

De-Stress & Energize

Pantothenic Acid (B5)

by Margy Squires

Stressed out? Need energy? Pantothenic acid or B5, classically called the anti-stress vitamin because it supports the adrenal glands, supplies needed energy and enzymes for the production of the hormone, cortisol. Pantothenic acid stems from the Greek word *pantotheren*, meaning *from everywhere* because nature knew where this beneficial B should be!



The CoA Factor

For Energy. The value of B5 is its conversion to co-enzyme A (CoA). Think of CoA as energy. CoA is a critical enzyme needed for the metabolism of carbohydrates, fats and protein into usable energy. In fact, 95% of the CoA is found in mitochondria, the body's energy furnaces. CoA is also vital in the manufacture of oxygen-rich hemoglobin (red blood cells). Through lipid conversion, building blocks for cell membranes are supplied. Plus, B5 is involved in the synthesis of choline to neurotransmitters acetylcholine and sphingosine for proper nerve cell-to-cell communication and brain function. CoA is needed to generate heat energy so higher B5 levels may be needed during the cold and flu season in colder climates.

For Stress. CoA helps the adrenals produce the anti-stress hormone, cortisol. If stressors are not relieved, cortisol is continually pumped out until the glands are depleted. Prolonged stress leads to a potential "burn-out". Other systems which require CoA are also deprived. Supplemental B5 supplies the nutrient ammunition to manufacture more CoA.

Stress also affects immunity since CoA helps the thymus and antibody production to counteract viruses. Plus, B5 increases cellular glutathione, a potent antioxidant, which may play a role in protecting cell membranes from oxidative damage. Vitamin C, also

found in abundance in the adrenals, is a team player with B5 in counteracting the negative effect of stress. Without CoA, your liver slows down in its ability to metabolize toxins and drugs, another immune factor.

You may need B5 if you have

- ◆ a stressful lifestyle
- ◆ a diet of processed foods
- ◆ allergies, diabetes, arthritis
- ◆ high alcohol consumption
- ◆ a stressful injury or surgery
- ◆ frequent herpes cold sores or viruses
- ◆ fatigue or low energy
- ◆ suffer pain or other physical stressors

How much is enough? There's no RDA for B5 but the suggested daily intake is 10 mg a day. Although B5 is "everywhere" in foods, the amounts are small. Three ounces of chicken or beef liver has 5 mg and salmon only 1.5 mg. Two eggs, three ounces of nuts, raw veggies and fruits will give you about 1 mg. B5 is extremely heat sensitive so cooking causes loss of what little B5 foods contain. Whole grains are rich in B5 but loses 50% in milling. Given the low daily intake, most diets are considered adequate. However, the fast pace of American lifestyle and the high level of processed foods makes deficiency more likely.

Under stress? You may need up to 100 mg of B5 daily. For adrenal fatigue, 500 mg three times a day is suggested.* To reach the more "energizing" and "de-stressing" amounts, you'll have to supplement. Keep in mind that the B family works together and is co-dependent so take a B complex or a multiple that contains a B complex to keep them in balance. B5 is a water soluble vitamin so any B5 not used is usually excreted. Toxicity levels are noted only after excess levels of 10,000 mg or more a day.

**Medical Disclaimer: Prolonged fatigue may be an indication of a more serious problem. Seek professional medical attention to obtain the proper diagnosis.*

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Resources

1. Berkson, B. *All about B vitamins*. Avery Pub Group, New York 1998.
2. Lieberman, S. *The Real Vitamin & Mineral Book*, Rev. Avery, New York 1990.
3. Thomson Healthcare. *Physician's Desk Reference for Nutritional Supplements*. Medical Economics Press, 2001
4. www.pdrhealth.com

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