The Five Problems with Vitamin Supplements

"You can trace every ailment, every sickness, and every disease to a vitamin and mineral deficiency."
—Dr. Linus Pauling, two-time Nobel Prize winner

Do we really need extra vitamins and minerals?

This question is one of the most asked of nutritionists and health experts. It probes deep to the core of what is truly required to be healthy. If we just eat a good diet, get regular exercise and "take care" of ourselves, shouldn't that be enough? The answer, unfortunately, is a resounding "no."

Mark Hyman, M.D., founder and medical director of Ultra Wellness Center in Lenox, Mass. and author of The Ultra Simple Diet, writes "If people eat wild, fresh, organic, local, non-genetically modified food grown in virgin mineral-rich soils that has not been transported across vast distances and stored for months before being eaten… and work and live outside, breathe only fresh unpolluted air, drink only pure, clean water, sleep nine hours a night, move their bodies every day and are free from chronic stressors and exposure to environmental toxins, then perhaps, they might not need supplements."

For the rest of us (which is really all of us, for who actually is able to live like that?), supplements are an absolute necessity. But this begs another series of questions. What kind of supplements do we need? Are all supplements equal? And if they're not, what should I look for in a vitamin and mineral supplement?

Ideally, all your supplements should adhere to the same criteria for good health: made from "fresh, organic, local non-genetically modified food grown in virgin mineral-rich soils", and processed within hours of picking to ensure maximum nutritional content. But do such supplement products even exist?

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Problem 1: Nutrient levels are down

Even if we do our best to eat more produce, a major problem is that our fruits and vegetables do not have the same amount of vitamins and minerals that they did 40 or 50 years ago. “In fact,” says Tim Lang, a professor at the Centre for Food Policy in London, England, “you would have to eat eight oranges today to get the same amount of vitamin A your grandparents got from a single orange or five to get the same level of iron.”

You would have to eat ten servings of spinach to get the same level of minerals from just one serving about 50 years ago. The average potato has lost 100% of its vitamin A and 57% of its vitamin C and iron and 28% of its calcium. And the list goes on and on.

So one answer to the question, “Shouldn’t it be enough to just eat a good diet?” is that even if you think you’re eating a good diet, you’re simply not getting the same nutrients you would have eating the same diet 50 years ago. So supplements are a necessity.

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Problem 2: Some vitamins are dangerous

You read that right. But to be more accurate, it should probably say that some forms of vitamins are dangerous—specifically, synthetic forms of vitamins. In the Monday, March 20, 2006 Wall Street Journal article by Tara Packer-Pope, she stated “Some vitamins can be hazardous to your health. Most people are not aware that many of the synthetic vitamins, including some of the highly advertised “name brands”, are processed in a laboratory at high temperatures (which destroy the nutrient content), and contain petroleum derived chemical solvents, such as ethyl cellulose, coal tar, hydrochloric acid, acetonitrole with ammonia, methanol, benzene, formaldehyde, cobalamins reacted with cyanide and acetone and are coated with methylene chloride, a carcinogenic material”. The list goes on and on.

Rather than being whole food natural vitamin complexes—the same forms found in plants, fruits, vegetables and other natural sources—they are fractionated chemicals, only a portion of the whole, and often toxic.

According to various health experts, including Dr. Zotan P. Rona, M.D., although most healthy people will have no obvious side effects from ingesting small amounts of toxins found in cheap (fractionated synthetic) vitamins, the long-term consequences of continuous daily intakes are potentially dangerous. Dr. Rona goes on to say over 7% of the population displays sensitivity to these chemicals, and show allergic reactions, including fatigue, memory loss, depression and insomnia and potential liver disorders. A recent Finnish study published in the New England Journal of Medicine states, “Taking synthetic vitamins is worse than starvation! The synthetic vitamins will kill you quicker.”

For instance, let’s examine vitamin C— a good example of a fractionated (synthetic) vitamin. The majority of vitamin C supplements contain only ascorbic acid, or a compound called ascorbate, which is a less acidic form of ascorbic acid. However, ascorbic acid is NOT vitamin C. It represents only the outer ring that serves as a protective shell for the entire vitamin C complex, much as an egg shell that serves as a protective covering for an egg.

Real vitamin C, found in whole foods such as fruits and vegetables contains eight components of which ascorbic acid is just one. These components are: Rutin, bioflavanoids (vitamin P), Factor K, Factor J, Factor P, Tyrosinase, Ascorbinogen, and Ascorbic Acid.

