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October 2022

Exercise

Betaine and rhodiola boost performance

Betaine reduced cortisol, increased strength

Cortisol, the stress hormone, dampens testosterone. In this study, 10 male competitive handball players, average age 16, took a placebo or 2,500 mg of betaine per day for two weeks. Before and after, participants performed a high-intensity leg- and bench-press resistance exercise none had ever done before, resting for 48 hours before each test.

After the treatment, the betaine group performed 35.8 leg presses vs. 24.8 for placebo, and 36.3 bench presses vs. 26.1 for placebo. Compared to the start of the study, resting testosterone levels increased, as did the ratio of testosterone to cortisol in the betaine group compared to placebo.

Discussing the findings, doctors said the testosterone-cortisol ratio is a good gauge of recovery from high-intensity exercise training, with these results indicating betaine reduced post-exercise stress on the body.

Rhodiola reduced muscle pain and damage

Many cultures have traditionally used rhodiola rosea for reducing stress, mental and physical fatigue, and to boost energy. Athletes typically use rhodiola rosea to enhance performance. This review of 10 intensive-exercise



trials covered 318 participants, mostly in their 20s, who took a placebo or anywhere from 100 mg to 1,500 mg of rhodiola per day, in studies lasting one hour to 37 days.

Doctors found consistent rhodiola benefits vs. placebo, including lower levels of the inflammatory factor, creatine kinase; lower levels of the tissue damage marker, lactate dehydrogenase; reduced skeletal muscle injury; greater resting antioxidant capacity; increased explosive muscle power; and lower perceived exertion levels after extended exercise.

“This review demonstrates that rhodiola rosea has the potential to improve sport and exercise performance by reducing oxidative stress, muscle pain and injury, improving skeletal muscle damage and muscle recovery during training, as well as improving athletic explosive power,” doctors concluded.

REFERENCE: JISSN; 2022, VOL. 19, NO. 1, PUBLISHED ONLINE

OCTOBER'S

Healthy Insight Vitamin D for Eyes

People with internal inflammation of the eye, a noninfectious condition called uveitis, were more likely to have low levels of vitamin D. In this review of 16 studies covering people with several forms of uveitis, doctors found consistent evidence of a link to low levels of vitamin D.

People with autoimmune diseases are also more likely to develop uveitis and to be low in vitamin D, which doctors confirmed in the findings as well.

Doctors said there is a large body of evidence showing vitamin D regulates inflammatory processes, and studying vitamin D in uveitis may advance scientific understanding of treating and preventing disease.

REFERENCE: SURVEY OF OPHTHALMOLOGY; 2022, VOL. 67, NO. 2, PUBLISHED ONLINE

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Circulation

Nutrients lower and help regulate blood pressure

Magnesium, vitamin D lowered BP

Those who are overweight or obese often have low levels of magnesium and vitamin D. Magnesium helps metabolize vitamin D. In this study, 95 participants, who were overweight or obese, took a placebo or 1,000 IU of vitamin D with or without 360 mg of magnesium glycinate per day. After 12 weeks, while there were no significant changes for placebo, or for vitamin D alone, those taking magnesium with vitamin D saw an average increase of 6.3 nanograms per milliliter of blood (ng/mL) in vitamin D—about 10 percent of the optimal vitamin D level of 50 to 70 ng/mL. Systolic blood pressure (BP) also decreased an average of 7.5 mmHg in those with elevated BP.

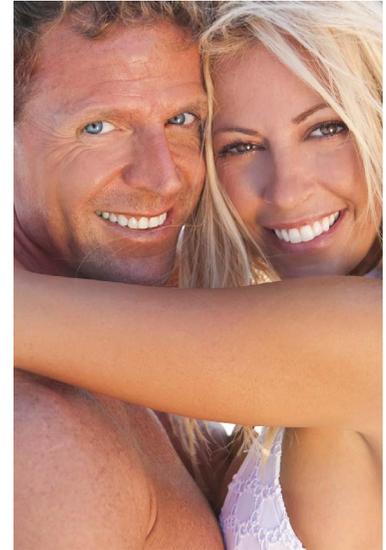
Omega-3s effective at 2,000-3,000 mg per day

Doctors know the omega-3s EPA and DHA lower blood pressure, but until now did not know the optimal dose. This review of 71 trials covered 4,973 participants, at least 18 years old, who took an average 2,800 mg combined dose of EPA and DHA per day.

Overall, systolic blood pressure declined an average 2.61 mmHg at 2,000 and at 3,000 mg of EPA+DHA per day. For diastolic blood pressure, the average decline was 1.64 mmHg at 2,000 mg, and 1.8 mmHg at 3,000 mg EPA+DHA per day. In those with high lipid levels and high blood pressure, systolic and diastolic readings decreased as doses of omega-3s increased. Doses

above 3,000 mg EPA+DHA per day did not significantly improve results.

REFERENCE: THE JOURNAL OF NUTRITION; 2022, 111674, 99-100



Cognition

Vitamin D and amino acids preserve brain health

Vitamin D genetic link to dementia

This is the first study worldwide to measure gene variations and vitamin D levels, and compare to chances for dementia and stroke. Doctors made the comparisons in 427,690 participants and found chances for dementia were 54 percent higher in those whose

vitamin D levels were 25 nanomoles per liter of blood (nmol/L) compared to those whose vitamin D levels were 50 nmol/L.

