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Life Extension Update Exclusive

Magnesium levels are reduced in diabetic minorities

A study reported in the December, 2006 issue of the *Journal of the American College of Nutrition* found that African American and Hispanic diabetics have lower levels of magnesium than prediabetic or normal men and women. Diabetes is disproportionately found in these populations, who consume less magnesium in their diets and tend to have lower levels of the mineral. Magnesium is important for the metabolism of energy and glucose homeostasis.

Researchers at the New York Obesity Research Center at Columbia University evaluated data from 485 Hispanic and African American men and women who participated in the Rosetta Study, which assessed body composition in healthy adults living in New York City between 1990 and 2000. Participants received physical examinations and underwent scans to measure fat mass and fat free mass. Fasting serum samples were analyzed for magnesium and glucose.

Approximately 12 percent of the participants were diabetic and 30 percent prediabetic as determined by fasting glucose levels. Hispanic participants had significantly lower levels of magnesium and fat free mass than African Americans. Although there was no significant difference observed in mean magnesium levels between the prediabetic and normal groups, diabetics had levels of the mineral that were significantly lower than that of the normal subjects.

The NHANES 1999-2000 data found that dietary sources of magnesium such as whole grains, legumes, nuts and dairy products were significantly lower in African Americans compared to Caucasians and predominantly Mexican American Hispanics. The current study found lower levels of magnesium among Hispanics than African Americans, however, the Hispanic population in the study was mainly Puerto Rican, whose dietary habits may vary or who may metabolize the mineral differently. "These data confirm the results shown in other studies of significantly lower levels of serum magnesium among those with fasting glucose levels equivalent to the ADA criteria for diabetes among racial/ethnic minorities," the authors conclude.

Health Concern

Diabetes

Diabetes prevention or living with diabetes begins with exercise, weight loss if necessary, and dietary modifications. A high-fiber, plant-based diet has been shown to improve type 2 diabetes and to encourage weight loss.

Under no circumstances should people suddenly stop taking diabetic drugs, especially insulin. A type 1 diabetic will never be able to stop taking insulin. However, it is possible to improve glucose metabolism, control, and tolerance with the following supplements:

- **R-dihydro-lipoic acid**—150 to 300 milligrams (mg) daily
- **L-carnitine**—500 to 1000 mg twice daily
- **Carnosine**—500 mg twice daily
- **Chromium** (preferably polynicotinate)—500 to 1000 mcg daily
- **CoQ10**—100 to 300 mg daily
- **DHEA**—15 to 75 mg early in the day, followed by blood testing after three to six weeks to ensure optimal levels
- **EPA/DHA**—1400 mg EPA and 1000 mg DHA daily
- **Fiber** (guar, pectin, or oat bran)—20 to 30 grams (g) daily at least, up to 50 g daily
- **GLA**—900 to 1800 mg daily
- **Quercetin**—500 mg daily (water-soluble form)
- **Magnesium** (preferably magnesium citrate)—160 mg up to three times daily
- **NAC**—500 to 1000 mg daily
- **Silymarin**—containing 900 mg Silybum marianum standardized to 80 percent Silymarin, 30 percent Silibinin, and 4.5 percent Isosilybin B
- **Vitamin C**—at least 2000 mg daily
- **Vitamin E**—400 international units (IU) daily (with 200 mg gamma tocopherol)
- **Garlic**—1200 mg daily
- **Green tea extract**: 725 mg green tea extract (minimum 93 percent polyphenols)
- **Ginkgo biloba**—120 mg daily
- **Bilberry extract**—100 mg daily
- **B complex**—Containing the entire B family, including biotin and niacin
- **Cinnamon extract**—125 mg (Cinnamomum cassia) standardized to 0.95 percent trimeric and tetrameric A-type polymers (1.2 mg) three times daily
- **Coffee berry extract**—100 mg (Coffee arabica) extract (whole fruit) standardized to 50 percent total phenolic acids (50 mg) and 15,000 Micromoles per gram ($\mu\text{mole/g}$) ORAC- three times daily

http://www.lef.org/protocols/metabolic_health/diabetes_01.htm

Featured Products



Magnesium Citrate Capsules

A review of assimilation studies suggests that the citrate salt of magnesium is the best absorbed into the bloodstream.

<http://www.lef.org/newshop/items/item00502.html>



Benfotiamine with Thiamine

One of the most deleterious effects of “normal” aging is rising glucose (blood sugar) levels. Excess glucose floods cells throughout the body, overwhelming their metabolic machinery and increasing the mitochondrial production of free radicals. Failure to control this excess sugar can lead to numerous health issues.

Benfotiamine, a fat-soluble form of vitamin B1 (thiamine), supports healthy blood sugar metabolism and acts through several mechanisms to block the biochemical pathways by which high blood sugar wreaks havoc throughout the body. For example, the enzyme transketolase is critical to blood sugar metabolism. Like many enzymes, transketolase requires a cofactor. In this case, it needs assistance from thiamine. Unfortunately, thiamine is water soluble, which makes it less available to the interior of the cell. Since benfotiamine is fat soluble, it enters areas of the body where water-soluble thiamine cannot penetrate.



<http://www.lef.org/newshop/items/item00920.html>

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<http://www.lef.org/supersale.html>

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

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