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August 2018

Eye

Nutrients slow progression of eye disease in children and diabetics

Vitamin A preserved children's sight

Special cells in the retina of the eye, called cones, respond to colors in bright light. These cones can begin to fail—part of a group of eye diseases called retinitis pigmentosa (RP)—in adolescents and young adults, often leading to blindness by age 40. In this study, 80 children, average age nine, with different genetic types of RP, took age-adjusted doses of vitamin A less than or equal to 15,000 IU per day, or did not take vitamin A.

Doctors followed up four to five years later and found children taking vitamin A had nearly 50 percent slower annual loss of cone function compared to those not taking vitamin A: 6.9 percent vs. 13.2 percent. Doctors said treating RP in childhood appears to have greater benefit than in adulthood, where other studies have found only a 17 percent slower annual loss of cone function for those taking vitamin A.

DHA decreased macular thickness

The macula is an area in the center of the retina of the eye responsible for sharp, straight-ahead vision. Chronic high blood sugar levels in diabetes can damage blood vessels near the retina,



allowing fluid to build up in the macula (macular edema), distorting vision.

In this study, 55 people with diabetic macular edema took 0.5 mg of ranibizumab, a medication that stops fluid leakage in the eye, once per month for the first four months, then as needed. About half the group took 1,050 mg of the omega-3 DHA per day during this time.

After three years, those taking DHA had an average 11 percent greater decrease in macular thickness, to 275 micrometers compared to 310. The DHA group also had greater improvements in visual acuity, lower long-term average blood sugar levels, higher total antioxidant capacity, and fewer signs of chronic inflammation.

REFERENCE: JAMA OPHTHALMOLOGY; MARCH, 2018, PUBLISHED ONLINE

AUGUST'S

Healthy Insight Beating Daily Fatigue

Daily fatigue may be due in part to oxidative stress. In this study, 24 healthy adults took a placebo or a combination of two strong antioxidants: 3 mg of astaxanthin plus 5 mg of sesame seed lignans, per day. After four weeks, participants completed physical and visual tasks designed to induce fatigue. Compared to placebo, those who had taken the astaxanthin/sesame seed combination recovered faster and more completely, and had fewer signs of oxidative stress.

Doctors said supplementing with astaxanthin plus sesame seed lignans may promote recovery from common daily mental fatigue.

REFERENCE: NUTRIENTS; FEBRUARY, 2018, 10030281, PUBLISHED ONLINE

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Sports Advantage

Nutrients may prevent injury, speed recovery

Vitamin D in the NFL

Low levels of vitamin D cause muscles to atrophy and impair the ability to contract properly. In this study during the 2015 National Football League season, doctors studied 214 skilled position athletes, 78 percent of whom were African American. Vitamin D levels in the African American players averaged 29.5 nanograms per milliliter of blood (ng/mL) compared to white players at 34.0 ng/mL.

During the season, 11 of the 13 players that missed a game due to injury had low vitamin D levels. Players with vitamin D levels below 32 ng/mL were 86 percent more likely than players with at least 32 ng/mL to have a lower extremity strain or core muscle injury, and were also three times as likely to pull a hamstring muscle.

Doctors said regularly screening levels and supplementing with vitamin D could help prevent injury not only in professional athletes, but in the general population, 40 percent of which may be deficient in vitamin D.

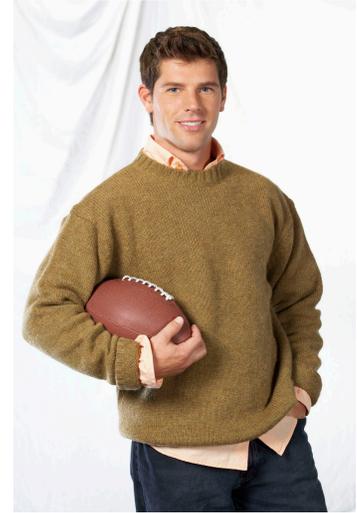
Whey protein speeds recovery

During high-intensity exercise, the brain competes with the body for oxygen, reducing performance. In this study, 15 Division I collegiate basketball players consumed whey protein as 36 percent of total calories or 12 percent of total calories, in a carbohydrate-based drink right after a one-hour intense cycling challenge.

After resting for two hours, they repeated the exercise at a slightly higher intensity until exhausted. Those in the high-protein group had better brain

oxygenation and less demand for blood to the brain, and cycled 16 percent longer than those in the low-protein group.

REFERENCE: ARTHROSCOPY JOURNAL; APRIL, 2018, VOL. 34, 1280-5



Moms and Babies

Mothers' omega-3s boost babies' health

Higher fat-free mass

Mothers of 154 children in this study took 600 mg of the omega-3 DHA per day while pregnant, or a placebo. At age five, children whose mothers had taken DHA had an average

of 1.3 pounds more fat-free body mass compared to children whose mothers were in the placebo group. The fat-free body mass benefit was the same regardless of the diets of the women or the children.

Discussing the findings, doctors said DHA levels can increase in the fetus when mothers supplement with DHA, and can increase in the infant from mothers' milk as she breast feeds. Doctors also said the finding that, nearly six years later, children's physical characteristics can benefit from mothers' supplementing with DHA is profound.

Better mental and visual function

This large review of 38 clinical trials covered 5,541 mothers who took omega-3 supplements or a placebo while

pregnant.

