

# Vitamin B Deficiency

*"Adding B vitamins to your patient's protocol can often dramatically supercharge their results, here's why..."*

Are a lot of your patients tired, have low back pain or under constant stress? Are they on diuretics, either hormone replacement therapy or oral contraceptives? How about antidepressants? Do they drink coffee or alcohol or consume excessive sweets? Because these are just some of the reasons B vitamins are depleted in most of our patients. Let's consider a way to step up or amplify your results with B vitamins, but first, a little background on these amazing substances.

Although rarely classified in these terms today, B vitamins can be broken into 2 broad categories based on their chemistry; "B" or "G". The "B" fraction primarily consists of thiamine, but include pantothenic acid and B12. They tend to be nerve promoting and act as vasoconstrictors. They help support carbohydrate metabolism.

"B" fraction substances increase tone and function creating a kind of metabolic "Boost". The "G" fraction consists pri-



marily of riboflavin, although niacin, folic acid, PABA, and the lipotropic factors choline, inositol and betaine are also in this category. They are nerve relaxing, have vasodilator effects, and aid in fat metabolism.

B6 doesn't seem to fit in either category although it is a major component for the chemical reactions for both. "G" fraction substances aid in the repair mode which sometimes results in a metabolic "RELAXING" effect. Biotics Research makes 3 low potency B complex formulas based on the B/G principle. First, Bio-B 100 which provides 100% of

the RDA of B1, B2 and B6 in their biologically active phosphorylated forms, Bio-3B-G which has 3 parts B and 1 part G. Finally, Bio-GGG-B which has 3 parts G and 1 part B.

Bio-3B-G is primarily used to supplement thiamine deficiencies. Some subjective indications of thiamine deficiencies are: cyclic personality, hypoglycemia, systolic blood pressure below 105, bladder atonicity, an unwarranted fear of impending doom and a chronic need for HCL. Remember thiamine, zinc and chloride are necessary for the production of HCL.

Deficiency of thiamine causes lactic and/or pyruvic acid build up on the nerve and the nerve becomes sensitized. So an increased sense of smell, taste or hearing can be caused by thiamine insufficiency and resulting systemic acidosis which causes inflammation of the nerves resulting in an increase in the sense of smell, taste and/or hearing. Thiamine is also essential for the maintenance of skin, hair, liver, mouth and the GI Tract as well as in energy production. Another classic indicator of a need for thiamine is a decreased CO<sub>2</sub> and/or an increased anion gap above 13. The total metabolic pool of thiamine is approximately 30 mg.

The predominant form of thiamine in the body is thiamine pyrophosphate also known as co-carboxylase. Biotics Research combines 3 parts cocarboxylase for the B fraction and 1 part of the of the other G fractions of the B-complex, hence the name Bio-3B-G. Each tablet contains 1.5 mg of the biologically active form of B1, cocarboxylase. If a thiamine deficiency is suspected "Use Bio-3B-G up to 2 tablets per waking hour for 10 days then reduce to 2-3 tablets, three times a day.

Subjective changes in the patient's symptoms such as fatigue, muscle soreness, cloudy thinking, glycemic issues, etc. can result in 21 days or less, but remember that B vitamin deficiencies can take up to nine months to completely correct.

Let's look at Bio-GGG-B. Low riboflavin is associated with hypertension, some forms of homocysteine, atherosclerosis, stroke, general gallbladder support, night sweats, redness in hands and feet, muscle spasms, warts, cracks in the corners of the mouth, fatty liver, energy production, and menopausal symptoms including hot flashes.

B2 is needed to process amino acids and fats, to activate B6 and folic acid and help convert

carbohydrates into ATP. Under certain circumstances B2 can act as an antioxidant. B2 is necessary to make glutathione. It plays a key role in energy metabolism.

Two capsules of Bio-GGG-B contain 300% of the R.D.A. of the "G" factors as riboflavin-5-phosphate and 100% of the R.D.A. of the "B" factors in a phosphorylated form, along with other components of B complex, lamb brain (bovine), neonatal liver (bovine) and trimethylglycine. Use 2 capsules, 3 times a day before meals.

Remember, you can enhance the effectiveness of your B-complex supplementation by using neurolingual taste testing. This helps you evaluate which product will give the greatest benefit. Have the patient do a series of range of motion tests as a baseline. Note if pain is involved with movement. Use the range of motion test that has the greatest inhibition or pain.

Have the patient taste each of the low potency phosphorylated B complexes; Bio-B 100, Bio-3B-G and Bio-GGG-B and retest the inhibited muscle and see which one has the greatest effect. Tasting the nutrient causes a neurological response and temporarily will signal the muscle to strengthen when a deficiency exists. When the muscle strengthens, the corresponding muscle in spasm "relaxes" and allows for a greater range of motion and often pain reduction.

Below, you can review other Tuesday Minutes on this technique. It takes a little longer but once the patient sees the difference they will follow your recommendations to the letter. And good patient compliance means good clinical success.

Thanks for reading this week's edition. I'll see you next Tuesday.