

## Chapter 8. Nutritional Supplementation



---

### Nutritional Supplementation Strategies

---

An estimated 40 percent of the U.S. population uses nutritional and dietary supplements on a regular basis while 70 per cent uses supplements occasionally. Vitamin E and Vitamin C are among the most commonly used supplements.

So, are nutritional supplements really necessary? In today's fast-paced, hectic world, it is very difficult to eat healthily all day long every day. So, the short answer is "yes." If you are relatively healthy and you are eating four to six super meals/snacks with primarily raw organic foods and superfoods every day, you may not need any nutritional supplementation until you get older. On the other hand, if you are ill with a disease like diabetes, this is a different story. Because your body is very depleted in terms of nutrients, you need to supplement the super foods that you've begun to consume with some food-based nutritional supplements to help accelerate the body's healing process.



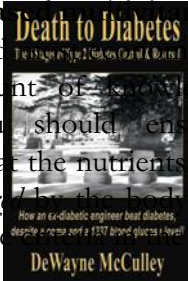
You may find it difficult to obtain all the necessary nutrients from the food you eat due to the loss of soil quality, water quality, picking vegetables/fruits in unripened state, and how animals are fed and raised. But, as long as you are predominantly eating the "live" (raw) foods instead of the "dead" foods, you will be successful. If finances are not an issue, you can buy organic food to ensure you are receiving the best quality foods, but for the most part this is not necessary. I did not eat organic food during my recovery. **The reduction and elimination of eating the "dead" processed foods will have a more dramatic positive effect on your health, more so than any other single factor.**

## NUTRITIONAL SUPPLEMENTATION      DEATH TO DIABETES

Because it may be difficult to eat four to six super meals consistently each day due to your work life, family, or lifestyle, some type of nutritional supplementation is necessary. In fact, medical institutions, such as the American Medical Association (AMA), agree that nutritional supplementation is necessary today.

In order for a nutritional supplementation plan to be effective, **you must have a sound nutritional meal program as a foundation.** An effective nutritional supplementation plan must accomplish the following three objectives to optimize your health: (1) nourish/balance; (2) protect/defend; and (3) cleanse/detoxify the body's cells and tissues. There are basically three major strategies to employ for nutritional supplementation, depending on your personal needs, preferences and financial resources:

### **Take a wholefood or food-based vitamin/mineral supplement.**

This is probably the easiest and most economical option for most people and requires the least amount of knowledge about nutrition and supplements. However, you should ensure that the nutritional supplement is *food-based* so that the nutrients within the supplement will be *recognized, absorbed* and *utilized* by the body. To help you select better nutritional supplements, use the  next section.

### **Take specific wholefood supplements and specific food-based vitamin and mineral supplements, based on your health need.**

This may be the more optimum solution, but may not be as economical for some people. This option also requires a better knowledge of the benefits and the quality of each type of supplement and how that supplement addresses your health needs.

### **Take a combination of a wholefood supplement, a food-based multivitamin and multimineral supplement, and/or specific vitamin, mineral, fiber, enzyme, and plant extract supplements.**

This option provides the most flexibility and the best of both worlds: a simple strategy to ensure a minimum level of nutritional supplementation, plus the ability to add new supplements based on specific health needs.

---

### Natural vs. Synthetic Vitamins

---

Most vitamins and other supplements sold in a pharmacy, health food store, or grocery store are made synthetically with chemicals, coal tar and oil derivatives, and, as a result, are inexpensive. Vitamins and other supplements that are made from plants and other whole foods (e.g. nutraceuticals, food-based) are more expensive and are not as readily available in a pharmacy, health food store, or grocery store. In general, it is better to select natural vitamins over synthetic vitamins. *However*, in many cases it is difficult to determine whether the vitamin comes from a natural *food-based* source or a synthetic *chemical-based* source. And, because of the FDA's loose definition of "natural", there are many so-called "natural" vitamins and supplements that come from natural sources that include rocks and coal tar!

In most cases, a supplement from a *food-based* natural source is 100% additive-free with no fillers, preservatives, sugar coating, or other chemicals. It contains co-factors that are part of the vitamin in food (nature) and help to increase its absorption by the body – because the body recognizes it as food! For example, bioflavonoids are a co-factor of Vitamin C that help with absorption. A synthetic vitamin with filler and binders uses heavy metals and chemicals that destroy the health benefits of the vitamin and create a foreign substance that the body expends energy trying to metabolize.

