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**Canadian folic acid fortification cuts neural-tube defects by nearly half**

The July 12, 2007 issue of the *New England Journal of Medicine* reported the finding of Canadian researchers that their country's fortification of grain products with folic acid has resulted in a 46 percent decline in the incidence of congenital neural-tube deformation. Impaired development of the neural-tube during a child's prenatal period can result in lifelong physical or mental disabilities, and, in many cases, death. A deficiency of the B-vitamin folic acid has been determined to be the cause of a large number of these defects.

"Canada decided to add folic acid to all flour produced in the country because formation of the neural-tube in embryos is particularly intense during the first four weeks of pregnancy, which is before a lot of women even know they're pregnant," explained the study's lead author Dr Philippe De Wals, of the Université Laval in Quebec.

De Wals and his Canadian colleagues examined 1,909,741 live births, stillbirths, and terminations of pregnancies due to fetal abnormalities recorded between 1993 and 2002. Neural-tube defects, consisting mainly of anencephaly and spina bifida, occurred among 2,446 infants born during this period.

While there was no change in the rate of neural-tube defects occurring between 1993 and 1997 prior to the mandatory fortification of cereals with folic acid, a decrease of 46 percent was found after fortification was fully implemented in March, 2000. The decrease in spina bifida incidence was greatest at 53 percent, followed by a 38 percent decrease in anencephaly, and a 32 percent reduction in encephalocele. The greatest reduction in neural-tube deformations occurred in Newfoundland, Prince Edward Island, and Nova Scotia, which had the highest rates prior to 1998.

Health Canada recommended that pregnant women supplement with folic acid with or without multivitamins before folic acid fortification became mandatory, but many women failed to follow this advice. The authors observe that a recent study found a decrease from 4.9 to 0.6 neural-tube defects per 1000 births in the northern part of China as a result of prenatal folic acid supplementation. Health Canada still recommends folic acid supplements for women of child-bearing age.

Canada is one of only three other countries to mandate folic acid fortification of cereals. If implemented worldwide, it is estimated that as many as 100,000 cases of spina bifida and anencephaly could be prevented.

Health Concern

**Prevention**

The Food and Drug Administration (FDA) has spent enormous resources trying to prevent people from supplementing with folic

acid. The FDA argues against folic acid supplementation because the presence of folic acid in the blood could mask a serious vitamin B12 deficiency. In a study in the *Journal of the American Medical Association*, Losonczy et al. (1996) addressed the FDA's concerns by recommending that folic acid supplements be fortified with vitamin B12 as a prudent way of gaining the cardiovascular benefits of folic acid without risking a B12 deficiency.

Even though major medical journals (e.g., *New England Journal of Medicine*) long ago endorsed the use of folic acid to reduce cardiovascular disease (Malinow et al. 1998), the FDA still does not accept that folic acid has any benefit other than preventing a certain type of birth defect.

A study by Giovannucci et al. (1998) in the *Annals of Internal Medicine* showed how fatally flawed the position of the FDA is. Data from the famous *Harvard Nurses' Health Study* conducted at the Harvard Medical School showed that long-term supplementation with folic acid reduces the risk of colon cancer by an astounding 75% in women. The fact that there are 90,000 women participating in the *Harvard Nurses' Health Study* makes this finding especially significant. The authors of this study explained that folic acid obtained from supplements had a stronger protective effect against colon cancer than folic acid consumed in the diet. This new study helps to confirm the work of Dr. Bruce Ames, the famous molecular biologist who has authored numerous articles showing that folic acid is extremely effective in preventing the initial DNA mutations that can lead to cancer later in life. This Harvard report, showing a 75% reduction in colon cancer incidence, demonstrated that the degree of protection against cancer is correlated with how long a DNA-protecting substance (folic acid) is consumed. It was the women who took more than 400 mcg of folic acid a day for 15 years who experienced the 75% reduction in colon cancer, whereas short-term supplementation with folic acid produced only marginal protection.

<http://www.lef.org/protocols/prtcl-131.shtml>

## Featured Products

### Folic Acid with Vitamin B12 Capsules

B vitamins are used in the body individually or in combination with enzymes to help release energy from carbohydrates, fat, and protein. Vitamin B coenzymes are crucial to the metabolic pathways that generate the energy needed by every cell in the body. Because they are co-dependent in their metabolic activities, a deficiency of one B vitamin can affect optimal functioning of organ systems throughout the body.

Folic acid (folate) is a member of the B-complex family. It is found in abundance in leafy green vegetables, but is often deficient in the standard American diet. Folic acid participates in a coenzyme reaction that synthesizes DNA needed for cell growth and new cell formation and helps convert vitamin B12 to one of its coenzyme forms.

<http://www.lef.org/newshop/items/item00347.html>



### Life Extension Mix Capsules

Life Extension Mix™ contains 93 unique vegetable, fruit, and herbal extracts along with high potency amino acids, vitamins, minerals, and special antioxidants. The Life Extension Mix formula is fortified with botanical extracts that help maintain healthy cells via physiological processes separate from traditional antioxidants. Consumption of these types of plants is being recommended based on research emanating from the world's most prestigious medical centers.

<http://www.lef.org/newshop/items/item00934.html>



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### 2007 Final Clearance Sale

Take advantage of Life Extension's surplus inventory and save up to 80% on premium grade supplements!

Due to constant improvements and upgrades to our formulations, we are left with a surplus inventory of our classic formulas. To blow out surplus inventory, we are slashing prices so low that health conscious individuals cannot resist clearing our shelves of

avant-garde formulations that commercial companies still do not emulate.

For a limited period of time, we are offering the popular products described in the catalog at prices far below what health food stores pay.

But hurry, this incredible sale expires on September 17, 2007, or while supplies last.

<http://www.lef.org/lpages/os2>

If you have questions or comments concerning this issue or past issues of *Life Extension Update*, send them to [ddye@lifeextension.com](mailto:ddye@lifeextension.com) or call 954 202 7716.

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