

# HOLLY HILL HEALTH FOODS

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## Natural Insights for Well Being®

November 2023

### Mind

#### Omega-3s, probiotics improve cognition

##### DHA reduces chances for dementia

A new series of studies and reviews reveals DHA reduces chances for cognitive decline and dementia, including Alzheimer's disease (AD). In the first study, 1,135 long-term users of omega-3 supplements, who started without dementia, were 64 percent less likely than non-users to have developed AD over six years of follow-up.

In a review of 48 studies covering 103,651 participants, omega-3s reduced chances for any dementia by 20 percent, with the greatest benefit from DHA. In a meta-analysis of 18 studies covering 46,548 adults, DHA reduced chances for dementia 27 percent, and for AD, 24 percent. Adults older than 65 years who regularly took omega-3s were 23 percent less likely to have cognitive decline than non-users.

In an analysis covering 27,161 healthy individuals and 3,797 with cognitive decline, overall, each 100 mg increase in the omega-3s EPA or DHA per day reduced chances by an average of 9 percent.

##### Probiotics improve cognitive function in AD

This review of 10 worldwide, placebo-controlled probiotics studies covered 715 participants, aged 50 to 100, some healthy, others with cognitive



decline. Overall, those in the probiotics groups were 36 percent less likely to have developed cognitive decline over the various follow-up periods.

Probiotics also promoted cognitive function in those with cognitive impairment, especially in AD, compared to placebo. In general, multiple probiotics strains improved cognition more than single strains. The best outcomes came in studies lasting at least 12 weeks with doses of probiotics above one-billion colony-forming units.

The probiotics strains in the studies included lactobacillus (L): -acidophilus, -casei, -fermentum, -helveticus, and -rhamnosus; and bifido (B): -bifidum, -bifidus, -breve, -infantis, and -longum.

**REFERENCE:** AMERICAN JOURNAL OF CLINICAL NUTRITION; 2023, VOL. 117, No. 6, 1096-1109

NOVEMBER'S

### Healthy Insight Black Currant for Exercise

Black currant lowered blood pressure during recovery from moderate-intensity exercise. In this study, 10 men and five women, average age 31, healthy, untrained, with normal blood pressure, took a placebo or 600 mg of black currant extract daily for seven days, pausing for two weeks, then switching groups.

Doctors measured blood pressure and heart rate after a two-hour supine rest that followed a moderate one-hour treadmill exercise at 50 percent of maximum oxygen usage. Systolic pressure decreased 5.6 vs. 3.5 mmHg for placebo, and fat burning increased 66 percent vs. no change for placebo.

**REFERENCE:** INTERNATIONAL JOURNAL OF SPORT NUTRITION AND EXERCISE METABOLISM; 2023, VOL. 33, No. 5, 282-90

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# Better with Age

## Micronutrients and flavonols support healthy aging

### Vitamins and minerals help maintain health

Doctors wondered how certain vitamins and minerals could reduce chances for developing typical, multiple chronic age-related health conditions. In this study, doctors measured the diets of 1,461 adults, aged at least 65 and average age 71, paying particular attention to calcium, folate, iodine, magnesium, potassium, zinc, and vitamins A, C, D, and E.

During an average follow-up period of 4.8 years, 561 participants developed multiple chronic conditions. Compared to those who were sufficient in these micronutrients 40.1 to 78.7 percent of the time, those who were sufficient in them 85.8 to 97.7 percent of the time were 25 percent less likely to develop multiple chronic conditions.

### Flavonols support strength with age

Five symptoms define frailty in aging: unintentional weight loss; self-reported moderate exhaustion, some or most of the time; slow walking speed; weak hand-grip strength; and low physical activity.

In this study, doctors followed 1,701 participants, average age 58.4, without frailty at the start. Over an average 12.4 years of follow-up, 224 developed frailty. Measuring the level of flavonols in the diet, doctors found for each 10 mg per day increase in flavonols, chances for developing frailty decreased 20 percent. One particular flavonol, quercetin, showed the most benefit, with each 10 mg daily increase lowering chances for frailty by 35 percent.

Doctors said adequate flavonols in

the diet reduce chances for the onset of frailty, and that quercetin appears to have the most potential as a dietary supplement for preventing frailty.

**REFERENCE:** AMERICAN JOURNAL OF CLINICAL NUTRITION; 2023, VOL. 118, NO. 1, 34-40



## Kids

## Synbiotics and EGCG improved gut balance

### Pre- and probiotics rebalance microbiome

Pre- and probiotics together make up synbiotics. In this study, 54 youth, aged 8 to 17, with obesity but otherwise healthy, of normal height and cognition, took a daily placebo or a multi-strain probiotic plus inulin. Doctors asked participants to reduce calories by 10 percent and to exercise at least 30



minutes per day.

After 12 weeks, while the placebo group had not changed, the ratio of good-to-bad bacteria in the two major bacteria families improved for synbiotics, as measured in stool samples. A specific obesity-related bacteria, *Eubacterium dolichum*, also decreased in the synbiotics groups. Doctors said the improvements in the good-to-bad bacteria ratio in the gut support hormones that affect metabolic function by increasing the ability to harvest energy.

