

## Commonly Asked Questions -- Part I

G. Douglas Andersen, DC, DACBSP, CCN

Traveling across the country, working with sports chiropractors as well as during an occasional lecture to the local chiropractic college, these are the most commonly asked questions.

### 1. Do proteolytic enzymes taken orally really work?

Yes, they do, provided they are A) enterically coated, and B) the doses are high enough. There was a nice article on bromelain in *Medicine in Science and Sports and Exercise* in the January 1992 edition. Also, you can refer to my proteolytic enzyme series in the October 11, November 8, and December 6, 1991 editions of *Dynamic Chiropractic*.

### 2. What about just eating pineapple? Can you get the same effect?

Unfortunately, the answer is no. When you eat pineapple there is some bromelain that is liberated; however, it is digested as a protein in the stomach. When I did my series on proteolytic enzymes, I scoured the literature looking for any evidence that consuming pineapple or papaya (which contain papain) could have this effect and I found none. Pineapple, especially the stem, where the majority of bromelain is located will help you digest protein in your stomach but ingestion of pineapple will not have an anti-inflammatory effect. It also will not reduce clotting time, nor will it raise serum proteolytic indices. Anyone who tells you differently is simply mistaken.

### 3. What are the most important nutrients needed for an injury repair nutritional formula?

There are many fine products on the market for musculoskeletal support. For a basic sprain and strain or whiplash-type trauma, this is how I rank a product. The "A" list, I feel, is what the formula must contain in order to accomplish what you need. The "B," "C," and "D" lists are nutrient groups in descending order of what this author feels are important to provide in a connective tissue formula.

A. Vitamin C, zinc, and manganese are critical to any formula. Without these included, the supplement simply misses the boat.

B. Vitamin B6, magnesium, and copper. Most good formulas will contain these as well.

C. Chondroitin sulfates, mucopolysaccharides, perna canaliculus, and various forms of cartilage are in a family of related compounds involved in the structure and synthesis of connective tissue. These will be addressed in depth in a future article.

D. Silicon, calcium, and biflavonoids.

To review, it is key that the product you select contains vitamin C, zinc, and manganese. Although inclusion of the "B," "C," and "D" nutrients will result in an optimal formula, the "A" list with a good strong multivitamin, and diet modification for injuries should do the job for the majority of mild to

moderate complaints.

In addition to the nutrients mentioned above, you may find a wide variety of additional substances in some connective tissue formulas, ranging from vitamins and minerals not mentioned, to herbs, amino acids, and various chemical intermediates. At worst, these substances are harmless, and at best may provide a synergistic effect with the essential micronutrients listed above.

#### 4. What about for intervertebral disc injury?

For intervertebral discs the same as above essentially holds true. However, I would place the chondroitin sulfates, mucopolysaccharides, and perna canaliculus-type substances on the "A" list, meaning. I like to see a disc formula that has vitamin C, zinc, manganese, and substances from the chondroitin sulfate family. For true intervertebral disc problems, I recommend substances in categories "B," "C," and "D," along with a good strong multivitamin. However, if for compliance and/or financial reasons you must make a choice, the above four nutrients are the most important.

#### 5. What about amino acids? Are they important to injuries?

Amino acids are required for tissue synthesis. Unless the patient's past medical history uncovers a contraindication, I advise every injured patient to increase their dietary protein intake for one to four weeks, depending on the extent of damage they have incurred. This is to insure an adequate pool of all amino acids the body needs to heal. You may have noticed that I did not include any specific amino acids when discussing what should be involved in a connective tissue formula. There are many fine companies that do put small amounts of individual amino acids in their connective tissue rehabilitation formulas. While these formulas certainly do no harm, I do not rank their inclusion high for the following reasons:

Vitamins and minerals are best absorbed with food. Amino acids are best absorbed without food. If the patient is taking a formula that includes all three of these substances, no matter how you dose them, you will not have optimal uptake and absorption.

If I have a patient who, for whatever reason, I feel does need amino acids, whether it be one or 20, I will place the patient on an amino acid supplement away from meals in amounts large enough to really make a difference.

We simply can't have it all in one pill. I recommend that my patients increase their dietary protein intake to 3/4 gram per pound of body weight in the days and weeks following their injury. This provides a cost-effective source of amino acids that, along with the nutrients mentioned in categories "A," "B," "C," and "D," should provide an excellent environment for the synthesis repair, and regeneration of connective tissue.

#### 6. How long do you keep a patient on an injury formula?

This question came up in last month's article; however it is so commonly asked, I will again address it. Although no supplemental recommendation is set in stone, and each does vary depending on the individual patient, their biochemistry, physiology and level of injury or trauma they sustain, my rule of thumb is as follows: After all subjective complaints and objective findings have subsided, for grade I injuries I recommend that the patient continue to supplement for one week. I like two weeks for grade II injuries, and three weeks for grade III problems.

Next month, I will continue to answer more questions I commonly encounter concerning nutritional supplementation.

*G. Douglas Andersen, D.C.*  
*Brea, California*

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