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Problem 3: Diluting synergy and potency

Fractionated vitamins are cheaper to produce, but nutrients cannot be taken apart or isolated from the whole, and then be expected to perform as the whole complex would. The various parts of a natural vitamin complex work together in a synergistic manner. Synergy means that the whole is greater than the sum of its parts. Nutritionist Judith DeCava puts it best: "Separating the group of compounds (in a vitamin complex) converts it from a physiological, biochemical, active micronutrient into a disabled, debilitated chemical of little or no value to living cells. The synergy is gone. The same analogy applies to an automobile. An automobile is a complex machine that needs all of it parts to function properly. You couldn't give someone the tires only, and expect it to function like a car."

The potency of a vitamin supplement has much more to do with synergy than with actual nutrient levels. It is not necessarily the amount of a nutrient you ingest that is important but its form and how much is bio-available that counts the most. It is the combined effect of all the parts of the food, rather than the chemical effect of a single part, that is most important.

Isolated nutrients or synthetic, fractionated nutrients are not natural. They are never found in this form in nature. Many experts feel that taking these isolated nutrients, especially at the ultra-high doses found in formulas today, is more like taking a drug because they are essentially "foreign."

Studies show the body treats these isolated and synthetic nutrients like xenobiotics (foreign substances). As a result, the synthetic, man-made vitamin forms become a burden to be excreted rather than a help to healing.

The RDI's have changed—but will this help or harm?

Current research has proved that vitamin deficiencies are a major problem in the U.S., Canada, and developing countries. What has happened to offset the dramatic nutritional deficiencies in our food? The RDI's (recommended daily intakes) have changed dramatically.

Vitamin D is a good example. Vitamin D deficiencies are now linked to influenza, heart disease, osteoporosis, diabetes, multiple sclerosis, tuberculosis, tooth decay, and even cancer. The RDI has been raised by nutritionists from 400 IU to between 2,000 IU and 4,000 IU, but will this help? Sadly, probably not much. Most vitamin D is sourced from irradiated lamb's wool (lanolin).

Again, the real problem is not the RDI's, but that the synthetic vitamins we are taking are not giving our bodies the quality nutrition we need. So it doesn't matter how much of the inferior Vitamin D (or whichever nutrient) we take. If it's in an inferior, synthetic form, we'll still be suffering from deficiencies.

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Problem 4: Many of our synthetic vitamins are made in China

Why is this a problem? Because like many products made in China—where regulation is spotty at best—the quality and safety of the vitamin compounds is highly questionable.

In an article published May 10, 2007 by Peter Kovacs, Washington Post, it states, "Currently, most of the world's vitamins are manufactured in China. Unable to compete, the last U.S. plant making vitamin C closed a year ago, and one of Europe's largest citric acid plants shut last winter."

In China, municipal water used in the manufacturing process is often contaminated with heavy metals, pesticides and other chemicals. Food ingredient production is particularly susceptible to environmental contamination as well.

Rep. Henry Waxman, D-California, chairman of the House Government Reform Committee, has deplored dangerous levels of lead in vitamin products originating in China. Other reports have surfaced as well.

For example, a few years ago, Europe narrowly averted disaster when a batch of vitamin A from China was found to be contaminated with Enterobacter sakazakii, which has been proven to cause infant deaths. And in 2011, another case of infant death was linked to Enterobacter sakazakii-tainted formulas whose ingredients were sourced in China.

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Problem 5: Synthetic vitamins actually cause deficiencies

The truth is we don't need more vitamins and minerals—we simply need higher-quality vitamins and minerals.

Research indicates synthetic vitamins may actually cause nutritional deficiencies. When you take a synthetic vitamin, it needs certain compounds—often called co-factors—normally found in the whole food (plant, vegetable, fruit, etc.) in order to complete its action. If these co-factors are not found in the foods you eat, your body will be forced to draw the co-factors from your tissues.

You may feel good for a while, but when the co-factors run out, you will begin to feel worse. The prolonged action of the synthetics imitates the action of drugs; they over-stimulate and "drain" rather than feed your body the nutrients and compounds it needs. Sadly, despite all the advances we have made, when it comes to providing the body with the vital nutrients required for optimal human health, science does not even come close to duplicating nature. Most physical diseases, discomfort and overall poor health is the result of our dietary ignorance and dependence on synthetic drugs and chemicals.

The problem here goes right back to our food. It's no secret that most of the food we eat is "fortified" with fractionated vitamins—our milk, cereals, packaged mixes, pasta, canned goods—and Americans are suffering from more serious diseases than at any other time in our history.

According to The New York Times, reporting on a study by a team of British pathologists at the University of Leicester, they studied 30 healthy men and women for six weeks, giving each 400 milligrams of vitamin C daily in the form of ascorbic acid. They found that at this level, the ascorbic acid promoted damage to the DNA in these individuals.

