

# HOLLY HILL HEALTH FOODS

• Since 1991 •

## Natural Insights for Well Being®

December 2022

### Healthy Liver

Vitamins D and E improve liver function

#### What is non-alcoholic fatty liver disease?

When excessive fat builds up in the liver without a clear cause, the condition is called non-alcoholic fatty liver disease (NAFLD). Obesity and type 2 diabetes, as well as overweight and metabolic syndrome, are factors that increase chances. Treatment includes weight loss through diet and exercise.

#### Vitamin E improved NAFLD

In this study, 100 people with NAFLD took 300 mg of delta-tocotrienol vitamin E or 268 mg of alpha-tocopherol vitamin E, twice per day. The delta-tocotrienol group began to see improvements at 24 weeks that took the alpha-tocopherol group 48 weeks to realize.

At 48 weeks, those taking delta-tocotrienol had lost about 10 pounds of body weight compared to 8 pounds for alpha-tocopherol, and saw about 25 percent greater improvements in waist circumference and BMI scores compared to alpha-tocopherol. Triglycerides, high-sensitivity C-reactive protein and other inflammatory factors, blood sugar and fatty acid metabolism also improved in both groups. Liver cell longevity and function benefited from both forms of vitamin E, but the delta-tocotrienol group saw greater improvement.



#### Vitamin D improved liver function in women

In this study, 22 overweight women with NAFLD, aged 20 to 40, took either a placebo or 2,000 IU of vitamin D per day. Before and after the six-week study, participants performed a treadmill session, called Eccentric Exhaustive Exercise, designed to contract and exhaust the muscles, and that would temporarily raise levels of enzymes that cause liver cell damage.

After the six-week test, liver enzyme levels increased in both groups, but significantly less for the group taking vitamin D. Compared to placebo, the vitamin D group also saw lower body weight and fat percentages, better body mass index scores, as well as greater decreases in triglycerides and LDL cholesterol, and greater increases in HDL, the good cholesterol.

REFERENCE: COMPLEMENTARY THERAPIES IN MEDICINE; 2022, VOL. 70, No. 102866

DECEMBER'S

### Healthy Insight

#### Fiber is Anticancer

This study followed 918 participants with Lynch Syndrome—predisposing them to several cancers—who took either a placebo or resistant-starch fiber for two years between 1999 and 2005. Initially, there were no differences between the groups, but by 10 to 20 years later, those who had taken resistant starch were more than 60 percent less likely to have developed upper gastrointestinal cancers compared to placebo.

“Resistant starch fiber does not digest in the small intestine, but ferments later in the large intestine, feeding beneficial gut bacteria, which we believe reduces the types of bile acids that can damage DNA and cause cancer,” doctors said.

REFERENCE: CANCER PREVENTION RESEARCH; 2022, VOL. 15, No. 9, 623-4

#### This Issue

VITAMIN E AND KRILL OIL HAVE BODY BENEFITS	2
VITAMIN K2 AND OMEGA-3S RELIEVE DEPRESSION SYMPTOMS	2
FOLIC ACID, VITAMINS C, D, AND E BENEFIT TYPE 2 DIABETES	3
GREEN TEA AND ZINC SUPPORT GUT AND KIDNEY HEALTH	3
MOMS' PRENATAL VITAMIN D REDUCED CHILDHOOD ECZEMA	4

# Muscle & Joint

## Vitamin E and krill oil have body benefits

### Vitamin E prevents muscle damage after exercise

This review of 44 vitamin E clinical trials covered participants aged 18 to 40 who performed muscle-damaging exercises and took a placebo or doses of vitamin E ranging from 300 to 1,381 IU per day, over various study lengths.

Doctors measured muscle damage through two inflammatory enzymes; creatine kinase (CK) and lactate dehydrogenase (LDH), which increase after strenuous exercise. Immediately after exercise, trained athletes who had taken vitamin E, but not non-athletes, saw lower increases in CK compared to placebo, with these effects dissipating by 24 hours. LDH levels were lower in all participants after taking vitamin E compared to the start of the study.

The greatest improvements in muscle damage occurred in doses at or below 500 IU of vitamin E per day.

### Krill oil, astaxanthin improved knee OA

In this study, 235 healthy adults with mild to moderate osteoarthritis (OA) of the knee, and regular knee pain, aged 40 to 65, took a placebo or 800 mg of DHA/EPA from krill oil plus 450 mcg of astaxanthin per day.

After six months, knee pain, stiffness and function scores improved in both groups, but those taking krill oil and astaxanthin saw greater improvement. Omega-3 levels also increased to 8.9 percent from 5.5 percent for the krill oil group but decreased for placebo. Those who

began the study with the highest levels of inflammation reported the largest improvement in pain scores.

Doctors said this is the largest, longest study investigating krill oil effects on OA of the knee.

REFERENCE: NUTRIENTS; 2022, VOL. 14, NO. 8, 1599



# Mood

## Vitamin K2 and omega-3s relieve symptoms of depression

### Vitamin K2 in PCOS

Women of reproductive age may develop cysts on the ovaries, a condition called polycystic ovary syndrome (PCOS), often with symptoms of depression. In this study, 84 women with PCOS and mild to moderate depression, aged 18 to 40, took a placebo or 90 mcg of vitamin K2 per day. Before and after the trial, doctors used the BECK depression inventory to gauge progress.

After eight weeks, depression scores for those taking vitamin K2 had declined from an average of 16.9 to 14.98 while the placebo group increased from 13.8 to 14.0—all scores were in the range for moderate depression.

