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In The **News**

Fish Oil Slows Lymphoma

Polyunsaturated n-3 fatty acids, such as those found in various fish oils, have demonstrated their ability to slow down the development of tumors and their metastasis. In addition, researchers have recently found that these fatty acids may also help to prevent cachexia (the muscle wasting and weight loss that occurs in some cancer patients irrespective of proper nutritional intake). Controlling cachexia may subsequently increase the efficacy of drug cancer therapies, improve quality of life, and extend the remission periods for patients, be they pets or humans. Past research has already documented that cachexia is associated with extreme changes in carbohydrate, protein and lipid metabolism, which give rise to anorexia, fatigue, immune compromise and weight loss. Cachexia is believed to compromise patients' quality of life, survival time, as well as limiting their response to treatment.

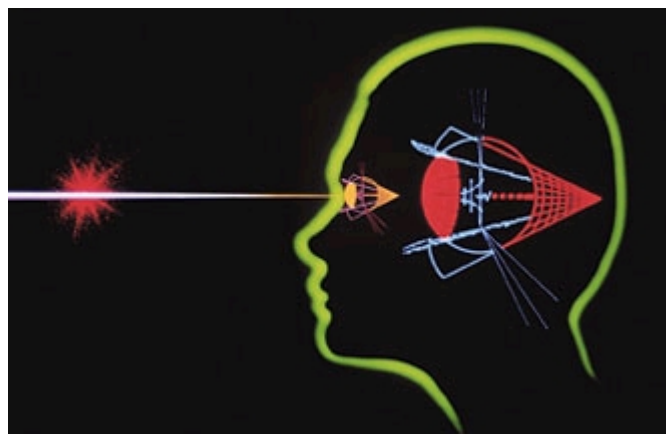
A new study (Cancer 88:1916-28, 2000) led by researchers at Colorado State University examined 32 dogs with lymphoma, putting them on an experimental diet which consisted of menhaden fish oil and arginine, or a control diet supplemented with soybean oil; the diets were otherwise identical in nutritional value. It's believed that the n-3 type of fatty acids help to normalize elevated blood lactic acid, while arginine has been known to enhance immune response. Following this specialized diet was in addition to receiving the toxic cancer treatment known as doxorubicin (Adriamycin) every three weeks. The dogs were fed twice a day during and after their cancer treatment. Researchers then measured a number of factors, including blood sugar levels, lactic acid and insulin in response to glucose and diet tolerance tests; alpha-1 acid glycoprotein, tumor necrosis factor; interleukin-6; body weight; amino acid profiles; resting energy expenditure; as well as disease free interval, survival time, and clinical performance scores.

What the researchers found was that the dogs eating the fish oil and arginine diet showed higher serum levels of two fatty acids, namely docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA), compared with the control group. These raised levels were inversely related to lactic acid accumulation in the blood, an increase that otherwise happens in response to an upset metabolism in cancer patients. Moreover, higher DHA and EPA levels were significantly linked to a longer period of remission and survival time for dogs with Stage III lymphoma. The findings, reported in the journal *Cancer* (88:1916-28, 2000), underscore the positive role of fatty acids found in fish oils as part of nutritional therapy to halt the proliferation of cancer cells and make anti-cancer drugs, such as doxorubicin, more effective. —Angela Pirisi



Lutein May Improve Vision

A number of studies have demonstrated the benefits of lutein—a carotenoid found in dark green leafy vegetables, other fruits and vegetables, and egg yolks—to protect the eyes against age-related macular degeneration (AMD). Now, according to the latest findings from researchers at the Johns Hopkins University School of Medicine, taking a daily regimen of lutein supplements may help to clear the vision of people suffering from the genetic eye disease called retinitis pigmentosa (RP). This is a group of diseases that cause degeneration of the retina, leading to a host of vision problems, including the loss of night vision and peripheral vision. Sufferers usually lose most of their sight very gradually over the course of three decades. Lutein, which accumulates over a lifetime to form the pigment in the retina, particularly the macula, is believed to offer protection against phototoxic damage.



The results of a six-month Internet pilot study presented in the March issue of *Optometry: Journal of the American Optometric Association* (2000;71:147-64) tracked 16 people with RP, conducted via a survey and follow-up. The research was meant to scientifically assess anecdotal accounts of experiencing vision improvements due to lutein intake. Participants had to measure their own vision as required throughout the course of the study. Two weeks prior to the study, the 16 subjects measured their visual acuity using six specially created letter charts in a Microsoft Word format, designed by the researchers for this study. They

also received instructions on how to make a wall chart in order to test their central visual field area. They were then asked to take lutein at breakfast, 40 mg daily for two months and 20mg per day for the remaining four months. Half of the group also took DHA, vitamin B complex, and digestive enzymes. The findings suggest that RP sufferers experienced a significant improvement in both their visual acuity and visual field area within just three to four weeks of commencing the lutein supplementation.

Interestingly, though, the researchers also found that blue-eyed people reported more dramatic positive results in terms of visual acuity from the lutein supplementation than dark-eyed individuals, while people additionally taking vitamin A/beta carotene benefitted more than others in terms of visual acuity improvements. Lead author, Gislin Dagnelie, Ph.D., assistant professor of ophthalmology at Johns Hopkins, explains that previous studies have found that dark-eyed people don't seem to be able to increase their macula pigment from using supplements. This suggests that perhaps that they don't need as much, whereas blue-eyed people show an increase in pigmentation relative to their intake of lutein, perhaps signifying a higher requirement or rate of absorption. As for the benefits of vitamin A/beta carotene, Dagnelie suggests that the antioxidant is believed to have a protective role against night blindness, which results from retinal degeneration. Researchers assert, though, that the short-term benefits exemplified in this study need to be examined further in a larger controlled study format to confirm results but also to gage long-term benefits of lutein intake. —AP

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