



# Natural Insights for Well Being®

May 2021

## Kidney

Nutrients reduce symptoms in diabetic and chronic kidney disease

### Tocotrienols improve kidney function

One of the complications of types 1 and 2 diabetes is impaired kidney function. Evidence is mounting that the tocotrienol form of vitamin E has the unique ability to uniformly disperse throughout cells and penetrate saturated fatty layers, making it a highly potent antioxidant.

In this study, 59 men and women, average age 67, with diabetic nephropathy—where kidneys can't effectively filter waste and excess fluids—took a placebo or 200 mg of tocotrienols twice per day.

To assess kidney function, doctors measured creatinine, a waste product, levels of which were elevated in all participants. After six months, those taking tocotrienols saw a 3.2 percent decrease in creatinine levels compared to a 7.6 percent increase for placebo. Doctors also estimated how well the kidneys were filtering creatinine, and after six months found a 3.3 percent increase for tocotrienols and a 12.8 percent decrease for placebo. These benefits continued through the 12-month study period.

Discussing the findings, doctors said this is the first clinical trial to show tocotrienol-rich vitamin E supplements for 12 months slowed diabetic kidney disease, especially in its later stages.



### Magnesium in chronic kidney disease

One of the factors in kidney disease is poor circulation in calcified arteries, hampering kidney filtering function. Playing off earlier studies that found magnesium slowed arterial calcification, doctors reviewed 22 studies covering over 200,000 chronic kidney disease patients.

Overall, those with higher—but not abnormally high—levels of magnesium were less likely to die from any cause compared to those with lower magnesium levels. Doctors found a direct link: for each 0.1 millimoles-per-liter of blood (mmol/L) increase in magnesium, chances for heart and circulatory adverse events, including dying, decreased by 15 percent. Doctors noted the optimum range for magnesium appears to be between 1.15 and 1.27 mmol/L.

REFERENCE: NUTRIENTS, 2021, VOL. 13, NO. 1, 258

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## Healthy Insight Heart Rate Recovery

One of the best signs of good health is how quickly the heart returns to resting rate after exercise. In this study, doctors compared levels of omega-3 fatty acids and heart recovery rate in 13,912 healthy men and women, average age 50. A 2-percentage-point increase in omega-3 levels—where 8 percent is the ideal level—brought heart rate down 0.35 beats per minute (BPM) in men, and 0.69 BPM in women. Overall, men and women recovered an average 24 BPM after one minute, and 53 BPM after three minutes.

Doctors said, “omega-3s make the heart light on its feet, not sluggish in its response.”

REFERENCE: PROSTAGLANDINS, LEUKOTRIENES AND ESSENTIAL FATTY ACIDS; 2020 DEC; 163:102206

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# Brain Health

## Nutrients protect against cognitive decline, improve brain function

### Vitamins C and E may lower chances for Parkinson's

In Parkinson's disease (PD), brain-nerve function slowly deteriorates, with a wide range of eventual physical and cognitive symptoms including tremors and memory loss. While there is no apparent single cause, oxidative stress is a common factor.

In this study, doctors followed and gathered food questionnaires from 43,865 men and women, aged 18 to 94,



who began the study without PD. Over 17.6 years of follow-up, overall, those with the highest levels of vitamins C or E were 32 percent less likely to have developed PD compared to those with the lowest levels of vitamins C or E.

Doctors concluded dietary vitamins C and E may reduce chances for PD.

### Sulforaphane improved processing speed, memory

Earlier studies found cruciferous vegetables such as broccoli, cabbage, cauliflower, and kale increased brain processing speed. These plants contain sulforaphane, a powerful antioxidant and anti-inflammatory.

In this study, doctors asked half of 144 healthy adults, average age 68, to take training exercises for the

aging brain along with a placebo or sulforaphane; and asked the other half to play the 1984 tile-matching video game, Tetris, along with a placebo or sulforaphane.

While there was no improvement in the placebo/Tetris group, those that got aging-brain training—with placebo or sulforaphane—saw significant improvement in brain processing speed. Those taking sulforaphane—with placebo or brain training—in addition to improved brain-processing speed saw significant enhancements in working memory.

Doctors attribute the improvements in processing speed and working memory to the anti-oxidative, anti-inflammatory properties of sulforaphane.

REFERENCE: NEUROLOGY; 2021, VOL. 96, No. 6

# Women's Quality of Life

## Resveratrol and fiber improve life and health during menopause

### Resveratrol reduces pain, improves QOL in menopause

Doctors think some of the discomforts of menopause come from declining levels of estrogen. In two earlier, shorter studies, resveratrol—a phytoestrogen—improved pain and feelings of well-being in postmenopausal women. In this longer-term third arm of the study, 125 healthy postmenopausal women took a placebo or 75 mg of resveratrol twice daily, in alternating, 12-month phases.

Compared to the placebo phase, during the resveratrol phase, women reported 18 percent less pain from age-related osteoarthritis and improved quality of life.

Commenting on the findings, doctors said “Within the same study, we observed fewer hot flashes, night

sweats, heart discomfort, sleep problems, and muscle and joint discomfort with resveratrol. Although we don't know the cause of chronic pain in postmenopause, we believe declining estrogen levels may be a factor.”