Overall, compared to children of mothers who had not taken omega-3s, pre-term and full-term children of mothers who supplemented with omega-3s had better visual acuity. Pre-term infants whose mothers had taken omega-3s also had better mental development than pre-term infants whose mothers had taken a placebo. The benefits were the same regardless of world region, race, mothers' education, the length of time taking omega-3 supplements, or the doses of DHA or EPA.

Discussing the results, doctors said the findings make up the most complete body of evidence of the potential benefits of mothers' omega-3 fatty acid supplementation on the mental development of their children.

REFERENCE: AMERICAN JOURNAL OF CLINICAL NUTRITION; 2018, VOL. 107, No. 1, 35-42



Circulation

Nutrients may reverse heart and blood vessel aging, reduce damage

Nicotinamide riboside B₃

Restricting calories helps keep blood vessels flexible and lowers blood pressure in overweight and obese adults, but may not be safe for normal-weight older adults. Because stiffening arteries



and high blood pressure lead to the most common age-related causes of death, doctors wanted to find a safe alternative to restricting calories.

In this study, 24 lean, healthy men and women, aged 55 to 79, took 500 mg of nicotinamide riboside—a form of vitamin B₃—twice per day, or a placebo. After six weeks, while the placebo group had not changed, those in the vitamin B₃ group had higher levels of enzymes—called sirtuins—that mimic the effects of calorie restriction. Sirtuins decline with age.

Within the vitamin B₃ group, those with stage-1 hypertension (120-139/80-89 mmHg) saw systolic blood pressure decline by nearly 10 points. Doctors said a drop of this size could lower chances of an adverse heart event by 25 percent.

Red yeast rice, plant sterols, curcumin, and polyphenols

Few studies measure the effects of nutrients on lipids after a meal. In this trial, 80 adults who were overweight but not likely to have heart or circulatory problems cut 600 calories per day from their diets for one month, then took a daily placebo or 166 mg red yeast rice, 720 mg plant sterol esters, 45 mg curcuminoids, 25 mg olive polyphenols, and no other supplements.

While taking the nutrients, triglycerides, total and LDL cholesterol levels were lower than placebo, and lower than the start of the study. And after a high-fat meal, there were fewer signs of blood vessel damage.

REFERENCE: NATURE; MARCH, 2018, S41467, PUBLISHED ONLINE

AUGUST'S

Ahead of the Curve

Early-Stage Discoveries: Selenium, SAM, Synbiotics

Good results in the lab can lead to larger human trials. Here are some of the most promising recent findings.

Selenium and seizure

Special nerve cells in the brain, called parvalbumin PV interneurons (PVI), connect the nerve cells responsible for the senses (sensory) to the nerve cells responsible for actions and movement (motor). The body builds PVIs using an enzyme that normally contains selenium. In the lab, doctors found that mice lacking selenium in these enzymes failed to develop PVIs and subsequently had a fatal seizure within three weeks.

Discussing the findings, doctors said that this study demonstrates for the first time that selenium is an essential factor for early development of a specific type of interneuron, PVI.

S-adenosylmethionine

In the lab, doctors introduced S-adenosylmethionine (SAM) into human breast cancer cells and found a direct link between the dosage of SAM and decreases in cell proliferation, invasion, migration, growth, and programmed cell death. SAM also reduced tumor size and the spread from an initial cancer site to other sites. Doctors analyzed gene expression and found SAM decreased the expression of several key genes that promote cancer growth and spread.

Discussing the findings, doctors said the results provide compelling evidence that SAM can reduce cancer-related disability and death, and call for further therapeutic study.

Synbiotics, body weight and fat

Synbiotics combine probiotics with prebiotics, such as inulin. In the lab, mice that had synbiotics added to their diets for the first six weeks after birth had reduced body fat mass and lower body weight after an eight-week high-fat diet, compared to those that did not get synbiotics. The synbiotics group also had lower total cholesterol levels, and greater insulin sensitivity—the ability to use insulin to efficiently metabolize sugar—as adults. The gut microbiome in the synbiotics group also had higher levels of bifidobacterium as early as three weeks of age and continuing through 14 weeks.

REFERENCE: CELL; 2018, VOL. 172, NO. 3, 409-22

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Saturday: 10 a.m.-6 p.m.
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Good Circulation on Long Flights

Pycnogenol® may prevent leg swelling, blood clots

“Sitting is the new smoking.”

Sitting anywhere—in a car, at the office—for long periods can cause body fluids to accumulate, swelling the legs, ankles, and feet, and raising chances for blood clots. Long flights in cramped seating magnifies the problem. This study followed 295 economy-class air travelers flying twice a week for more than eight hours.

Doctors divided the group into low, moderate, or high likelihood of deep-vein blood clots, with this last group taking a daily aspirin. Participants in each group took a placebo; 150 mg of Pycnogenol® per day beginning three days before and continuing three days after each flight; or only wore compression stockings during flight.

Participants could choose to take Pycnogenol and not be compared to placebo. All participants did in-flight exercises and drank water.

Compared to placebo or stockings, swelling was lower for Pycnogenol in all three groups, and no one taking Pycnogenol had a blood clot. The Pycnogenol group also had fewer signs of jet lag.

REFERENCE: MINERVA CARDIOANGIOLOGICA; 2018, VOL. 66, No. 2, 152-9



Your Good News!®

We're dedicated to discovering the benefits of good nutrition and healthy lifestyle, and hope this issue of Natural Insights for Well Being® informs and inspires you to take an active role in your health. Please ask us to assist you with any natural products you would like to know more about.

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