

# HOLLY HILL HEALTH FOODS

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## Natural Insights for Well Being®

March 2018

### Vitamin D and Autoimmunity

Nutrient protects against autoimmune disorders: type 1 diabetes, hair loss, and multiple sclerosis

#### Type 1 diabetes

Type 1 diabetes, when the body does not produce enough insulin to regulate blood sugar, is now the most common metabolic disorder in children under 10. In this study, doctors focused on special cells in the pancreas that produce insulin, called islet cells. In some children, the immune system mistakenly attacks islet cells, a precursor of type 1 diabetes. Vitamin D regulates the immune system.

Doctors compared 376 children who developed the islet autoimmune disorder to 1,041 children who did not. Kids that went on to develop islet autoimmune disorder had a genetic variant of the vitamin D receptor gene, had lower levels of vitamin D during infancy and childhood, and were more likely to later develop type 1 diabetes. Kids with higher vitamin D levels were less likely to develop islet autoimmune disorder.

#### Spot hair loss

Another autoimmune disorder causes the hair to fall out in circular spots on the head and elsewhere on the body, a condition called alopecia areata (AA). In this study, doctors compared vitamin D levels in 20 children with AA to 34 children without. While vitamin D levels between the two groups were



similar, kids with AA and low levels of vitamin D had more numerous, severe, and longer-lasting AA symptoms.

#### Multiple sclerosis

In this study, doctors measured vitamin D levels in blood samples from 800,000 women during prenatal testing. Nine years later, the team identified 1,092 cases of multiple sclerosis (MS) from the group, and compared these samples to 2,123 samples from women who had not developed MS. Women whose vitamin D levels were at least 20 nanograms per milliliter of blood (ng/mL) were 39 percent less likely to have developed MS compared to women whose vitamin D levels were 12 ng/mL or lower.

REFERENCE: DIABETES JOURNALS; OCTOBER, 2017, DB170802, PUBLISHED ONLINE

MARCH'S

### Healthy Insight Calcium for PMS

Premenstrual syndrome affects millions of women and can last up to two weeks before menses. In this study, 66 female college students, average age 21, diagnosed with PMS, took a placebo or 500 mg of calcium per day. Doctors measured symptoms before and two months after taking calcium. Symptoms were similar in both groups before taking calcium, but after one and two monthly cycles, anxiety, depression, emotional changes, water retention and other body changes improved for the women taking calcium. Doctors concluded calcium is a low-cost, effective treatment for reducing symptoms of PMS.

REFERENCE: OBSTETRICS & GYNECOLOGY SCIENCE; 2017, VOL. 60, No. 1, 100-5

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# Exercise Recovery

## Nutrients boost immunity, protect against heat stress after exertion

### Yeast beta glucan boosts immunity

Immediately after intense exercise, the immune system is less able to protect against opportunistic infection. In this study, participants took a placebo or 250 mg of yeast beta glucan per day. After 10 days, participants completed a 90-minute exercise session in a hot, humid environmental chamber.

Four hours after exercise, blood samples showed that, compared to placebo, those in the beta glucan group produced 48 percent more interferon-gamma, an immune factor that combats bacterial and viral infection; a 38 percent increase in immune killer T-cells, which combat pathogens; and a 29 percent increase in monocytes, a type of immune cell produced in bone

marrow that travels through the blood and into the tissues.

Discussing the findings, doctors said that after exercise, both trained athletes and weekend warriors are more prone to illness, and that beta glucan can strengthen the immune system and its response after exercise.

### Curcumin protects against heat stroke

Heat stress from exercise damages the gastrointestinal tract and increases chances for heat stroke, as blood flow is diverted to skeletal muscle and skin. In this study, participants took a placebo or 500 mg of curcumin per day for three days prior to a one-hour treadmill exercise in a high-heat, high-humidity chamber.

Compared to placebo, those taking curcumin had a smaller rise in core body temperature, lower average total body temperature, lower heart rate, and fewer signs of physiological strain. Also, curcumin helped maintain the integrity of the gut lining, protecting it from bacterial infiltration.

REFERENCE: FRONTIERS IN PHYSIOLOGY; OCTOBER, 2017, 00786, PUBLISHED ONLINE



# Circulation

## Nutrients improve lipids, blood pressure and sugar, and increase chances of survival from heart conditions

### Chlorella, lipids, and blood profiles

Doctors in this study reviewed 19 placebo-controlled trials of chlorella covering male and female adults of varying health status. The studies varied in dosage and length, with doctors finding studies lasting eight weeks or more, using doses of chlorella higher

than 4 grams per day, having the most significant benefits.

On average overall, those taking chlorella saw decreases in total cholesterol of 9.09 mg per deciliter of blood (mg/dL); LDL cholesterol lower by 8.32 mg/dL; fasting blood sugar levels decrease by 4.23 mg/dL; systolic blood pressure down by 4.51 mmHg, and diastolic blood pressure decrease by 1.64 mmHg.

