Image Awareness Wellness Center

In the News

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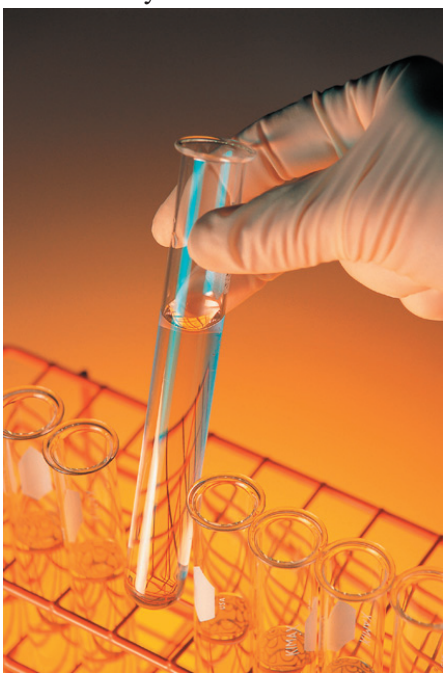
1271 High Street, Auburn, CA 95603 ◆ Phone: (530) 823-7092
Business Hours: Monday-Friday 10:00 a.m.-4:00 p.m.
Web: www.imageawareness.com ◆ Email: mail@imageawareness.com ◆ Orderline: (800) 359-6091

Diabetes from Plastic

The harmful estrogenic properties of some plastics has been discussed in the medical literature since the 1980's. These plastics have been a concern due to their ability to disrupt fetal development. A new study reported in *Science News* raises another alarming aspect of the biological effects of plastics--their ability to contribute to insulin resistance and Type 1 or juvenile onset diabetes.

Bisphenol-A is commonly used in dental sealants, microwavable plastics, baby bottles and in linings of food and beverage containers. This plastic is commonly found in human blood.



Angel Nadal of Miguel Hernandez University in Spain recently conducted a study which demonstrated that both estrogen and this plastic cause insulin resistance, a precursor to diabetes.

Estrogen receptors in the pancreas caused the pancreas to lose its response to insulin when mice were repeatedly exposed to estradiol, a natural estrogen. I remember reading an article by Sam Addanki in the 1980's in which he argued that estrogen contributed to diabetes. This connection is not new and raises some questions about the use of estrogenic compounds for birth control pills and hormone replacement therapy.

Nadal's work demonstrated the development of insulin resistance was gradual in mice. The estrogen altered the functioning of both the cell nucleus and cell membrane in the cells of the pancreas.

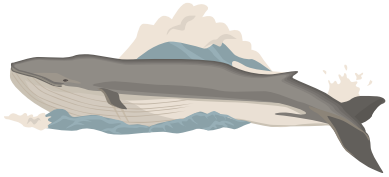
Animal studies have suggested that exposure to bisphenol-A early in life causes obesity in animals. Other studies suggest it may contribute to gestational diabetes.

This study found that bisphenol-A was every bit as powerful as estrogen in altering the functioning of the cell membrane, although not as strong in its effects on the cell nucleus of pancreatic cells. Nevertheless, this study is a shot across the bow for those who are concerned about an ever increasing epidemic of diabetes in the younger population in the United States and other developed countries. A highly significant aspect of this study was the fact that doses of bisphenol-A used in the study to create insulin resistance are considered safe by the Environmental Protection Agency.

The best means of protection against the risk of these plastics and estrogens has not yet been clarified by research. It is a good bet that the phospholipids and phytosterols found in tre-en-en grain and legume concentrates would provide some measure of protection due to their normalization of cell membrane function and activity.

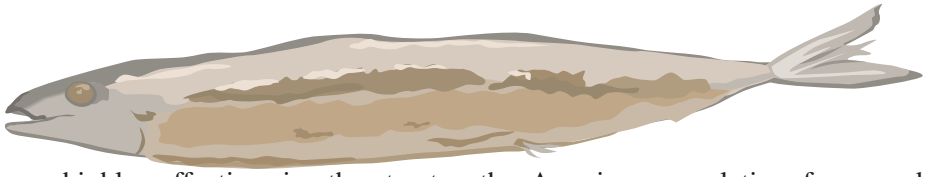
Reference:

Harder, Ben, Diabetes from a Plastic? Estrogen mimic provokes insulin resistance, *Science News*, Jan. 21, 2006; Vol. 169, No. 3.