Synthetic B vitamins have performed similarly. Writing in a Pennsylvania newspaper, a medical columnist who had been the medical officer in a North Korean prisoner-of-war camp during the Korean conflict, found his fellow prisoners contracting Beriberi, a disease caused by a deficiency of vitamin B. He obtained Thiamine Hydrochloride, a synthetic form of vitamin B, from the Red Cross, and administered it to the sickest men. No positive change was seen and the men continued to get worse. The guards suggested rice polish, a natural source of vitamin B, which he administered in small amounts. The Beriberi symptoms abated within a week.

When you consider the sourcing of most of the synthetic vitamins, it is no surprise they provide little of the nutritional value of real food.

What's in your Vitamins?

	Synthetic Source ⟶	Where it's from...	Natural Sources
Vitamin A	Vitamin A Palmitate, Retinyl Acetate or Vitamin A Acetate	Methanol, Benzene & Petroleum Esters.	Fish Oils, Carrots, Lemon Grass, D. Salina Algae, Spinach
Beta Carotene	Unless whole-food source listed, all are synthetic.	Benzene (crude oil) extracted from Acetylene gas.	Carrots, Sweet Potatoes, D. Salina Algae, Spinach
Vitamin B1	Thiamine Mononitrate, Thiamine Hydrochloride or Thiamin Chloride	Coal Tar derivatives and Ammonia.	Rice Bran, Barley Grass, Peas, Nuts Avocados, Brewers Yeast, Legumes
Vitamin B2	Riboflavin	Extracted from waste corn with 2N Acetic Acid and Methanol.	Rice Bran, Barley Grass, Molasses, Mushrooms
Vitamin B3	Niacin or Niacinamide	Coal Tar derivatives, Ammonia, Formaldehyde	Rice Bran, Broccoli, Brewers Yeast, Mushrooms
Pantothenic Acid (B-5)	Calcium Pantothenate or Panthenol	Propene with Formaldehyde.	Broccoli, Rice Bran, Molasses, Fermented Soy Complex
Vitamin B6	Pryidoxine Hydrochloride (HCL)	Petroleum Ester & Hydrochloric Acid with Formaldehyde.	Rice Bran, Brewers Yeast, Beets, Molasses
Biotin (B-7)	D-Biotin. Unless stated, it is all synthetic.	Fumaric acid (decaying plant matter) extracted using Benzene.	Liver, Swiss Chard, Peanuts
Folic Acid (B-9)	Unless stated, it is all synthetic.	Petroleum derivatives, solvents and Acetylene.	Spinach, Rice Bran, Broccoli, Brewers Yeast
Vitamin B12	Cobalamin or Cyanocobalamin	Activated Charcoal reacted with Cyanide.	Rice Bran, Brewers Yeast, Liver, Molasses
Vitamin C	Ascorbic Acid	Fermented Corn, Hydrochloric Acid and Acetone.	Acerola, Rose Hips, Citrus Fruits, Blackberries
Vitamin D	Cholecalciferol	Irradiated sheep's wool (lanolin).	Fish Oil, Omega-3's, Mushrooms
Vitamin E	d-Alpha Tocopherol Acetate, Tocopheryl Acetate, Alphatocopherol	Phenols (plastics) from Petroleum waste, treated with Acetone (nail polish remover).	Rice Bran Oils, Spinach, Nuts
Vitamin K	Menadione, Phytonadione, Naphtoquinone	Coal Tar derivative produced with heavy metals and solvents.	Barley Grass, Natto, Spinach, Broccoli

In 1940, volume 30 of the Scandinavian Veterinarian Journal, a published study detailed an experiment involving silver foxes. The first group was fed all of the known synthetic B vitamins as part of their rations. The second group was given natural sources of the B complex with their rations. What happened?

Group 1 (synthetic B vitamins)	Group 2 (natural B vitamins)
1) They did not grow	1) They grew normally
2) The quality of their fur deteriorated	2) Their fur had excellent quality
3) They died prematurely	3) They survived their usual lifespan

Counterfeit, synthetically formulated nutrients in our supplements and food can seriously impair the most important of body functions by contributing to biochemical imbalance. Living systems are very complex and specific in their need for building materials. In addition, living systems are constantly breaking down cells, organs and tissues, and rebuilding and repairing themselves.

For these processes, the body must have a continual supply of specific, high-quality materials. If you build a house with cheap, imitation construction materials, your house will quickly fall into disrepair. The same is true for the physical body. The body has a very precise design, which is so incredibly intricate and complex that even with all the scientific and medical research thus far; we have only scratched the surface of understanding it.

