

Terry Talks Nutrition



The Life Saving Value of Pyridoxal-5-Phosphate (P5P) and Magnesium

– of vitamin B6, as well as a mineral partner that can greatly impact your health, or even prevent certain surgeries!

What exactly does vitamin B6 do?

In scientific literature, vitamin B6 is described as a “coenzyme.” *Enzymes* are substances that speed up reactions. They do this to help our body perform a task, which can be anything from digesting food to keeping our liver functioning properly. A *coenzyme* is a molecule that works with the enzyme to aid it in carrying out its job. Without the coenzyme, the enzyme would be useless. As a coenzyme, vitamin B6 assists in an amazing variety of tasks – the creation of heme, the iron-containing component of red blood cells; making the hormone serotonin (the “feel good” hormone); processing carbohydrates for energy; keeping the nervous system working smoothly, and supporting hundreds of other jobs.

What is Pyridoxal-5-Phosphate?

Pyridoxal-5-Phosphate, or P5P as it is commonly known, is the *active* form of vitamin B6. In foods or most supplements, vitamin B6 is found in one of three forms: pyridoxine hydrochloride, pyridoxal, or pyridoxamine. Inside the body, these forms of B6 have to be converted by the liver to the active form the body needs – P5P. Low rates of conversion from the inactive to the *active* form of vitamin B6 have been reported, especially in people with impaired liver function, celiac’s disease, older adults, and in children with autism. By consuming vitamin B6 in the *active* P5P form, conversion is no longer necessary, and the full benefits are available immediately after absorption.

P5P’s Great Partner - Magnesium

Magnesium is an extremely important mineral for nervous system function. It helps relax muscles and nerves, and like vitamin B6, it acts as a cofactor for many enzyme systems in the body. Deficiency of magnesium can lead to numbness and tingling, muscle contractions and cramps, and in severe cases, abnormal heart

rhythms. Magnesium is also excellent at relieving pain. It works by blocking a pain receptor called the NMDA receptor. Studies on the effects of magnesium for relieving pain have found benefits for people suffering from headaches, premenstrual syndrome, and leg cramps, among other conditions.

I recommend magnesium in the form of magnesium glycinate chelate. This type of magnesium is well-absorbed and doesn’t cause loose stools or gastrointestinal upset, which can be present with certain other forms of magnesium.

Carpal Tunnel Syndrome

Numbness and tingling in the fingers, the palm of the hand, and pain in the wrist or hand, sometimes extending to the elbows, are some of the most common symptoms of carpal tunnel syndrome (CTS). The pain is due to swelling where a nerve enters the hand (through an opening called the carpal tunnel). The swelling puts pressure on the nerve which leads to the pain. CTS is typically associated with repetitive motion activities – typing on a keyboard, sewing, writing, using hand tools (especially ones that vibrate) and more.

People spend millions of dollars on dangerous anti-inflammatory drugs for pain, and endure the discomfort and incapacitation of surgery, splints, and braces to try to find relief from this common syndrome. What if

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Key Words

neuralgia, tendonitis, carpal tunnel, tennis elbow, vitamin B6, pyridoxal-5-phosphate, P5P, PMS, premenstrual syndrome, nerve pain, neuropathy, magnesium, stroke, CVA, heart attack, angina, chest pains, diabetic neuropathy, autism, morning sickness, depression, Alzheimer’s Disease, Parkinson’s Disease, edema, water retention, migraine, pregnancy, celiac disease, neurotransmitter

Everyone has heard of vitamin B6 and a few may even be able to tell you that the B vitamins have a lot of research on energy and the nervous system. Vitamin B6 is critical for life itself. Having low levels of this key nutrient can lead to skin disorders, depression, dizziness, headaches, and other, more serious problems, such as heart attacks and strokes. Yet you may be surprised to learn that vitamin B6 is one of the best natural compounds around to treat all kinds of nerve pain. But it is not always easy to get from the diet. Did you know that cooking, freezing, canning, storing or processing foods can deplete their vitamin B6 content by **as much as 50%**? And did you know that some people cannot use certain forms of vitamin B6 effectively?

There is a special, active form of vitamin B6 that your body can easily utilize called pyridoxal-5-phosphate, or P5P for short. This form has amazing healing properties. I frequently recommend it to people suffering from nerve pain, burning feet (diabetic neuropathy), carpal tunnel syndrome, PMS, and edema (water retention), among other conditions. The results for these people have been outstanding.