Commenting on the findings, doctors said chlorella was more effective in unhealthy subjects than in healthy ones for improving blood pressure and total cholesterol.

### Omega-3s reduce CHD

Doctors in this long-term study tracked the vitamins and supplements in

22,035 men and women, aged 39 to 79, and followed up for 22 years. Overall, compared to those who did not take any supplements, those who took omega-3 supplements were 26 percent less likely to die from coronary heart disease (CHD).

Doctors also measured those whose only supplement was omega-3, and found they were 17 percent less likely to die from CHD compared to those who took no supplements at all.

In a final finding, chances of surviving CHD were greater in those who consistently took omega-3, and in those who began taking omega-3 during the study period, but the survival benefit disappeared in those who stopped taking omega-3.

REFERENCE: CLINICAL NUTRITION JOURNAL; 2017, 5614-31351-1, PUBLISHED ONLINE



# Healthy Moms

## Nutrients improve mood, reduce infection after childbirth

### Tryptophan, tyrosine, blueberry postpartum

New mothers' sense of sadness often reaches a peak five days after giving birth, and can signal future postpartum depression. The mood changes come



from a temporary increase in a brain protein, monoamine oxidase-A or MAO-A, that has a link to depression. Because drugs that inhibit MAO-A have harsh side effects, doctors here wanted to design a supplement to counter the effects of rising MAO-A levels.

In the study, 41 healthy women, average age 32, took no supplements or 2 grams of tryptophan, 10 grams of tyrosine, and blueberry juice with blueberry extract for three days after giving birth.

At day five, when sadness tends to peak, women in the supplement group scored better on mood tests than women who had not taken supplements. The non-supplement women also had clear signs of depressed mood while the tryptophan-tyrosine-blueberry group did not.

### Rosehips reduce UTI

Caesarean sections include procedures such as bladder catheterization, which increase chances of urinary tract infection (UTI) due to E. coli bacteria. Earlier studies found rosehips can prevent UTI E. coli growth. In this study, 400 women with C-section birth, and without UTI, took a placebo or 500 mg of rosehips per day beginning on the second day after the procedure. During the next 20 days, chances for UTI were significantly lower in the rosehips group compared to placebo. By day 20, three women in the rosehips group had UTI compared to 19 for placebo. Rosehips contain vitamin C, which may help prevent UTI through its antioxidant action.

**REFERENCE:** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES; 2017, VOL. 114, NO. 13, 3509-14

# Healthy Skin

## Nutrients preserve youthful skin, reduce eczema

### Astaxanthin reduces oxidative stress

Antioxidants may slow the aging effects of oxidation on the skin. With age, the skin sheds more cells, has increases in microbial organisms, and less lubricating lipids. In this study, 31 men and women, aged 40 or older, took 4 mg of astaxanthin per day.

After four weeks, a sign of oxidative stress, malondialdehyde, was lower by 21.7 percent. Analyzing the skin, doctors found less shedding and lower microbial presence. There was also a significant increase in lipid droplet size, indicating more supple, hydrated, and youthful skin.

Doctors explained the skin is lipidic (oily) in nature, and that lipids provide an important barrier function.

The study findings support their theory that a lipid-soluble antioxidant such as astaxanthin would provide protective and restorative effects.

### Probiotics reduce eczema

Atopic dermatitis, the most common form of eczema, is a defect in the skin immune system that causes severe itching, scaling, and surface loss of the skin. In this study, 50 children and young adults, aged 4 to 17 with moderate atopic dermatitis, took a placebo or a probiotic containing B. lactis, B. longum, and L. casei, while continuing to use topical corticosteroids for skin flare-ups.

After 12 weeks, those taking probiotics saw an 83 percent reduction in symptoms compared to 24 percent

for placebo. Also, those on probiotics reduced by 29 percent the number of days requiring topical corticosteroids to treat skin flare-ups.

Commenting on the findings, doctors said probiotics could be used more widely in clinical practice to treat atopic dermatitis.

**REFERENCE:** NUTRITION RESEARCH; OCTOBER, 2017, PUBLISHED ONLINE



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## Better Performance

### Beta-alanine improved muscle function during intense exercise

During intense exercise, muscles build up acids that reduce physical function and increase fatigue. Beta-alanine is a building block of carnosine, a molecule that helps neutralize these damaging muscle acids. In this study, 26 men and women took a placebo or 6 grams of beta-alanine per day.

Participants performed intensive exercise at the start of the study and after four weeks taking beta-alanine. Compared to placebo, muscle carnosine levels increased in both men and women, and reduced fatigue.

The study builds on earlier research that found beta-alanine increased lean-muscle mass and exercise capacity, and improved physical functioning in older adults.

Discussing the findings, doctors said that even though men naturally have greater muscle carnosine content than women, muscle carnosine levels increased in both men and women after taking beta-alanine, and that beta-alanine reduced muscle fatigue and increased physical performance after four weeks.

**REFERENCE:** NUTRITION RESEARCH, OCTOBER, 2017, PUBLISHED ONLINE



## 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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