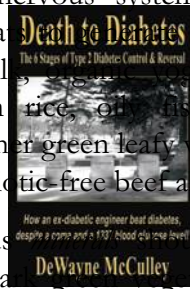


Natural forms of *Vitamin C* are those that contain rose hips, acerola, bioflavonoids, rutin, and other important co-enzymes. Synthetic forms of Vitamin C only contain ascorbic acid or calcium ascorbate, one of the non-acidic forms of synthetic Vitamin C. The non-acidic forms, which have less of a tendency to upset the stomach, include calcium ascorbate, sodium ascorbate, magnesium ascorbate, and Ester-C. At a minimum, ensure that the synthetic Vitamin C contains the bioflavonoid co-factor. The fat-soluble form of Vitamin C, which is called ascorbyl palmitate, may be better absorbed, but is harder to find and is more expensive.

Natural forms of *Vitamin E* are those that contain all four tocopherols and tocotrienols: alpha, beta, delta, and gamma. However, most Vitamin

E is sold containing only *one* of the four tocopherols, d-alpha tocopherol. Some Vitamin E is sold as dl-alpha tocopherol, which is the synthetic form of d-alpha tocopherol, and has very little if any nutritional value. *Gamma* tocopherol, not alpha tocopherol, is more effective at fighting nitrogen free radicals, which are the major culprits in arthritis, multiple sclerosis and Alzheimer's. Also, *gamma* tocopherol appears to be more potent than alpha tocopherol in increasing the activity of the antioxidant enzyme, superoxide dismutase (SOD), in plasma and arterial tissues. Tocotrienols and, in particular, gamma tocotrienol, suppress the production of the HMG-CoA reductase enzyme involved in cholesterol production, resulting in less cholesterol being produced by the liver.

Natural forms of the *B-Complex vitamins* are those that contain all of the B vitamins in balance with its co-factors to facilitate the biochemical reactions that support the nervous system and the metabolism of carbohydrates, proteins and fat energy. Wholefood sources include organic eggs, raw milk, yogurt, wheat germ, Brewer's yeast, barley, organic brown rice, oil fish; extracts from spinach, cabbage, cauliflower, beets, other green leafy vegetables; and, lean protein from nuts and grass-fed, antibiotic free beef and poultry.



Natural forms of the various minerals should come from wholefood sources such as bean curd, daikon, green leafy vegetables, and nuts and seeds. Otherwise, use a *multimineral* supplement to avoid the imbalances of individual mineral supplements; and, ensure it is a food-based liquid or a finely ground powder in a pharmaceutical-grade capsule with no fillers, binders or other additives. Unfortunately, the majority of mineral supplements is made from rocks, coral or seashells; and, usually contains other contaminants such as lead. The most common form of calcium supplements, calcium carbonate, is difficult for the body to absorb because it depends on stomach acids, which tend to decrease as the body ages. So the calcium accumulates in the body's joints and tissues and can eventually lead to arthritis or kidney stones. Various scientific studies have shown that organic calcium sources such as calcium citrate outperform inorganic sources such as calcium carbonate with regard to their relative bioavailability. Some studies indicate that calcium carbonate absorption may be as low as 22%. In addition, there are other calcium

## DEATH TO DIABETES    NUTRITIONAL SUPPLEMENTATION

supplements that clinical studies indicate are as good or even better than calcium citrate. Calcium hydroxyapatite, for example, is the form of calcium found in our bones. This form contains a wide array of other minerals that occur naturally in bone. Calcium hydroxyapatite is quickly emerging as a quality calcium that may rival the absorbability of calcium citrate and may even be able to rebuild bone. A significant British study was carried out on post-menopausal women with accelerated bone loss and severely impaired calcium absorption. The results showed the group supplementing with calcium hydroxyapatite had a notable 12% increase in bone thickness, while the group supplementing with calcium carbonate had no change. Numerous studies have demonstrated that calcium hydroxyapatite supplementation is an excellent way to help reduce the risk factors of osteoporosis.

Natural forms of *Coenzyme Q10 (CoQ10)* are derived from a yeast fermentation process involving a special culture of beet, with the majority of natural CoQ10 produced by a Japanese company in Japan. CoQ10 is a powerful antioxidant that exists in every cell of the body to provide the “spark” for cellular energy, especially in the heart, brain, lungs, liver, and kidneys – the hardest working organs in the body. CoQ10 also recycles Vitamins E. However, due to the scarcity of CoQ10, manufacturers are producing a synthetic form derived from tobacco leaves. Unfortunately, the synthetic form is not as powerful and beneficial to your health.



