**Controlling Diabetes**

**Nutrients lowered chances of type 2 and complications in type 1 diabetes**

**Vitamins K1 and K2 reduced chances of type 2 diabetes**

Doctors in a type 2 diabetes study measured the diets of 38,094 men and women aged 20 to 70 and followed up for 10 years. Researchers found that those who consumed more vitamin K1 were less likely to develop type 2 diabetes, and for vitamin K2, each 10 mcg increase per day lowered chances of developing type 2 diabetes by 7 percent.

**Higher antioxidants, lower blood sugar**

In another type 2 diabetes study, researchers measured antioxidant levels in the diets of 1,018 men and women, aged 38 to 52, some of whom did not have diabetes, some of whom were pre-diabetic with elevated fasting blood sugar levels, and some with type 2 diabetes. In all three groups, as antioxidants in the diet increased, average blood sugar levels decreased. Differences in age, sex, or amount of physical activity did not change the results, although antioxidants did not change blood sugar levels in those who were obese. Doctors believe that antioxidants can lower the oxidative stress that promotes diabetes and may also help pancreatic cells produce insulin.

**Omega-3s reduced kidney damage**

In a type 1 diabetes study, doctors said a complication of the disorder is that, over time, chronic high blood sugar can damage the small blood vessels in the kidneys, impairing kidney function. Researchers measured the diets of 1,436 people with type 1 diabetes and followed up for 6.5 years. By the end of the study, scientists found that those who consumed the most omega-3 eicosapentaenoic and docosahexaenoic (EPA and DHA) acids per day had much better kidney function compared to those who consumed the least omega-3 fatty acids.

**Healthy Insight**

**Coenzyme Q10 for Cyclic Vomiting**

In cyclic vomiting syndrome (CVS), which usually affects kids aged 3 to 7, severe nausea and vomiting can last for days. In this study, 281 people with CVS took the drug amitriptyline or coenzyme Q10. About 70 percent in each group reported half the vomiting frequency, duration, or number of events, or nausea severity. A low dose of CoQ10 was about 4.5 mg per pound of body weight per day and a high dose was about 136 mg per pound. Half of those on amitriptyline reported side effects and 21 percent of them stopped treatment while there were no side effects reported for CoQ10.

**Reference:** BioMedCentral Neurology; 2010, Electronic Prepublication

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**Reference:** Diabetes Care; 2010, Vol. 33, No. 8, 1699-705

**This Issue**

- Nutrients help in managing metabolic syndrome
- Men and women maintained healthier weight with supplements
- Nutrients provide migraine relief for adults and children
- Early-stage nutrition discoveries
- Colicky babies cried less with probiotics
Managing Metabolic Syndrome

Nutrients improve chances of staying healthy

What is metabolic syndrome?

Metabolic syndrome is a group of conditions that can include obesity, abnormal blood fat levels, high blood pressure, and borderline high blood sugar and insulin levels, which together increase chances of cardiovascular disease and type 2 diabetes.

People with more vitamin D are less likely to have heart disease, metabolic syndrome, type 2 diabetes

Doctors in this study described heart disease, metabolic syndrome, and type 2 diabetes as “cardiometabolic disorders” and said that recent studies have linked them to vitamin D deficiency. Researchers reviewed 28 vitamin D studies covering 99,475 participants and found that, compared to those with the lowest blood levels of vitamin D, those with the most vitamin D were 43 percent less likely to develop a cardiometabolic disorder. Chances were 33 percent lower for cardiovascular disease, 51 percent lower for metabolic syndrome, and 55 percent lower for type 2 diabetes. Doctors believe that correcting vitamin D deficiencies in adults may slow the epidemic of cardiometabolic disorders.

Whey protein improved blood fats and insulin levels

Researchers in this study said earlier research showed dairy foods reduced chances of obesity and hoped to find that whey protein—from dairy and rich in essential amino acids—could improve metabolic syndrome. Seventy overweight or obese people, aged 18 to 65, took 27 grams of whey protein, casein protein, or a glucose placebo, twice per day, up to 30 minutes before breakfast and the evening meal. Researchers asked participants to maintain their normal diet and physical activity. After 12 weeks, compared to placebo, those in the whey protein group had 22 percent lower blood levels of a fat known as triacylglycerol and fasting insulin levels 11 percent lower.


Weight Wise

Men and women maintained healthier weight with various nutrients

Postmenopausal women lost abdominal fat with soy protein

In this study, 33 obese postmenopausal women took 20 grams of soy protein plus 160 mg of soy isoflavones per day, or a placebo. The women maintained their normal diet and level of physical activity. After three months, the placebo group had gained 9 percent more abdominal fat while those in the soy protein group had lost 7.5 percent of their abdominal fat.

The higher the omega-3s, the healthier the weight

In this study, doctors said that earlier research found omega-3s can help the body burn stored fat by raising core body temperature, called thermogenesis. Researchers measured blood levels of omega-3s in 124 adults who had healthy weight, were overweight, or obese. As omega-3 levels rose, body mass index was healthier, and measurements at the waist and hip were smaller.