### Fiber decreases pre- and post-menopausal breast cancers

In this review of 19 studies covering 1,994,910 pre- and post-menopausal women, total fiber in the diet was linked to an 8 percent decrease in the likelihood of developing breast cancer. Soluble fiber reduced chances by 10 percent, and insoluble fiber appeared to reduce chances by 7 percent.

Discussing the findings, Harvard University epidemiological research scientist, Maryam S. Farvid, PhD, said, “Our study contributes to the

evidence that lifestyle factors, such as modifiable dietary practices, may affect chances of breast cancer. Our findings provide research evidence supporting the American Cancer Society dietary guidelines, emphasizing the importance of a diet rich in fiber, including fruits, vegetables, and whole grains.”

REFERENCE: MENOPAUSE; 2020, VOL. 28, No. 1, 40-9



# Healthy Lipids

## Alpha lipoic acid and oat beta glucan improved lipid profiles

### ALA reduced glucose, triglycerides, in gestational diabetes

In pregnancy, hormonal changes can raise blood sugar levels and, together with oxidative stress, lead to gestational diabetes.

In this study, 60 pregnant women, aged 30 to 32, diagnosed with gestational diabetes between 24 and 28 weeks of pregnancy, took a placebo or 100 mg of alpha lipoic acid (ALA) per day.

After eight weeks, fasting glucose levels declined to 84 milligrams per deciliter of blood (mg/dL) from 101 for ALA, and to 95 from 100 for placebo, with 70 to 100 the normal range. Long-term average glucose (A1C) improved more for ALA than placebo, and triglycerides decreased for ALA while

increasing for placebo.

Doctors measured the ratio of triglycerides to HDL (the good) cholesterol, a measure that predicts heart disease and diabetes, which improved for ALA, but not for placebo.

### Oat beta glucan reduced cholesterol

Oat beta glucan is a soluble fiber with cholesterol-lowering benefits. In this study, 83 men and women, healthy, but with mildly-elevated cholesterol, average age 52, began a Mediterranean diet four weeks before taking a placebo or 3 grams of oat beta glucan per day for the next four to eight weeks, all the while continuing on the Mediterranean diet.

After four weeks, oat beta glucan reduced LDL cholesterol 12.2 percent,

and after eight weeks, by 15.1 percent.

At the same two points, total cholesterol had declined 6.5 percent and 8.9 percent. Non-HDL cholesterol—meaning all other cholesterol—declined by 11.8 percent and 12.1 percent.

REFERENCE: INTERNATIONAL JOURNAL OF REPRODUCTIVE BIOMEDICINE; 2020, VOL. 18, NO. 12, 1029-38



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## Ahead of the Curve

### Early-Stage Discoveries: Vitamin B6, Omega-6/3, Taurine

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

#### Vitamin B6 in Covid-19

Vitamin B6 has links to immunity, with low levels typical in chronic inflammatory conditions such as obesity, diabetes, and heart disease, making people more susceptible to Covid-19.

Covid-19 mainly enters the body by binding to lung and respiratory-tract cell receptors, which can cause a hyper-inflammatory “cytokine storm,” and blood clots.

In the lab, deficiency in vitamin B6 raised chances for pneumonia and viral infections. Supplementing with B6 increased immune antibody production, reduced reactive oxygen species, and had anti-clotting properties, all of which can decrease the severity of Covid-19.

#### Mom's omega-6/3 imbalance predicts obesity

At a certain time during pregnancy, the fetus' brain develops neurons that produce dopamine, a nerve-transmitter which stimulates reward-motivating behavior. In the lab, when pregnant mice ate an imbalanced diet high in omega-6 and low in omega-3, dopamine levels increased in the developing fetus' brain, leading to the tendency for the offspring to overconsume calories. Offspring from mothers who ate a balanced omega-6/omega-3 diet did not overconsume calories, suggesting that adults that gorge on calories are programming their offspring to do the same.

#### Taurine triggers gut memory

Taurine helps the body digest fats and occurs naturally in the gut. Doctors know that gut microbiota—microorganisms that are part of the immune system—can protect against infection, but until now, did not know how. In the lab, mice fed taurine resisted infection when exposed to a pneumonia-like antibiotic-resistant bacterium. Doctors transferred these microbiota to germ-free mice, who were then able to resist the pneumonia-like infection. Doctors identified an infection-fighting bacteria, Deltaproteobacteria, triggered by taurine.

REFERENCE: FRONTIERS IN NUTRITION; 2020, 562051, PUBLISHED ONLINE



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# Healthy Circulation

## Flavonoids are key

### 750-1,000 mg per day help ensure circulatory health

The heart must pump blood to the entire body, including distant, or peripheral, arteries in the arms, legs, head, and stomach. When fats and other substances build up on artery walls, blood flow reduces, leading to negative health outcomes.

In this study, doctors measured flavonoids in the diets of 2,131 people hospitalized with peripheral vascular (artery and blood vessel) disease (PVD). Compared to those with lower flavonoids in the diet—about 174 mg per day—those who got 1,000 mg per day were 32 percent less likely overall to have PVD; were 26 percent less likely to have hardening of the arteries, 28

percent less likely to have an aneurysm (weakening of the blood vessel wall), and 47 percent less likely to have any other type of PVD.

Discussing the findings, doctors said getting enough flavonoids in the diet may be a key strategy to ensuring healthy circulation.

**REFERENCE:** AMERICAN JOURNAL OF CLINICAL NUTRITION; 2020, VOL. 113, NO. 1, 187-9



## 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.

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

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