### EGCG reduces pathogenic bacteria in ASD

Those with autism spectrum disorder (ASD) often have abdominal pain, diarrhea, or constipation that

may be linked to an imbalance in the microbiome. In this large review of epigallocatechin-gallate (EGCG) studies, doctors concluded EGCG inhibits the growth of pathogenic bacteria like *clostridium perfringens*, which has a link to behavioral disorders and psychological distress.

In addition, EGCG increases two beneficial gut bacteria: *bifidobacterium* spp and *Akkermansia* spp. These two bacteria metabolically help maintain the integrity of epithelial tissue lining vessels and organs, with nerve-protecting effects on the brain. Discussing the findings, doctors said the results make EGCG a “highly promising complementary treatment in ASD.”

**REFERENCE:** GUT PATHOGENS; 2023, VOL. 15, NO. 6, ARTICLE S13099

# Metabolism

## Rutin for blood pressure, curcumin for NAFLD

### Rutin improved BP in type 2 diabetes

In this study, 50 participants with type 2 diabetes took a placebo or a 500 mg tablet of rutin per day, after meals, and continued their prescribed medications. Doctors measured blood pressure (BP) and heart rate at the start of the study and again after three



months.

For rutin, systolic BP decreased to 120.84 from 129.44 mmHg, and for placebo, increased to 132.36 from 131.20 mmHg. Diastolic BP decreased to 82.28 from 86.48 mmHg for rutin, and increased to 86.40 from 85.92 mmHg for placebo. Heart rate declined to 83.04 from 88.40 for rutin, while increasing to 84.88 from 84.40 for placebo. Levels of the antioxidant superoxide dismutase increased for rutin, but declined for placebo. Physical and emotional limitations improved for rutin, but worsened for placebo.

### Curcumin improved NAFLD factors

Non-alcoholic fatty liver disease (NAFLD) is the most common liver ailment. In this study, 56 men and

women, aged 18 to 65, with mild to moderate NAFLD—stages 1 through 3—took a placebo or 250 mg of curcumin per day.

After 12 weeks, waist circumference decreased 1.05 inches for curcumin while increasing slightly for placebo. Liver fat scores decreased to 44.53 from 62.17 for curcumin vs. increasing to 64.32 from 62.75 for placebo. The stage of NAFLD declined to 1 from 2 for curcumin while remaining stage 2 for placebo. Liver fibrosis also improved for curcumin while deteriorating for placebo, and BP decreased for curcumin while increasing for placebo. Doctors concluded curcumin decreased liver fibrosis and fat levels, and reduced BP and waist circumference.

**REFERENCE:** FRONTIERS IN NUTRITION; 2023, VOL. 10, NO. 1214420

NOVEMBER'S

## Ahead of the Curve

### Early-stage discoveries for Melatonin, Serratiopeptidase, and Probiotics

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

#### Melatonin reduced body fat and weight

In the lab, to help prevent obesity, doctors gave perimenopausal rats low, medium, or high doses of melatonin, or no treatment, for eight weeks. Compared to the non-treatment group, all three melatonin groups gained less weight, had less fat accumulate around the kidneys and gonads, and saw increases in irisin, a protein that stimulates insulin to convert white adipose fat tissue to brown fat, making it easier to convert to energy. Doctors concluded melatonin improved obesity and reduced body fat.

#### Serratiopeptidase reduced vessel inflammation

Standard anti-inflammatory medications for inflammatory conditions have serious long-term adverse effects. In the lab, doctors gave the anti-inflammatory super-enzyme, serratiopeptidase (SRP), to mice with blood vessel inflammation. In aortic tissue, levels of a pro-inflammatory bacterial toxin, lipopolysaccharides (LPS), linked to heart disease, decreased significantly, along with the pro-inflammatory cytokines Interleukin-1, -2, and -6, and tumor necrosis factor-alpha.

#### Probiotics improved diabetic kidney factors

Long-term diabetes can lead to kidney failure, characterized by protein leaking into urine, rising blood sugar and pressure, and impaired kidney function, called diabetic nephropathy (DN). In the lab, doctors gave mice with DN *L. acidophilus*, and *B. longum* -infantis, and -bifidum. After eight weeks, urine protein levels had declined significantly, as had fasting and post-meal blood-sugar levels, and systolic and diastolic BP. Doctors said probiotics are antioxidant, anti-inflammatory, and consume glucose.

**REFERENCE:** NUTRIENTS; 2023, VOL. 15, NO. 12, 2800



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## L-Carnitine for Covid

### Compound repaired lung lesions

#### Reduced clot complications

L-carnitine transports long-chain fatty acids to cell mitochondria to burn as energy, among other metabolic functions. This study covered 101 people with negative Covid tests and 122 with positive results who were either asymptomatic, or who had mild symptoms. Both groups took a placebo or 3 grams of L-carnitine per day.

After 21 days, four cases of Covid appeared in the negative group, two each for placebo and L-carnitine, revealing no significant difference between groups. In the Covid-positive group, platelets, which the immune system stimulates to repair damaged tissue, increased significantly for L-carnitine but not for placebo.

Fibrinogen, a component of clotting, declined significantly for L-carnitine, signaling less Covid disease activity and severity. CT scans showed significantly fewer lung lesions for L-carnitine. Doctors said L-carnitine's anti-clotting effects may benefit those with clot-related complications from Covid.

**REFERENCE:** FRONTIERS IN NUTRITION; 2023, VOL. 10, ARTICLE NO. 1134162



## 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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