

Musculoskeletal Applications of Vitamin B Complex

G. Douglas Andersen, DC, DACBSP, CCN

Interview with Dr. Luke Bucci

Last summer we did a four-part interview series with Luke Bucci, PhD, CCN, based on his book, *Nutrition Applied to Injury Rehabilitation and Sports Medicine* (CRC Press). Because of space considerations at that time, I was unable to run our discussion on the B vitamins. The following is that discussion.

Dr. Andersen: If a patient has a sprain/strain type of injury and is on a decent multivitamin, you do not recommend that buying more B complex for healing is a wise investment.

Dr. Luke Bucci: Absolutely right. A patient will get much more bang for their buck spending their money on other substances like chondroitin sulfates, glucosamines, proteolytic enzymes, and even extra vitamin C.

Dr. Andersen: What is your opinion on niacinamide for the management of osteoarthritis?

Dr. Luke Bucci: I think it is one of the biggest things overlooked in modern medicine. I have had the very good luck to talk with Dr. William Kauffman who started off in the '40s in the pellagra belt in the South looking at niacinamide therapy. He was in the forefront when he was starting off in the '40s.

Dr. Andersen: Explain to the readers what niacinamide does.

Dr. Luke Bucci: Niacinamide is converted in cells to NAD and NADP which are kind of go-betweens. They move energy around from foodstuffs between the Krebs cycle and electron transport chain, and a lot of other enzymes that are involved in making it a metabolic intermediate. NADH and NADPH, the reduced forms, run a huge number of enzymes.

Dr. Andersen: How does that help one who has osteoarthritis?

Dr. Luke Bucci: No one knows for sure, but we know that chondrocytes and cartilage have a very poor nutrient supply. There are no blood vessels in cartilage. It relies on diffusion from faraway sources for its nutrition. In the middle of the discs the cells are barely able to maintain a resting metabolic rate, which is a recipe for disaster. I think when you supply additional niacinamide it gives the cell an energy reserve, in effect, or an energy buffer that allows the cell then to maintain synthesis of collagen, proteoglycans, etc.

Dr. Andersen: What is the dose range for this product?

Dr. Luke Bucci: The dose range is really interesting. This is where Dr. Kauffman has done a good job, and no one else has followed his lead. He did this the hard way, by trial and error. It has been in the literature for 50 years that niacinamide has a half-life of about four to six hours after an oral dose; therefore, he would give it every three to four hours to maintain it in the blood stream. He

found that he had to give fairly high doses, from 150 mg to 250 mg at a time. He found that he reached a plateau at 250 mg per dose. The body simply won't absorb more than that.

Dr. Andersen: So, 250 mg t.i.d. or q.i.d., depending on the compliance of the patient. Are there any contraindications?

Dr. Luke Bucci: Actually, for niacinamide, no. But, we have to make sure it's niacinamide and not just any kind of niacin. Patients will flush with niacin, and you'll get phone calls.

Dr. Andersen: What about B6 for carpal tunnel?

Dr. Luke Bucci: Well, that has over 30 publications on it now. It has been studied by neurologists in large studies recently. It works in about a third of the people.

Dr. Andersen: In my practice, when I have a carpal tunnel patient with nerve conduction studies that confirm the diagnosis, B6 has not been very successful. However, when I have patients who come from a general practitioner with a diagnosis of carpal tunnel syndrome and whose symptom complex is more like an extensor tendinitis, the B6 seems to work quite well.

Dr. Luke Bucci: I think that bears out what the literature is finding very well. A lot of it is how it is diagnosed, and the nerve conduction studies have really stratified people. I agree totally with what you're seeing in your practice. That's why I think that overall it works in a third of the people with wrist pain and paresthesias. There has been a lot of controversy over how to diagnose and what exactly is carpal tunnel.

Dr. Andersen: What is the dose?

Dr. Luke Bucci: Dr. William Ellis, who started off the B6 therapy for carpal tunnel, gives 100 mg of B6 per day. He's not into this huge dose thing. You just don't need that much. He also gives 50 mg of B2 and has been getting some better responses than with just B6 alone. What's interesting is that there are some European studies in the sports nutrition field that show that those kind of doses of B2 and B6 and B1 combined actually help reaction time in all those kind of neuromuscular coordination type aspects. That's why I think it might work better with tendinitis, and it might be paradoxical that it doesn't work well with the nerve conduction problems.

Dr. Andersen: Before we close, I have one vitamin C question for you. What do you think about ester C? Is it worth the extra money?

Dr. Luke Bucci: Well, I've talked to the people who make it and I am not totally convinced it does what they say. Right now I do not think it is worth the extra money. What I've said in my book is to simply take more of regular vitamin C. I do prefer the buffered ascorbate form of vitamin C when you are going to ingest more than 3 gm per day.

Dr. Andersen: Thanks again for your time Dr. Bucci.

Dr. Luke Bucci: You're very welcome.

*G. Douglas Andersen, DC, DACBSP, CCN
Brea, California*

APRIL 1996