

# THE UPLINK

*Merging Contemporary Chiropractic Neurology and Nutritional Biochemistry in the Tradition of Applied Kinesiology*

Issue No.25

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## TO “B” OR NOT TO “B”

In Issue #24 of *THE UPLINK* we discussed the importance of activated forms of folic acid in many patients. In this issue, we will continue this topic and talk about the use of other activated (coenzyme) forms of B vitamins. We have only recently learned that as many as 30-35% of patients have genetic faults in activating B vitamins. Although we have new information about activated B vitamins and new products are available, the concept is not new.

For many years we have discussed the chemical and clinical differences of the two parts of the vitamin B complex which are called “B” and “G.” There is an entire chapter in *Compiled Notes on Clinical Nutritional Products* on this topic. The “B” and “G” products which are available actually contain activated, coenzyme forms of B vitamins.

In 1987, I wrote the paper called “Making B-6 Work.” This paper (which is included in *Selected Papers on Metabolic Faults*) discusses the nutrients necessary to convert pyridoxine to its active, pyridoxal-5-phosphate (P5P) form.

In patients requiring activated B vitamins, oral testing with the nutrient form of the vitamin will be negative, but testing with the activated form will be positive. The activated, coenzyme form of the substance must be taken if they are ever to maintain optimal health. You have a number of these people in your practice, and they may have ANY symptom.

## PANTETHINE

Pantothenic acid is converted into coenzyme A (CoA) which is necessary for moving two-carbon (and three-carbon) groups around the body. CoA combines with an acetyl (two-carbon) group to make acetyl CoA which is used for the synthesis of many other molecules such as steroid hormones and the neurotransmitter acetylcholine (ACh.) If you have patients with recurrent adrenal problems, and you are looking for nutrient needs, test pantethine. If you have patients with neurological problems including cognitive problems, check for pantethine. If you have patients who have excess sympathetic activity and don't seem to be able to produce the parasympathetic ACh, try pantethine.

## AN INTERESTING FOLIC ACID CASE

One of the most interesting responses we have seen with 5-methyl tetrahydrofolate (5-MTHF) was a 30 year old male patient with a history of chronic post nasal drip and frequent (minimum 4 times per minute) throat clearing. He had been a patient for about five years and nothing had helped this problem. He responded to oral 5-MTHF (we tried it just because nothing else was working) and his congestion and throat clearing problem was almost totally alleviated. He ran out of his supplement for five days and the symptoms returned full force. When he re-started the 5-MTHF, the symptoms resolved once again.

Note that we also test for other active forms of folate including methylene THF and formyl TFH.

## METHYLCOBALAMIN

Methyl B-12 works hand-in-hand with 5-MTHF. This is the pathway for the conversion of homocysteine (HCYS) back into methionine (MET) in the body's major methyl donor pathway. Just as CoA moves two-carbon (and three-carbon) groups around the body, folate and B-12 move one-carbon groups around. A build up of HCYS is implicated in heart disease, cancer, and neurodegenerative diseases including Alzheimer's (AD) and Parkinson's (PD) diseases. When HCYS is not converted to MET, it is converted to homocysteic acid

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which is a neurotoxin contributing to damage and death of neurons. My experience is that this is an issue not only in AD and PD, but also in other neurological problems, both named and unnamed.

In another pathway, HCYS can be converted on to cysteine (CYS) and taurine (TAU) requiring P5P. Remember that TAU is an essential substance to protect the body from the free radical hypochlorite, and CYS is part of the most important molecule, glutathione. The papers (also included in *Selected Papers on Metabolic Faults*) “The Clorox Sniff Test” (1985) and “Glutathione” (1989) discussed this. So when HCYS is not being metabolized properly, the body is jeopardized in many different ways: neurological, cardiovascular, and immune.

*See below for sources of these nutrients.*

#### ■ OTHER B VITAMINS IN ACTIVE FORM:

**Adenosylcobalamin:** This is another form of B-12 which will sometimes test when no other forms will.

**Activated thiamine (B-1):** B-1 is available in various forms including thiamine pyrophosphate and thiamine triphosphate.

**Riboflavin-5-phosphate (B-2):** In our experience, the need for activated B-2 is less common than the others.

**Note on B-2 and Dysbiosis:** When B-2 is needed (in either form,) it is often due to unfriendly organisms growing in the GI tract (dysbiosis.) The dysbiotic organisms thrive on the B-2 and then there is none left over for the patient. If a patient shows a recurrent need for B-2, we always check the gut, and usually find a dysbiosis problem.

■ **TO LEARN MORE ABOUT ACTIVATED B** vitamins, we suggest the seminars taught by our friend, Chris Astill-Smith, DO. You will learn much about your patients and possibly about yourself by taking Chris’s seminars. We highly recommended them. Information about his seminars is available by contacting Metabolics USA at the number below.

#### ■ SOURCES FOR ACTIVATED “B” VITAMINS:

The following list of activated B vitamin products and companies that offer them will help you get started on ordering. It is not a complete list and we are sorry if we didn’t include your favorite product or favorite company. Any omissions are purely unintentional. Company names are abbreviated as follows:

BIO = Biotics (800-231-5777)

EF = Ecological Formulas (800-888-4585)

MUSA = Metabolics USA (866-682-2624)

METG = Metagenics (800-692-9400)

NW = Nutri West (800-443-3333)

SCS = SCS Intensive Nutrition (800-333-7414)

TH = Thorne (800-228-1966)

SP = Standard Process (800-848-5061)

Folic acid (various forms): MUSA, METG, SCS

Vitamin B-12 (various forms): MUSA, TH, EF

Thiamine (various forms): EF, MUSA, SP

Pantethine: EF, TH

Pyridoxal-5-phosphate: EF, TH, BIO, SP, NW

Riboflavin-5-phosphate: MUSA, TH, SP

Activated B Complex: BIO, TH, EF

■ **TEXTBOOKS FOR THE 100 HOUR COURSES** which begin this fall in LOS ANGELES and FLORIDA are *AK Synopsis 2<sup>nd</sup> ed.* by Walther and *Complementary Sports Medicine* by Maffetone. Also included as secondary references are Dr. Schmitt’s three books. At each session, Dr. Schmitt offers a “Seminar Special” related to that session’s topics. This discounted offer is available *during the seminar weekend only*. This Issue’s Special Offer is the same special that is offered to those attending Session 1 of Dr. Schmitt’s Special 100 Hour AK Course – significantly discounted prices on Dr. Schmitt’s books that are optional textbooks for the course AND no shipping charges!

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