Obese men who took green tea catechins burned more fat

Doctors in this study said that earlier research had shown green tea increased fat-burning capacity and wanted to see if epigallocatechin-3-gallate (EGCG), the main catechin in green tea, would do the same. The body stores fat for sustained energy, but when the body does not regularly metabolize these fat stores, fat accumulates. In the study, 10 healthy overweight or obese men took EGCG with or without caffeine, caffeine alone, or a placebo. After three days, the men fasted overnight and then ate a standard meal. Two hours after the meal, researchers measured fat-burning capacity. Compared to placebo, those who had taken a 600 mg dose of EGCG burned 20 percent more fat, and those who had taken 300 mg of EGCG—a lower dose—burned 33 percent more fat.

Reducing Migraine
Nutrients provide migraine relief for adults and children

Migraine
Migraine headaches are sometimes preceded by an aura: a flash of light, blind spots before the eyes, tingling, or anxiety; and can have debilitating symptoms lasting up to 72 hours.

B vitamins reduced migraine
According to doctors in this study, prior research identified a gene that, when mutated, can raise levels of homocysteine, making people susceptible to migraine. In the study, 52 people suffering from migraine with aura took 2 mg of folic acid, 25 mg of vitamin B6, and 400 mcg of vitamin B12 per day, or a placebo. After six months, compared to the start of the study, homocysteine levels were 39 percent lower in those who took B vitamins. While there were no changes for placebo, the B vitamin group—particularly those with the mutated gene—had fewer and less severe migraines, with disabling symptoms declining from 60 percent at the start of the study to 30 percent by the end.

Nutrient supplement eased migraine in children
Doctors in this study said that ginkgo biloba has anti-inflammatory properties which might help ease migraine in children. In the study, 12 boys and 12 girls with chronic migraine, aged 8 to 18, took a combination of ginkgo biloba extract containing 80 mg of ginkgolide B, 20 mg of coenzyme Q10, 1.6 mg of vitamin B2, and 300 mg of magnesium twice per day with meals. After three months, headaches had decreased from 7.4 attacks per month at the start of the study to 2.2 at the end. The children were also able to take fewer analgesics for pain, decreasing from 5.9 doses per month to 1.5 doses.

Reference: Journal of the Neurological Sciences; 2010, Electronic Prepublication

NOVEMBER’S
Ahead of the Curve
Early-Stage Nutrition Discoveries

Most scientific breakthroughs in human nutrition begin with small lab studies. Human clinical trials follow to confirm results. Here are some of the most promising recent findings.

Tart cherry reduced abdominal, blood, and cardiac inflammation
Researchers in this study fed obese rats a high-fat (47 percent), moderate carbohydrate, pro-inflammatory Western-type diet, enriched with anti-inflammatory tart cherry. After 90 days, levels of blood sugar, triglycerides, cholesterol, and several signs of inflammation all were much lower. Body weight, total fat mass, and abdominal fat were also lower, while lean body mass increased. “Chronic inflammation is a whole body condition that can affect overall health, especially when it comes to the heart,” said study co-author Mitch Seymour, Ph.D., at the University of Michigan. “This study offers further promise that foods rich in antioxidants, such as cherries, could potentially reduce inflammation and have the potential to lower disease risk.”

Journal of the Federation of American Societies for Experimental Biology: 2010; Electronic Prepublication

Resveratrol protects against brain damage after stroke
Researchers in a lab study gave some mice a small dose of resveratrol, and no resveratrol in others, then cut off blood supply to brain cells, creating a stroke-like effect. There was significantly less brain damage in the resveratrol group. Doctors believe resveratrol increases an enzyme that protects brain nerve cells from damage.

Experimental Neurology: 2010; Vol. 224, No. 1, 325-9
Probiotics Curb Crying in Babies
Colicky babies cried less after taking probiotics

Researchers who presented their findings at a recent gathering of pediatricians said that they wanted to see if they could reduce crying time in infants with colic by improving the balance of healthy bacteria in the digestive tract. Doctors gave 50 infants with colic 100 million colony-forming units of a Lactobacillus reuteri supplement per day, or a placebo, for three weeks.

After seven days, infants in the placebo group spent 50 percent less time crying per day compared to 68 percent less time for the probiotics group. After three weeks, the average crying time in the placebo group was 90 minutes per day compared to 35 minutes per day for those who took probiotics. Also after three weeks, 43 percent of children in the placebo group no longer had colic compared to 84 percent of the children who had taken probiotics.

Reference: 43RD ANNUAL MEETING OF THE EUROPEAN SOCIETY FOR PAEDIATRIC GASTROENTEROLOGY, HEPATOLOGY AND NUTRITION, 9-12 JUNE, 2010; ISTANBUL, TURKEY