with the DMAE gel, compared to placebo. Results indicated that the placebo had little or no effect on skin firmness, while the DMAE-treated skin exhibited greater tautness.⁹

Researchers offer two possible explanations for these results. First, DMAE may enhance water retention in connective skin tissue, causing the surface of the skin to tighten. The second, and more likely, explanation involves DMAE’s cholinergic feature, which enhances the skin’s ability to transmit acetylcholine. The neurotransmitter’s function in sending signals from nerves to muscles may promote a form of muscle tightening in the skin. It is important to note that although DMAE cannot fully reverse existing facial sagging, it may reduce its further progression. Some people report a cumulative effect with continued use of the compound.



Age spots, or “liver spots,” also may respond effectively to DMAE in cream, gel, or tablet form. Studies have shown that DMAE’s membrane-stabilizing properties reduced the accumulation of lipofuscin deposits inside cells.¹⁰ Lipofuscin, a brownish cellular pigment consisting of aggregated chunks of molecular waste formed by the inefficient metabolism of fatty acids, tends to occur in the cells of older people and is primarily responsible for age spots. DMAE has been shown to flush excess lipofuscin from affected skin cells.¹¹

DMAE is a potent, site-specific free radical scavenger.¹² An in-vitro study found that adding DMAE to myocytes (the heart’s pumping cells) protected individuals from cell damage resulting from ischemia, a lack of oxygen and blood flow to the heart, and from metabolic inhibition.¹³ Taken in the proper dosage, DMAE’s antioxidant effects can offer probable benefits of value in the maintenance of overall cellular health.



Dosage Cautions

Clinical studies of DMAE have used doses of up to 1600 mg per day with no reports of side effects and no known drug interactions.¹⁴ While regular supplementation with DMAE and supplements that contain DMAE as their primary ingredient are widely tolerated, several possible side effects should be borne in mind. These include gastrointestinal disturbances, body odor, drowsiness, confusion, increased blood pressure, moderate depression, and persistent irritability.^{15,16} DMAE should also be avoided by pregnant or breast-feeding women, except with a doctor’s consent. Those with epilepsy or bipolar disorder should avoid using DMAE entirely.

As with all nutritional supplements or medications, check with your regular medical practitioner, caregiver, or pharmacist before incorporating DMAE supplementation in your normal health care regimen. For topical DMAE creams or gels, follow the package’s application instructions carefully.

Oral tablets or capsules in doses from 50 to 130 mg are common, while pills containing up to 600 mg are also available. Regardless of the amount, start slowly with a low dose and see how you respond before increasing the amount. DMAE should be taken with meals for best absorption. Capsules can even be broken open and mixed in fruit juices or smoothies in the morning for an effective brain “kick start” to the day.

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