Those with lower vitamin D levels also had lower volumes of brain white-matter, and greater chances for stroke. Doctors said this large genetic variation analysis supports a cause-and-effect relationship between deficiency in vitamin D and dementia, and that as much as 17 percent of dementia in some populations may be prevented by increasing vitamin D levels to 50 nmol/L.

Amino acids boost motivation, cognition

Reducing stress improves the ability to focus at work, which has become

more urgent post-pandemic. In this study, 44 participants complaining of fatigue, aged 20 to 65, took a placebo or a daily combination of five amino acids. The amino acids were 1 g D,L-alanine, 1 g L-aspartate, 0.5 g L-glutamate, 1 g L-tyrosine, and 0.5 g serine per day.

After four weeks, compared to placebo, those taking the amino acids had higher scores on task orientation, time management, and spatial cognition. Doctors made the measurements during two, two-hour sets of working memory and attention tasks, concluding, “Our combination of amino acids in this trial contributed to maintaining proper motivation and cognitive function.”

REFERENCE: AMERICAN JOURNAL OF CLINICAL NUTRITION; 2022, NQAC107, PUBLISHED ONLINE



Diabetes Update

Selenium and ginseng help improve diabetes status

Selenium increases telomere length in women

The body requires selenium, which previous studies showed can increase telomere length, a measure of biological aging. But there are few studies of this relationship in diabetes. In this study, doctors measured selenium in the diets of 878 women with diabetes between 1990 and 2002.

Overall, for every 1 microgram increase in selenium in the diet,



telomeres were 1.84 base pairs longer.

Telomeres are specialized proteins that anchor the ends of chromosome strands, protecting their DNA from damage as cells replicate. Each time a cell reproduces, telomeres shorten, eventually exposing chromosome strands to damage and impaired reproduction. Longer telomeres suggest younger biological age.

Ginseng regulates several diabetes factors

This review of 20 placebo-controlled clinical trials covered 1,295 participants with prediabetes or type 2 diabetes, aged 45 to 64, who took a placebo or ginseng in doses of 0.1 to 8 grams per day, in studies lasting from four to 24 weeks.

Overall, a 2 gram dose of ginseng per day significantly reduced triglycerides and LDL cholesterol in those with prediabetes and type 2 diabetes. Those taking ginseng also saw lowered blood pressure and increased nitric oxide, the compound that helps vessels relax and dilate. In studies lasting at least eight weeks, ginseng lowered fasting glucose levels and, regardless of the length of study, ginseng reduced insulin resistance.

“Our findings suggest that ginseng supplementation may be an effective strategy for improving cardiometabolic profiles in individuals with prediabetes and type 2 diabetes,” doctors concluded.

REFERENCE: BRITISH JOURNAL OF NUTRITION; 2022, S000711452200174X

Healthy Weight

Probiotics and collagen improve weight and lipids

Probiotics reduced weight, fat mass

Diet influences weight, but gut microbiota also play an important role. In this study, 59 overweight participants took a placebo or 10 billion colony-forming-units daily of a lactobacillus probiotic combination.

After 12 weeks, those in the probiotics group on average had lost body weight, waist circumference, had healthier body mass index scores, and better gut microbiota balance, compared to the start of the study, while the placebo group deteriorated in all these measures. In obesity, people become less sensitive to two hormones that regulate appetite; leptin and adiponectin, and do not recognize when they have eaten enough food to satisfy

hunger. The probiotics group became more sensitive to leptin as these two hormones came back into balance.

Collagen improves lipids, reduces fat mass

Collagen makes up 25 to 30 percent of total body protein, and may improve heart and circulatory health. In this review of 12 clinical trials, 748 overweight participants, aged 24 to 72, with type 2 diabetes, elevated blood pressure, osteoarthritis, or age-related muscle loss, took a placebo or a daily collagen supplement during varying study periods.

Overall, those taking collagen saw an average 2.7 pound decrease in fat mass, 1.49 percent decline in body mass, LDL cholesterol decline by 4.09

mg per deciliter of blood (mg/dL), total cholesterol by 5.28 mg/dL, and triglycerides by 6.51 mg/dL. Systolic blood pressure decreased an average of 5.04 mmHg, and compared to placebo, fasting and long-term average blood sugar levels declined.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NU14122484



Holly Hill Health Foods
 1200 Welsh Road
 North Wales, PA 19454
 (215) 361-7770, ext. 2
 www.hollyhillvitamins.com

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Mood and the Microbiome

Probiotics reduced depression

The gut-brain connection

Many recent studies have found beneficial flora in the gut help enhance physical and mental health, in a link doctors call the “microbiota-gut-brain” (MGB) axis. In this study, 47 participants hospitalized for depression took a placebo or 900 billion colony-forming-units of a probiotic combination per day, along with standard antidepressant medication. The probiotic contained eight strains including bifidobacterium, lactobacillus, and streptococcus.

After 31 days, all participants had improved, with those taking probiotics improving more than placebo on a standard scale of depressive symptoms. Doctors also showed participants

neutral or fearful faces and used functional magnetic resonance imaging (fMRI) to assess changes in areas of the brain that react differently in healthy and depressed people. Brain activity normalized for those in the probiotics group, but did not change for placebo. Doctors said they hope future studies will identify the specific probiotics to optimize support treatment for depression.

REFERENCE: TRANSLATIONAL PSYCHIATRY; JUNE, 2022, ARTICLE NO. 227



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.

These articles provide nutritional information only and do not replace professional medical advice.

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