Breathing and Omega-3

A review of the scientific literature on the subject suggests that supplementation with omega-3 oils is a powerful step for promoting more normal breathing in asthma and exercise induced bronchoconstriction. This research is significant because asthma is a condition which affects a continually larger segment of the population. Pharmacological drugs



are highly effective in the treatment of asthma, they can have many harmful and dangerous side effects.

One of the factors which contributes to asthma and other inflammatory conditions is excessive intake of inflammatory omega-6 fats from vegetable oils and meats. It is not uncommon in the United States for an individual to consume 20 or 25 times more omega-6 fats than fats of the antiinflammatory omega-3 variety.

Supplementation with fish oils reduces airway narrowing, use of medication, and inflammatory tissue hormones in athletes who suffer with exercise induced bronchoconstriction (EIB). A review of the literature suggests that fish oil supplementation will often be beneficial for both of these conditions.

The benefits of fish oils for lung function are further bolstered by a recent study on patients with chronic obstructive pulmonary disease (COPD). Fish oils were found to significantly benefit these patients in many ways. Side-effects of fish oil use were minor and included slight nausea and mild diarrhea

References:

Mickleborough TD, Rundell KW, "Dietary polyunsaturated fatty acids in asthma- and exercise-induced bronchoconstriction," *Eur J Clin Nutr*., 2005; 59(12): 1335-46.

"Effects of omega-3 polyunsaturated fatty acids on inflammatory markers in COPD," (Address: Division of Respiratory Medicine, Respiratory and Stress Care Center, Kagoshima University Hospital, Sakuragaoka 8-35-1, Kagoshima 890-8520.

"Living Longer, Living Better"

The media continue to write about nutrition as a result of the hunger of

the American population for sound nutritional information. In January Newsweek included an extensive article discussing the ability of nutrition to contribute to a long and better life.

The front page of the article includes a picture of a salmon and what is apparently a fish oil capsule. This is an appropriate selection as the scientific literature continues to be flooded with research suggesting that fish oil supplementation can go a long way toward improving the quality and quantity of one's life.

The ability of fish oils to prevent heart attacks and strokes is highlighted in the article. The article also points out that fish oils "may help ward off depression." As a matter of fact a number of psychiatric and neurologic problems appear to benefit from fish oil supplementation "from bipolar disorder and schizophrenia to depression, ADHD, Alzheimer's and, yes, borderline personality disorder."

In the article Dr. Joseph Hibbeln comments that fish oil is like fertilizer for brain cells, helping build healthy cell membranes, boosting serotonin (deficiencies of which may be involved with depression), and increasing the number of synapses or connections in the brain (which might make us smarter!).

Another surprising benefit of the fish oils according to Bruce Watkins is their ability to stimulate bone building. The membrane that covers the long bones (called the periosteum) is rich in nerve tissue which controls the growth of the protein matrix on which the body deposits minerals to build bone tissue. Deficiency of omega-3 oils may damage this structure which Watkins calls the "brain of the bone."

This article also mentions the increasing importance of vitamin D which has been discussed in many of these newsletters. One significant point is omitted. Deficiency of vitamin D causes the bone mass to swell putting pressure on the nerve tissue in the periosteum. Damage to the nerves in this delicate membrane is responsible for a good many cases of what is commonly identified as fibromyalgia.

A general theme of the article was the importance of a good quality multiple supplement. GNLD's inclusion of phospholipids and phytosterols from grains and legumes as well as vitamins derived from a food quality source in all multiples the company provides fits this need in an unsurpassed manner.

Reference:

Underwood, Anne, "Living Longer, Living Better," *Newsweek*, January 18, 2006, 52-69.

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