

# **NUTRI-SPEC**

  
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## **THE NUTRI-SPEC LETTER**

**Volume 20 Number 9**

From:  
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Dear Doctor,

For the third consecutive Letter, our topic is ...

### **OSTEOPOROSIS.**

Two months ago we began our look at what osteoporosis is, and what it is not. Osteoporosis is not a primary calcium deficiency. Osteoporosis is a breakdown of the fibrous protein matrix upon which mineralization occurs in osseous tissue.

We looked at studies demonstrating that calcium is no more important in osteoporosis than are the many other minerals and trace minerals required for bone formation. Studies cited in that July Letter even taught us that when an osteoporotic patient takes excess calcium it actually inhibits osteoblastic activity. We realized that ...

### **METABOLIC BALANCING WITH NUTRI-SPEC IS THE ONLY COMPREHENSIVE APPROACH TO OUR OSTEOPOROSIS PATIENTS.**

And furthermore --- we reviewed how excess calcium supplementation will devastate patients who are Dysaerobic, Ketogenic, Sympathetic, and Alkaline.

We concluded the July Letter by expressing our doubts about both the integrity and the competence of the calcium pill peddlers. Taking calcium, in the forms and in the quantities recommended by “the authorities” only ...

### **MAKES YOU OLD.**

So --- since the pros and cons of calcium supplementation must be understood if we are to be informed professionals regarding the patho-

physiology of osteoporosis --- we made the August Letter one huge side note on the absorption and utilization of calcium and other minerals. We examined inorganic salts, protein chelates, organic acid chelates, and amino acid chelates, concluding that there are only 5 ways to obtain adequate calcium:

- drinking water high in total dissolved solids
- bone meal ingestion or supplementation
- calcium orotate supplementation
- calcium glycerophosphate supplementation
- calcium aspartate supplementation

Let us devote this month's Letter to reinforcing our stance that all other forms of calcium are at best a waste of money, and often are harmful.

The National Research Council reports that only 10% to 30% of calcium is absorbed from a mixed diet by healthy adults. From milk, about 30% of the calcium is absorbed. From the common forms of calcium supplements, only between 5% and 25% of the calcium is absorbed. Calcium absorption occurs through a very narrow window in the upper intestinal tract. The reason it is so high in the GI tract is that calcium must be absorbed while the intestinal environment is relatively acidic, as it is shortly after leaving the stomach and before it has been completely neutralized by the alkaline secretions of the pancreas.

The requirement of an acid pH for calcium absorption explains why low hydrochloric acid production by the stomach causes poor calcium supplement absorption. However, the hydrochloric acid deficiency limits calcium absorption primarily when that calcium supplement is taken alone, not with food. In those who are HCl deficient, supplementing hydrochloric acid with the calcium significantly increases absorption. But, even in the presence of hydrochloric acid deficiency, calcium is absorbed at close to normal healthy adult efficiency (10% to 30%) when that calcium is taken with meals. That is why we recommend taking all your NUTRI-SPEC mineral tablets and capsules at the end of meals.

Comparing the absorption of various calcium supplements, we find that inorganic calcium salts and most organic acid calcium chelates are the ones that fall into the 5% to 25% range of absorption. There is not a whole lot of difference in the efficiency of absorption of any of those calcium supplements. A study done years ago showed evidence that microcrystalline hydroxyapatite (MCHA), a variation of bone meal, had favorable effects on bone density. Immediately the health food industry went nuts making MCHA supplements and peddling them to the osteoporosis-phobic public. Subsequent studies, however, show that

MCHA has inferior solubility, absorption, and effects on calcium metabolism.

We often see nonsensical advertising claims regarding calcium supplement absorption. To illustrate, there are studies showing that calcium citrate absorption is 25% greater than calcium carbonate absorption. If you have the capacity for quantitative thinking, studies like that only make you laugh and wonder how the consuming public can be so gullible. 25% superior absorption of citrate over carbonate translates into 10% absorption vs. 8% absorption. Get it? 25% greater absorption doesn't mean that carbonate is absorbed at 8% and citrate at 33% --- it means citrate is superior to carbonate by a factor of 25% --- thus, 10% vs. 8%. --- Insignificant.

We can look at calcium aspartate as illustrative of the benefits in supplementing with chelates. There is evidence that 90% of calcium aspartate is absorbed, compared to the 5% to 25% of conventional calcium supplements. Much of the reason for the increased absorption is because the chelation extends the area of calcium absorption in the gut from the small window in the duodenum and upper jejunum to the entire length of the small intestine. Furthermore, calcium aspartate absorption is not vitamin D dependent as is the absorption of calcium in the form of inorganic salts or most organic acid chelates. The calcium in aspartate form is directly transported by the L-aspartic acid dipeptide into the blood.

Another benefit of the calcium aspartate is that there is no GI upset as is associated with the alkaline salts of calcium such as calcium citrate and lactate. The GI problems derived from common alkaline salts of calcium include poor digestion, dry stools/constipation, and gall bladder stones. Furthermore, there is no increased risk of kidney stones from calcium supplemented in the form of aspartate.

Not only is the calcium as aspartic acid chelate as much as 10 times more effective than conventional supplements, but the aspartic acid itself has its own set of benefits. In addition to being an effective calcium transporter, aspartic acid:

- has been shown to increase the stamina of the brain
- positively influences RNA and DNA function
- improves Immunoglobulin-G and antibody synthesis
- is a mild immunostimulant of the thymus
- participates in detoxification of ammonia and other toxins, and thereby decreases fatigue and increases endurance

The biological activity of aspartic acid is a 2-edged sword, however. Aspartic acid is powerfully anti-anaerobic, which is a tremendous benefit to our Anaerobic patients, and generally okay for all our other patients. But for those who tend to have a Dysaerobic Metabolic Imbalance or a pathology with a dysaerobic component, aspartic acid can be a damaging oxidant. Again, metabolic balance is the key concept, and Nutri-Spec products supply you with mineral aspartates in just the proper quantities, with careful consideration of your patients' metabolic imbalances.