Where can you find high-quality vitamins and supplements?

If you want to protect yourself in today's modern world, it's probably a good idea to regularly consume a high-quality food-based supplement. Doing so will provide your body with the foundation it needs every day to function correctly, efficiently and for many, many years.

So what makes the right supplement? It should be a whole food supplement, made from fresh, organic "whole foods" such as fruits, berries, vegetables, nuts, seeds, and grains, that are non-genetically modified and grown on virgin, mineral-rich nutritive soil, and processed within several hours for maximum nutrient content.

Living things can be produced only from living things, never from non–living matter. Natural foods contain live vitamins, organic minerals, enzymes, and other vital, functional, alive components, all organized (organically) by the sun, rain, water, soil's nutrients, and living bacteria.

Foods contain innumerable substances, many of which are—and may always be—unknown, that produce a combined effect to which a single ingredient cannot compare. Chemically "pure" refined, fractionated and synthetic vitamins, on the other hand, are dead, inert materials, non-perishable and devoid of enzymes.

Whole food vitamins are obtained by taking a vitamin-rich plant, removing the water and the fiber in a cold vacuum process, free of chemicals, and then packaging for stability. In this way, the entire vitamin complex can be captured intact, retaining its functional and nutritional integrity. It should be processed immediately after picking.

The whole food complex should include all the essential vitamins and minerals, plus essential fatty acids, antioxidants, digestive enzymes, and amino acids found in the natural, botanical source.

It's important to know that you should not use "tablets" or "liquid" vitamin supplements. Tablets must add binders and are often so hard that they never dissolve. Liquid supplements must be heated to a high degree, which will literally destroy and degrade the natural compounds, as well as digestive enzymes or probiotics. A powder form, added to a drink, or encapsulated are best.

Chronic conditions like cancer and heart disease take decades to develop. So do wrinkles and "fuzzy brains." That is why one of the worlds leading authorities on vitamins, minerals and antioxidants, Lester Packer, Ph.D., at the University of Calif. at Berkeley, says that no adult is too young to start taking a natural whole food supplement. Doing so can keep your body youthful, and disease-free instead of in need of repair later.

Is purity possible?

So is there a product that fits the criteria for pure whole foods? There are about 110 companies who sell vitamins in the United States. Fewer than 5 of them use whole food based vitamins. The reason is simple: Whole food vitamins are expensive to make.

It costs about twice as much for a good quality supplement. A few of the largest pharmaceutical firms in the world mass produce synthetic vitamins for the vast majority of these 110 "vitamin" companies, who then put their own label on them (and many of which claim theirs is the best!).

Americans spend over $25 billion per year on supplements for synthetic vitamins that are, at best, providing only marginal benefits, and at worst, making us sicker. Common sense dictates it's better to pay more for a high quality, whole-food supplement than to purchase inferior-grade products that probably won't give you any benefits.

Do your homework. Take the vitamin chart with you to check out the vitamins that you are interested in buying. And don't be fooled by "partial" whole foods. Some companies combine a small amount of whole food with synthetic vitamins, and call them "natural whole food supplements." That's merely a ploy to get you to think you are getting the highest quality. If the vitamin label says the vitamin C is "ascorbic acid", then you know it is not a whole food source.

What Can You Do?

To avoid using synthetic, man-made chemical "franken-supplements," there are some things you should do:

- Compare, compare, compare. It takes some time and work, but you should study the labels on the products you're considering. You'll start to see differences. Educate yourself on what forms of vitamins are harmful and which are helpful. Use the vitamin chart to know what you are getting.
- Contact the manufacturer. Again, this will also take some time and effort, but it can yield huge results. Check the website or call and ask where the ingredients in the supplement product come from. Are they synthetic? How are they sourced? What kind of guarantee is there? If a company is not open about where their ingredients come from, you should avoid their products.
- The price says it all. While it's no guarantee, you usually get what you pay for. Generic brands that cost only a few dollars are certainly the lowest-quality, synthetically produced products. Avoid these entirely. Whole food supplements will cost more—often significantly more—to produce. But they are worth it.
- Eat whole foods when you take your vitamins. As stated, all nutrients usually require other compounds or nutrients (sometimes called co-factors) to function correctly in the body. If you are eating fresh fruits, vegetables, and whole grains when taking your supplements, it means there will be a good variety of compounds available to act as co-factors giving you a greater chance your products will be functioning as they should.

Consuming whole food based supplements will help bridge the gap between your diet and the nutrition you need for optimal health. And by supplementing with the good of whole foods, you'll avoid all the problems associated with vitamin supplements, and nourish your body for a life well lived.