In this *Terry Talks Nutrition* article, we will review some of the conditions that can benefit the most from the active form – P5P

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I told you that the cure for carpal tunnel is simply adequate amounts of active vitamin B6? In many studies, early intervention with vitamin B6 completely reversed this condition. Unfortunately, if left untreated long enough, and the dysfunction becomes severe, vitamin B6 alone may not be sufficient.

Every doctor in America should be required to read the published clinical studies on vitamin B6 and carpal tunnel prior to sending any patient off for surgery.

Vitamin B6 is excellent for reducing the pain and relieving the swelling that causes CTS. Supplementing with vitamin B6 when the *first* symptoms are noticed is important, as it can help reverse the damage caused by the inflammation before it is so severe the only option for pain relief is surgery.

Burning feet (diabetic neuropathy)

Feeling like the bottoms of your feet are painfully hot and prickly is a condition known as burning feet. Although there can be a number of causes, the pain results from damage to the nerves in the foot, whether due directly to frost bite or other injury, or indirectly as a result of poorly controlled diabetes, a stroke, rheumatoid arthritis, or gout. The pain is often worse at night.

Vitamin B6 has been shown to reduce the nerve pain associated with diabetic neuropathy, one of the most common causes of burning feet. In a study combining vitamin B6 with another B vitamin (thiamin), 88% of participants experienced a reduction in pain after only 4 weeks, and their symptoms of peripheral neuropathy decreased by almost 50% (Abbas ZG. *East Afr Med J.* 1997;74(12):803-8).

Water retention (edema) in PMS and Pregnancy

Hormonal changes around the menstrual cycle and during pregnancy often trigger water retention. Retention of water can cause clothing, jewelry and even shoes to be uncomfortably tight. In fact, retaining water can increase weight by as much as four or five pounds. High levels of estrogen and progesterone cause a woman's body to retain sodium (salt), which in turn causes water to become trapped in the cells. Vitamin B6 helps the liver process these hormones more efficiently and balance sodium levels, leading to a reduction in symptoms such as water retention. In one study, supplemental vitamin B6 helped reduce the breast tenderness, headaches and weight gain associated with water retention in 215 women.

Some women think they should *limit* their water intake prior to their menstrual period in an attempt to reduce problematic edema. Nothing could be further from the truth! If you don't give your body enough fluid, it actually *holds* on to water. Think of it this way: if you have tons of money in the bank, you don't mind spending a few dollars at the mall, but if your bank account is dangerously low, you are going to hold on to that money. Drinking 8 glasses of healthy, pure water each day has multiple benefits, including improving water balance in the body.

Strokes

Researchers from the Department of Neurology, Massachusetts General Hospital have found that levels of P5P in stroke patients are about *half* that of other individuals. These low P5P levels have been shown to increase the risk of stroke four-fold, or up to 400%. [Kelly PJ, Kistler JP, Shih VE, et al. Inflammation, homocysteine, and vitamin B6 status after ischemic stroke. *Stroke.* 2004 Jan;35(1):12-5.] It just makes sense that anyone with any cardiovascular or cerebrovascular concerns should supplement daily with P5P and magnesium.

Autism and Brain Function

The combination of magnesium and P5P seems to be especially effective in children with autism. Supplementation with these nutrients has been associated with improvements in social interactions, communication and overall functioning. In fact, some studies have indicated that children with autism are not good processors of plain vitamin B6, and should benefit from the active P5P form, as it does not require any conversion process. Other brain health uses are for depression, and to help prevent migraine headaches. It even plays a role in Parkinson's and Alzheimer's disease prevention through its ability to reduce homocysteine.

Versatile and Powerful

Because P5P and magnesium work so effectively at such a basic level in the body, the uses for these two powerful and versatile nutrients are endless. In fact, it is hard for me to think of *any* health concern that would NOT benefit from P5P and magnesium. Vitamin B6 reduces the risk of heart attacks up to 70%, significantly reduces morning sickness in pregnancy, helps prevent complications of diabetes (in addition to burning feet), reduces arthritis symptoms—and this is not an all-inclusive list. The P5P form of Vitamin B6, coupled with magnesium glycerinate chelate, can make a profound difference in your health, starting today!

Terry recommends a product with these ingredients:

Vitamin B6 (from pyridoxal-5-phosphate)	30mg	1500%
Magnesium (as magnesium glycinate chelate)	100 mg	25%

When in doubt, always consult your physician or health care practitioner. This column is to provide you with information to maintain your health.