

Omega 3 Fish Oils

If Only I had a Brain

by Margy Squires

You've heard about how healthy omega 3 fish oils are for the heart but do you know how valuable they are for your brain? Now that's food for thought!

A "FAT" HEAD

The next time someone calls you a fathead, take it as a compliment. After all, the human brain is comprised of 60% fatty material. Research during the *Decade of the Brain* (which ended in 2000) looked at age and its affect on learning. The assumption was that your inability to learn with age was due to dwindling neurons, the nerve cells in the brain responsible for communication. What scientists discovered was just the opposite. Our brains produce new neurons throughout our lives and do so in response to stimulation, a phenomenon researchers call brain plasticity or neuroplasticity. Simply put, we use 'em or lose 'em.

But that's not all. The ability of neurons to function and communicate effectively also relies on this plasticity. Neurons are covered with a lipid (fat-like) membrane and have branches or extensions called dendrites that receive and send information. Messages are relayed via neurotransmitters (brain chemicals) to other neurons. How well these neurons "talk" or signal gives us our ability to think, concentrate, learn and remember. Picture the neuron network as a super highway with lots of exit ramps. In order to get to where you're going, you need to keep the highway connected. Sometimes you need to fix the road or build a new road and bypass the old one. The brain apparently is very good at fixing its information highway if provided the building materials to do so.

What our brains require to function are fatty acids, considered essential because our bodies cannot make them and we must supply them by diet. The ingenious brain will, however, use whatever material (fats) are available. Low fat diets can literally "starve" the brain. Bad fats cause oxidative damage and clog the network. Either way, the result is poor maintenance or repair. Cell membranes stiffen and dendrites shrivel up, leaving neurotransmitters with "no where to go" and "no way to get there". Remember that highway?

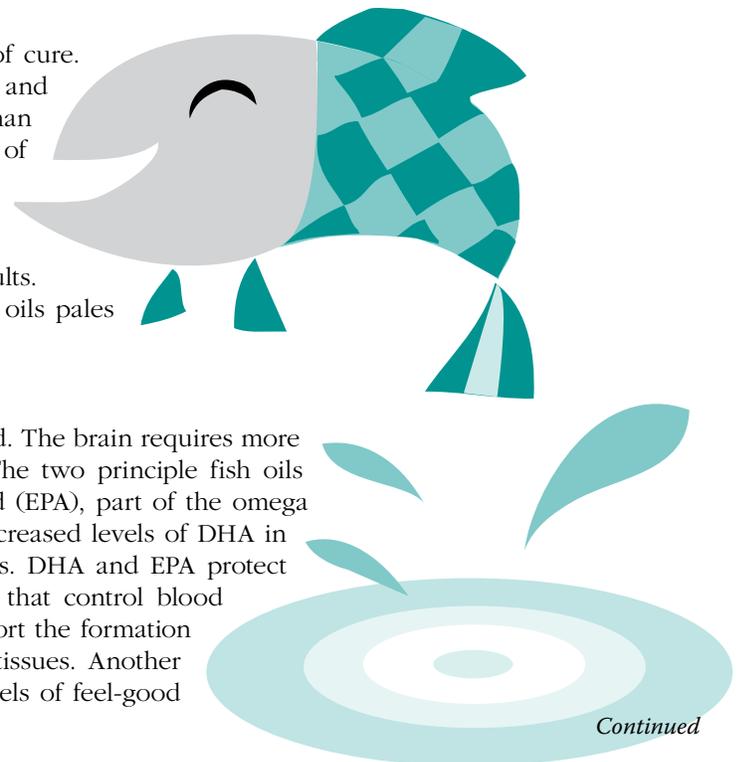
Perhaps an ounce of prevention could be worth a pound of cure.

It's estimated there's over 1,000 disorders of the brain and nervous system and they require more hospitalizations than heart disease and cancer, either alone or combined. The cost of neurological illnesses exceeds \$400 billion and affects more than 50 million Americans annually. Another \$143 billion a year can be added if you include the mental disorders, drug and alcohol-related problems of another 44 million adults.

The price of defensively supplementing the brain with fish oils pales in comparison.

GO FISH

Essential fatty acids found in fish are the perfect "smart" food. The brain requires more omega 3 fatty acids than any other system in the body. The two principle fish oils are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), part of the omega 3 family. DHA is the most abundant fat in the brain and increased levels of DHA in the brain help protect and enhance the lifetime of neurons. DHA and EPA protect the brain in other ways as building blocks for hormones that control blood clotting, cell growth and immune function. They also support the formation of healthy prostaglandins, found in virtually all cells and tissues. Another food for thought about fish oils is that they boost brain levels of feel-good transmitters like serotonin and dopamine, too.