Having looked carefully at the essentials of calcium absorption, we should now be in a position to answer the critical questions:

- How much calcium should a human adult ingest?
- When is calcium supplementation indicated, what are the indicators, and how much should be supplemented?
- If calcium supplementation is deemed necessary, in what form should that calcium be supplied?

To answer the question of how much calcium a human adult should ingest we must, as always, look to natural law as our primary source of information. On a natural human omnivorous diet, containing none of the processed foods typical of modern diets, how much calcium is ingested? Let us reiterate here that the primary source of ingested calcium ideal for human beings is not our food, but our drinking water. A natural water, reasonably high in total dissolved solids, would supply the average adult with between 80 and 200 mg of calcium daily. That calcium would be completely ionized, and thus relatively well absorbed.

What about food sources of calcium? They are very few. Looking at the twenty or more "primitive" peoples illustrated in Weston Price's classic Nutrition and Physical Degeneration, we see a few cultures that consumed milk and other milk products throughout adulthood. Obviously, their calcium needs were easily met. However, the majority of cultures on natural diets consumed no milk products whatsoever. What were their dietary sources of calcium? All the cultures had meat, fish, and/or poultry as the foundation of their diets. As you know, the muscle meats and most glandular meats contain very little calcium. Many of these cultures did, however, either consume bones or at least the bone marrow, or used the bones in cooking so that the broth would have contained some calcium. These cultures also ate a diversity of foods of vegetable origin. Some of these foods contained calcium and some did not; however, we must recall that plant sources of calcium are absorbed almost nil, since the calcium is bound irreversibly with oxalates, phytates, and phosphates. We can thus add up all the sources of calcium on a natural human diet as follows:

- 80 to 200 mg from water
- 0 to 200 mg from animal source foods
- 0 to 100 mg from vegetable source foods

That gives us a total of between 80 and 500 mg of calcium ingested daily on a natural human diet. We should also note that humans living under natural conditions are exposed to natural light virtually all day long, and have zero exposure to unnatural light. My best guesstimate from a look at perfectly natural conditions for human life is that adult humans are designed to thrive, prosper, and multiply on a daily calcium intake of about 200 mg.

Does that mean that we, living under modern unnatural conditions, should never ingest more than 200 mg of calcium daily? No, for the simple reason that we do not have the benefits of an all natural diet, nor an all natural living environment. But still, these numbers put into perspective ...

**THE GROTESQUELY ABSURD RECOMMENDATION THAT PEOPLE,  
PARTICULARLY WOMEN AT RISK FOR OSTEOPOROSIS,  
INGEST 1500 MG OF CALCIUM DAILY.**

The human body is simply not equipped to handle that kind of calcium load.

If patients taking 1500 mg of calcium each day are lucky, nearly all that calcium is flushed down the toilet. Only the patient's wallet suffers. Regrettably, the typical calcium victim suffers from several of the calcium-caused pathologies listed in last month's Letter, even though many of those pathologies, including bone density loss, are purported by the authorities to be helped by calcium supplementation.

What determines which of the many calcium-caused pathologies will afflict a particular patient? Generally, a person's reaction to mega-doses of calcium is determined by the presence of Dysaerobic, Ketogenic, or Sympathetic Imbalances. Accelerated aging, low body temperature, excitotoxic brain damage, autoimmune diseases, insomnia, and atherosclerosis are common reactions of Dysaerobic patients to excess calcium. Ketogenic patients may respond to thoughtless calcium supplementation with muscle cramps and nervous twitches, kidney stones, depression/anxiety, erectile dysfunction, insulin resistance/diabetes, fatigue, or low body temperature. Inappropriate calcium administration very quickly causes an unfavorable response in Sympathetic patients, with symptoms including hypertension, stress/anxiety, erectile dysfunction, tachycardia, constipation, dry mouth, cold hands, and heart palpitations. Those with difficulty

maintaining Acid/Alkaline Balance cannot handle much supplemental calcium, which provokes such miseries as arthritis, spurs, nervous twitches, muscle cramps, insomnia, kidney stones, or neuralgia pains.

So --- if the grotesque calcium supplementation recommended by the experts is damaging, when is calcium supplementation indicated?

**--- ALWAYS.**

In our crazy world we all need the calcium supplied by Oxygenic B. What are the indicators of needing more calcium than we get from Oxy B, and how much should be supplemented? --- An Electrolyte Insufficiency, Anaerobic, Glucogenic, or Parasympathetic Imbalance indicates the need for additional calcium. Formula EI, Oxy A, Oxy G, and Complex P supply those needs, with calcium in proper proportion to the other nutrients required to correct those imbalances.

How do you know what form of calcium to choose for each patient? Selection of the ideal form of calcium has been made for you. The appropriate form of calcium for each metabolic imbalance is provided by the supplements you give your Electrolyte Insufficient, Anaerobic, Glucogenic, and Parasympathetic patients.

In osteoporosis or osteopenia do we need to recommend calcium beyond what is built in to NUTRI-SPEC? Occasionally, yes. Next month we will get back to our primary discussion of osteoporosis. Until then --- remember that ...

**EXCESS CALCIUM JUST  
MAKES YOUR PATIENTS OLD.**

Best wishes for a healthy, prosperous month,

Guy R. Schenker, D.C.