The natural form of *Alpha Lipoic Acid (ALA)* is known as R-lipoic acid. ALA is known as the “universal” antioxidant because it is able to function in both aqueous (water-soluble) and lipid (fat-soluble) environments. The R-lipoic acid is more biologically active than the synthetic form of alpha lipoic acid. R-lipoic acid has antioxidant-recycling properties and energy-production properties by improving adenosine triphosphate (ATP) synthesis. R-lipoic acid also provides neuroprotective benefits and can aid in preventing cataracts and their complications by recycling or increasing levels of glutathione, Vitamin C, Vitamin E, and certain protective enzymes in lens tissues. Unfortunately R-lipoic acid supplements may be less stable, and, therefore, less effective than the S-lipoic, or alpha lipoic acid version.

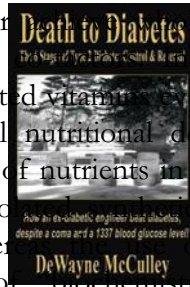
---

**Wholefood Supplements vs. Isolated Vitamins**

---

Wholefood supplements are comprised of foods (not extracts, but entire foods) that have been concentrated into supplemental form. Wholefood supplements are those that have been carefully processed and unaltered in any way that would change the molecular structure or biochemical combinations and actions of the vitamin, mineral and enzyme complexes. Isolated supplements and some natural supplements are singular or groups of individual vitamins, minerals and/or amino acids. Whole foods contain vitamins, but isolated vitamins never contain the rest of the whole-food “complex”.

In general, it is better to select wholefood supplements over natural or synthetic isolated vitamin supplements. Many biochemical researchers, nutritionists and herbalists have noted that without the wholefood complex, the body will never receive the nutrition, as a synthetic vitamin supplement lacks its natural context. In fact, as noted by several doctors and biochemists, isolated vitamins eventually lead to biochemical imbalances and consequential nutritional deficiencies, as the body is forced to surrender its stores of nutrients in order to make any isolated vitamin work. The use of isolated vitamins amounts to the practice of “chemistry”, whereas the use of wholefood supplements translates into the practice of “biochemistry”. Whole foods are live organic substances with enzyme activity, while isolated vitamins are dead inorganic substances that lack enzyme activity. Isolated vitamins do not resemble foods, but they resemble parts of the chemicals in the food.



Nutrition relates to nourishment by whole foods, not isolated chemicals. Whole foods work biochemically and harmoniously, while isolated vitamins run the risk of creating biochemical imbalances. Taking isolated vitamins/ minerals, even in a multivitamin/mineral supplement, is a biochemical risk, especially if you are already ill. Too much magnesium or phosphorus may imbalance calcium; too much copper may imbalance Vitamin C; too much zinc can lead to copper deficiency, and so on. Because nutrients in foods are balanced within the food complex, the risk of imbalance or toxicity is very low.

## DEATH TO DIABETES    NUTRITIONAL SUPPLEMENTATION

Nature's design is a safer choice due to its inherent intelligence in providing a variety of nutrients with its co-factors. Consequently, when using wholefood supplements, it is important to realize that the *quality* of the food complex is more important than the quantity of individual vitamins and minerals.

---

### Selection Criteria for Nutritional Supplements

---

Since more than 60% of the U.S. population takes some form of a nutritional supplement and more than 65% have some type of illness, it would suggest that some nutritional supplements are not working. So, if you choose to use nutritional supplements, how can you reap the benefits they offer without risking your health and wasting your money? The following criteria will help you select a quality nutritional supplement that aligns with your health needs and financial constraints: source, content (nutrients, dosage level), packaging, delivery system, cost, documentation, and performance.

**Source:** Ideally, you want wholefood supplements or natural supplements created from whole foods and processed in a manner that keeps the nutrients in their natural form, intact with their co-factors, instead of a synthetic form in a lab. Most synthetic vitamins contain artificial colors, stabilizers, preservatives, binders, and fillers with a sugar or chemical tablet coating; and, use extreme heat, pressure, or possibly toxic solvents; and, in most cases, are made in a laboratory setting from coal tar derivatives. You can sometimes tell this by the *chemical smell* of some tablets. In general, supplements that are 100% additive-free are much more likely to have come from natural sources.

For herbal supplements, be wary of some “standardized herbs”, which only contain one or two of the herb’s active ingredients. Herbs contain many compounds that work together to produce a specific effect. Other factors that influence the herb’s efficacy include the soil, when the herb was harvested, and how it was processed. This is why many consumers are disappointed with herbal supplements. Only use herbs that are 100% organically-grown, tested for efficacy and do not conflict with your drug therapy.