Continued

Omega 3: If Only I had a Brain

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WHAT'S THE CATCH?

How much DHA and EPA is on the line? Experts recommend a combined 650 mg EPA/DHA daily. Most products offer a ratio of 1.5 EPA to DHA; e.g., 360 mg EPA to 240 mg DHA but the ratio is not as important as getting both. If you're trying to get your omega 3 by eating fish, a four ounce portion of cooked salmon will give you about 1.4 grams EPA (1400 mg) and 0.7 grams DHA (700 mg). Salmon contains one of the highest contents of omega 3 oils and that content will vary. If you're not a fish lover, opt for the enteric-coated fish supplements to avoid the "fishy" smell and taste.

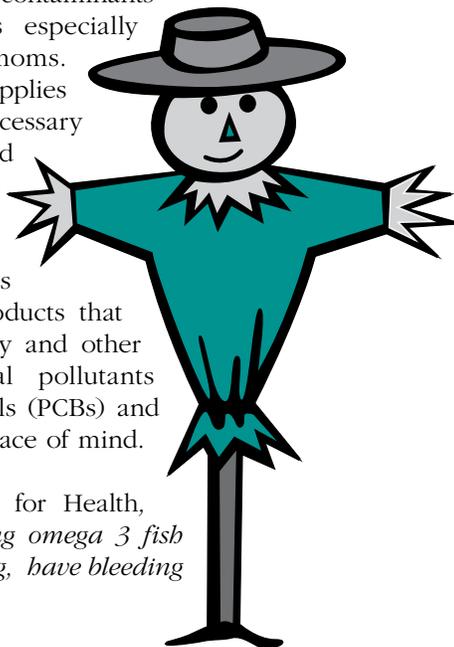
BETTER BRAINS, BETTER BODY

Helping you think better (and keeping your cognitive function longer) is only one health facet of omega 3 fish oils. These beneficial oils influence hearing, heart, bones and joints, nerve, skin, vision, and immune system health as well. Vegetarians who don't consume fish can opt for flaxseed oil (the alpha linoleic acid it contains converts to EPA/DHA). Disorders that omega 3 oils can help include Alzheimer's, arthritis, cardiovascular, depression, Parkinson's, fibromyalgia, ME/chronic fatigue syndrome, multiple sclerosis, Raynaud's, schizophrenia and stress, to name a few. More than 14,000 published studies (8,000 on humans) attest to omega 3's importance to health.

SAFETY FIRST

Mercury and other harmful metals have a deleterious effect on the brain and cognition. It does you no good to add omega 3 oils to your brain diet if you're also adding harmful contaminants. Fish and shellfish ingest environmental contaminants as they accumulate omega 3 fatty acids through the food chain from sediment, phytoplankton and algae. You risk consuming the same contaminants when you eat fish, which is especially worrisome for pregnant moms. During pregnancy a mom supplies the developing baby with necessary fatty acids for optimal brain and eye development, and continues to provide this important brain food to her infant through breast milk. Molecularly distilled fish oils are a safe source. Look for products that are tested to be free of mercury and other harmful metals, environmental pollutants such as polychlorinated biphenyls (PCBs) and dioxins for mind benefits and peace of mind.

Caution: According to the PDR for Health, consult your doctor before taking omega 3 fish oils if you are pregnant or nursing, have bleeding disorders or on blood thinners.



Note: For more detailed information on how the brain works, see resource one below.

RESOURCES

1. Squires, M. Brain Function, I think therefore I am. *Health Points* (Vol 11, Iss 2, Apr 05).
2. Medical Economics. *PDR for Supplements*. www.pdrhealth.com
3. USDA Food Pyramid. www.mypyramid.gov
4. Society for Neuroscience. www.sfn.org
5. Nutrition and Your Health: Dietary Guidelines for Americans, Appendix G2: Description of USDA Analyses, High Omega-3 Fish. Addendum A: EPA and DHA Content of Fish Species Analysis. www.health.gov/dietaryguidelines

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*“ If only I had a brain
I'd unravel any riddle
For any individ'le
In trouble or in pain
I would not be just a nuffin'
My head all full of stuffin'
My heart all full of pain ”*

The Scarecrow in the Wizard of Oz