# Mineral Balancing Acts - Calcium in Context Karl Mincin, Nutritionist

Dear Nutritionist ~ how much calcium do I really need and what is the best way to get it?

Dear Reader ~ Since one size doesn’t fit all, and our individual nutrient needs are as different as our fingerprints, there are several good answers to this question. Here are some guiding principles for achieving your own personal mineral balancing act.

Calcium is one of the most popular nutrients on the planet, but here, as with any nutrient, there can be too much of good thing. How do you know how much supplemental calcium, if any, is necessary? What form is best absorbed and right for your particular needs? What ratio of magnesium and related minerals should you take along with, or separately from, calcium? How much is too much? Health experts and vitamin sales people each seem to have a different answer, and many of the responses can be traced back to the bottom line.

Remember that calcium supplements are just that. They should *supplement* your diet. Most peoples diet, even without any dairy products, will easily supply 500 milligrams (mg) of calcium. With each cup of dairy product 300 mg more is added. So when the doctor recommends that you get 1,000 mg of calcium, you may need only a few hundred milligrams as a supplement. Excess calcium can cause joint tissue calcification, which can aggravate arthritis, and interfere with other minerals, even weakening your bones. It also can deposit in the arteries contributing to their hardening.

If supplementation is actually needed, here again, individual needs must be considered before selecting the best form. For example, while it is true that calcium citrate is well absorbed, absorption isn’t everything – especially for every body. If a person has healthy digestive function, including adequate stomach acid production, there may be no need for the citrate form of calcium. If that same person has poor bone density, they would actually do much better with calcium hydroxyapatite. Though not as well absorbed, it is a much better bone builder and, I generally have all my patients with Osteopenia or Osteoporosis on it. Calcium carbonate (Oyster Shell) aside, most other forms of calcium are reasonably well absorbed and utilized. However, after absorption, because of individual variations in metabolism, certain forms may be better for certain individuals.

Although dairy products are “Queen of Calcium”, they are not the best source of it. Dairy not only has very low magnesium levels, but is excessively high in phosphorus, which is an anti-calcium nutrient. It causes urinary excretion of calcium. Greens provide not only excellent amounts of calcium but are more balanced in terms of these related minerals. Ironically, dairy can contribute to the very diseases it is said to protect against. Epidemiological research bears this out. Osteoporosis rates have not been curbed in countries such as this, where calcium intake is the highest. In fact, many other countries that consume about half the amount of calcium as the United States, has far less incidence of the condition.

Dietary calcium aside, the actual body tissue level of this mineral provides the best answer to your individual calcium requirement. Like other minerals and vitamins, calcium can be tested in various body tissues, which will be discussed in the next article.

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**More Mineral Balancing Acts ~ Revisiting Calcium  
Pros & Cons of Different Mineral Tests**

Dear Nutritionist ~ what is the meaning of a blood calcium level and does it relate to bone density? What other methods are used to determine my calcium status and personal mineral needs?

Dear Reader ~ There are strengths and weaknesses to each test of a different tissue type, which also vary from nutrient to nutrient. Blood is a fluid tissue. **Blood calcium** levels are a relatively meaningless determinate of calcium nutrition. Blood levels are used primarily to evaluate your electrolyte status, not your nutritional status, nor bone health. Along with potassium and sodium, blood (serum) calcium basically lets the doctor know your heart is still beating, and that there are enough electrolyte minerals to keep other muscles contracting and relaxing. Hence, *a* *so-called* ***normal calcium value on your blood test result is not what you think.***The body sets such a priority on a beating heart, that it will compromise the skeletal structure by leeching calcium from the bone in order to maintain a normal blood level.  It is possible, then, that while you are looking at a normal serum calcium value on your blood test result, you could at the same time be developing holes in your bones!  This is why I recommend having more than one test/indicator pointing at the same nutrient before you say "hey, I need more of this or that," and run out to the vitamin store for another pill. Like teeth, bone is classified as a hard tissue.

**Bone Density** measurements are only a static indicator of overall bone health and only for the moment the test is done. It reveals very little about calcium adequacy specifically, and even less about long-term bone nutrient metabolism -- which direction bone condition is going. Because a normal bone density reading this year doesn’t guarantee healthy bones next year, this test is more useful when repeated over time, and for monitoring certain drugs, but even then still has these limitations. Hair is type of soft tissue, in the same category as connective material: joints, ligaments, tendons, and cartilage.

**Hair Analysis** is most useful to screen for toxic minerals such as mercury, aluminum, lead, and others. Lead, by the way, is a direct antagonist to calcium. It blocks the bone receptor sites where calcium would be assimilated. If a person has lead toxicity, no special type or amount of calcium will be properly utilized. Head or body hair calcium levels reflect whole body connective (joint) tissue calcium levels, not just what’s in the head. Additionally, several minerals related to calcium, such as magnesium and zinc, are accurately tested along with calcium. These mineral relationships and ratios are just as critical as calcium itself. Because my other articles go into more depth about Hair Mineral Testing, the 28 different nutrients required to build healthy bone, and related overall mineral balancing acts beyond calcium, I simply want to use the above brief overview as a segway to the BPCC Calcium Quick Test.

The **BPCC Calcium Quick Test** measures muscle calcium content, which is a functional indicator of calcium estimated to be a midpoint between blood/immediate and hair/long-term levels. It takes only a moment and provides instant feedback about your calcium adequacy. A blood pressure cuff is placed around the calf of the leg and gradually tightened until just before a muscle cramp would occur, while a reading is taken, and the pressure is then released. If the amount of pressure is below a certain value, tissue calcium is low. If it is at or above this value, the calcium level is normal. Like the other tests mentioned, the BCCP has its limitations. It is closer to the meaning of a blood level than it is of hair, and thus does not reflect long-term calcium adequacy. It also measures only calcium alone. Magnesium and related minerals cannot be tested this way, so it has its limitations.

Because, as we’ve discussed, each test has its strengths and its weaknesses, I generally encourage people to have several different indicators pointing at the same nutrient before they say “this vitamin is right for me.”

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