

# The Unnatural Use of Vitamins and Minerals

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Naturopathic physicians and other practitioners in the natural healing arts are continually working to identify and rectify areas in their patients' lives that involve imbalances in biochemical function, toxin build-up from heavy metals and chemicals, or aberrant energetic patterns caused by structural issues or mental/emotional patterns.

It is a fact human beings are moderately to severely nutritionally deficient for a variety of reasons. This is a fact now commonly accepted among nutritional experts. Dr. Everett Koop, the former Surgeon General of the United States, said that at least 90 percent of all degenerative chronic diseases are due to long-term nutritional deficiencies.

The whole area of biochemical function is extremely complex and extremely important because it involves the supply of numerous critical nutrients to the human cell. It must be understood that the science of food nutrition is still in its infancy and more is unknown than known in this area. Well over 100,000 naturally occurring food compounds have been discovered to date and scientists postulate that there may be well over 300,000. The human body has an innate wisdom that knows exactly what to do when it is functioning optimally with the myriad of nutrients found in food.

Important new questions being asked revolve around the use of whole food versus the relatively few man-made, synthesized nutrients or isolated compounds now found in the majority of "Vitamin Supplements". Unfortunately, most individuals today have a variety of nutrient deficiencies that, in this author's opinion, are not being addressed or are causing new problems due to indiscriminate dosing of man-made, "natural vitamins." This statement is based on research old and new, clinical experience and my personal experience with natural law and patient outcomes. Indiscriminate mega-dosing of what we term "isolates" (chemicals taken out of their whole food state) can actually prevent healing and, in some cases, cause vitamin induced illness or "vitaminosis." While there are four main classes of food supplements being produced today this article will focus on an overview of two main classes to begin clarifying the difference between nutritional pharmacology and whole cellular nutritional therapy.

In general terms, 95 percent of all supplements on the market today are actually not "natural," as they have been synthesized by humans in pharmaceutical laboratories to somewhat resemble or mimic a function of their natural counterparts. For example, what is termed vitamin C today is actually "ascorbic acid," which is, in fact, just a part of the whole vitamin C complex of compounds as they are found in nature. Vitamin C from citrus fruits, cranberry, peppers and other foods are actually a whole complex of nutrient compounds, including ascorbic acid and bioflavonoids, as well as compounds including hesperidin, cyanidin, delphinidin, malvidin, peonidin, patandin, myricetanquercitin, etc. Ascorbic acid is analogous to the plastic wrapper covering a loaf of bread, in that it's the antioxidant protective coating for the whole vitamin C complex. The whole vitamin C complex is used for many chemical reactions in the body including, for example, the building of collagen tissue.

Vitamin C (ascorbic acid) in an isolate form is made in laboratories by taking corn syrup or corn starch and converting it into sorbitol. Sorbitol is fermented into sorbose. Acetone is then added to the sorbose and bathed with sulfuric acid to produce 2-keto-L-gluconic acid; lastly, this reactant is washed in an alcohol bath to produce ascorbic acid.

Recent studies show that just 5.7 mg of whole vitamin C is as effective in quenching free radicals as 1,500 mg of "ascorbic acid" in a synthesized form, because of the synergistic effect of the many compounds in the whole food form of Vitamin C. By ingesting the whole food form of vitamin C (or including vitamin C rich foods in one's daily diet) one reaps more benefits - without the downside of excess ascorbic acid. The downside of excessive ascorbic acid intake includes collagen disease, rebound scurvy, kidney stones and diabetes mellitus.

Vitamin C and “ascorbic acid” are but one example of a “natural vitamin; the same principles and issues apply to all vitamins and minerals synthesized or taken out of their natural state. All vitamins with *two-part names* such as ascorbic acid, thiamine hydrochloride, calcium citrate, etc are actually synthesized in labs to USP standards, rendering them much different than their natural counterparts. The natural state of nutrients is an interconnection with numerous phyto-chemicals including enzymes and poly-peptides bound with phenols, amines, polysaccharides and a host of other naturally occurring plant chemicals. Minerals without being protein bound are not well assimilated by the body and can result in unnatural mineral deposits.

This is not to say that isolated or synthesized vitamins do not have value as short-term therapeutic drug agents. A daily food supplement designed to compensate for the lack of nutrients in our modern-day diets should be from whole food nutrients and based on empirical observations and new research.

Furthermore, isolates should probably be looked at as “nutritional pharmacology.” Chemical compounds have value for short periods of time when mega-dose therapy is required; however, they must be monitored and are perhaps best utilized in the hands of trained nutritional and bio-chemically oriented professionals. The use of foundational, whole food multiple formulas will lay a broader foundation of synergistic nutrients to more effectively and safely then add isolates or synthetics in therapy.

One of the new fads in nutritional supplementation is in the area of liquid vitamin/mineral complexes. While this delivery system may sound good, enlightened investigation reveals that these products are merely a collection of mostly isolate vitamins and mineral complexes in a less than optimal chemical structure. Remember that whole food has enzymes and other phyto-chemicals as well as vitamin complexes that are not stable in water. These nutrients are what we term hydrolytic and so they are slowly destroyed through chemical reactions in water. Minerals found in plants are more easily utilized by the cells of our bodies because of ligands. Ligands are complexed nutrients, amino acids and enzymes that signal cell membranes to assimilate certain food complexes. While rock minerals in the form of carbonates, citrates, gluconates, oxides and other forms may be absorbed into the blood stream, they are not as well assimilated and utilized at the cellular level which is the most vital level. While our bodies can absorb many compounds including DDT, absorption does not equate to optimal cellular function. Absorption is only a part of the goal.

Research by the **Northwestern University Cancer Center** and published in *the Journal of the National Cancer Institute* 2003;95:1578-86 states:

“Carotenoids and other secondary plant compounds evolved as sets of interacting compounds, and because of this complexity it limits the usefulness of reductionist approaches that seek to identify single protective compounds.”

Numerous studies are now showing that vitamin compounds in the form of isolates do not have the healing power of whole food nutrients even though they may abate the symptoms of scurvy or beri-beri..

While supplementation is necessary in an age of depleted soils and processed foods, it is critical to look for high quality, whole food supplements with validated nutrient levels. This will provide a broader range of lower dose but more effective nutrients than a bottle of limited 15-50 man-made isolates. Isn't it wiser to let the wisdom of Mother Nature work her miracles with the least amount of imperfect human interference.

Remember, your body must build 24 billion new cells a day and even significantly more if you are ill or expecting. Choose your foods wisely and ...your whole food supplements.