Doctors explained vitamin K appears to reduce depression by regulating a protein complex in the

body that responds to stress—nuclear factor kappa-light chain, or NF- $\kappa$ B—reducing inflammatory cytokines that have a link to depression.



### Omega-3s reduced episodes of depression

Earlier studies have found those with low levels of omega-3s are more likely to have depressive symptoms. Doctors in this study measured omega-3s in the diets of 13,879 adults, aged 39 to 65, and compared to chances for depression.

Overall, for all polyunsaturated fatty acids (PUFAs), those with the highest levels were 2 percent less likely to experience depressive episodes compared to those with the lowest levels. Benefits were greater for individual omega-3s, including 9 percent fewer episodes for all omega-3s, 11 percent fewer for DHA, 29 percent fewer for alpha-linolenic acid, 31 percent for EPA, and 34 percent fewer for DPA.

REFERENCE: BMC WOMEN'S HEALTH; 2022, PMC9316322

# Diabetes Update

## Folic acid, vitamins C, D and E, benefit type 2 diabetes

### Folic acid improves diabetic factors

Those with type 2 diabetes often have chronic elevated levels of the inflammatory factor homocysteine, which can increase insulin resistance.



Folic acid is essential for regulating homocysteine levels.

In this study, 100 men and women with type 2 diabetes, aged 45 to 75, who had been taking the standard diabetes medication metformin at 1,500 mg per day for at least six months, added 5 mg of folic acid per day or a placebo.

After 12 weeks, while the placebo group had not changed, homocysteine levels had decreased 28.2 percent for those taking folic acid. In addition, fasting blood sugar levels decreased 8.7 percent, long-term average blood sugar fell 8.2 percent, serum insulin levels dropped 13.7 percent, and insulin resistance declined 21.7 percent. The inflammatory factor, high-sensitivity C-reactive protein also declined 5.7 percent.

### Vitamins C, D and E preserve vision in diabetes

Poor nutrition and uncontrolled blood sugar in type 2 diabetes can damage the retina of the eye, a condition called diabetic retinopathy (DR). In this review of 35 studies covering 1,056 participants with DR and 920 without, doctors measured dietary levels of several vitamins and compared to the chances of developing DR.

Overall, levels of vitamin C in those with DR were 11.01 percent lower than those who did not have DR. Levels of vitamins D and E were also lower by 3.06 and 3.03 percent, respectively, in those with DR compared to those without.

**REFERENCE:** NUTRITION & DIABETES; 2022, VOL. 12, ARTICLE No. 33

# Metabolism

## Green tea and zinc support gut and kidney health

### Green tea extract reduced blood sugar, gut inflammation

A healthy digestive tract allows nutrients to pass through its walls into the bloodstream, but blocks potentially harmful substances such as non-nutritive particles from passing through. In certain conditions such as celiac disease, the gut becomes too permeable, allowing harmful substances through, a condition called leaky gut.

This study included 40 participants, half with metabolic syndrome, who took a placebo or a gummy providing 890 mg of green tea catechins: equal to about five cups of green tea, per day. The groups switched placebo and green tea after 28 days. Doctors asked everyone to follow a diet low in polyphenols—an anti-inflammatory component in green tea.

During the green tea phases, fasting

blood sugar levels fell significantly in healthy participants and those with metabolic syndrome. Lower levels of pro-inflammatory proteins in fecal samples signaled lower levels of gut inflammation. Doctors said lowering blood sugar appears to be related to decreasing leaky gut and gut inflammation.

### Zinc reduces diabetic kidney damage

People with diabetes are more likely to be deficient in zinc, a factor present in kidney disease. This study covered 60 participants, half of whom were healthy, and half with diabetic kidney disease, a condition called diabetic nephropathy (DN). Doctors measured zinc levels and antioxidant activity to discover differences between the groups.

Compared to healthy participants,

those with DN had significantly lower levels of zinc and lower levels of a protein that regulates antioxidant activity in the body: nuclear factor erythroid 2-related factor 2 (NRF2). Those with low zinc levels also had higher diastolic blood pressure. Some of those with DN had sufficient levels of zinc, and their condition was less severe than those with DN who had lower levels of zinc.

**REFERENCE:** CURRENT DEVELOPMENTS IN NUTRITION; 2022, VOL. 6, SUPPLEMENT 1, 981



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

*Store Hours:*

*Monday: 10 a.m.-6 p.m.*  
*Tuesday: 10 a.m.-6 p.m.*  
*Wednesday: 10 a.m.-6 p.m.*  
*Thursday: 10 a.m.-7 p.m.*  
*Friday: 10 a.m.-7 p.m.*  
*Saturday: 10 a.m.-6 p.m.*  
*Sunday: 11 a.m.-5 p.m.*

## Children's Skin

### Moms' prenatal vitamin D reduced eczema

#### First clinical trial finds protective effect for children

Dry, itchy and inflamed skin—called eczema or atopic dermatitis—is common in young children. While not contagious, the condition does increase chances for food allergies, hay fever, and asthma. In this study, 703 moms began taking a placebo or 1,000 IU of vitamin D per day, beginning at week 14 of pregnancy.

At 12 months of age, kids born to moms who had taken vitamin D were 45 percent less likely to have developed eczema compared to kids whose moms had taken the placebo. Children who were breastfed for at least one month were 52 percent less likely to have

developed eczema.

Doctors noted the effects weakened after two and four years, which suggested other postnatal influences might become more important beyond infancy, and recommended supplementing children with vitamin D to sustain the eczema benefits.

**REFERENCE:** BRITISH JOURNAL OF DERMATOLOGY; JUNE 2022, ARTICLE No. 21721



## 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.

♻️ Printed on Recycled Paper ©2022 RI