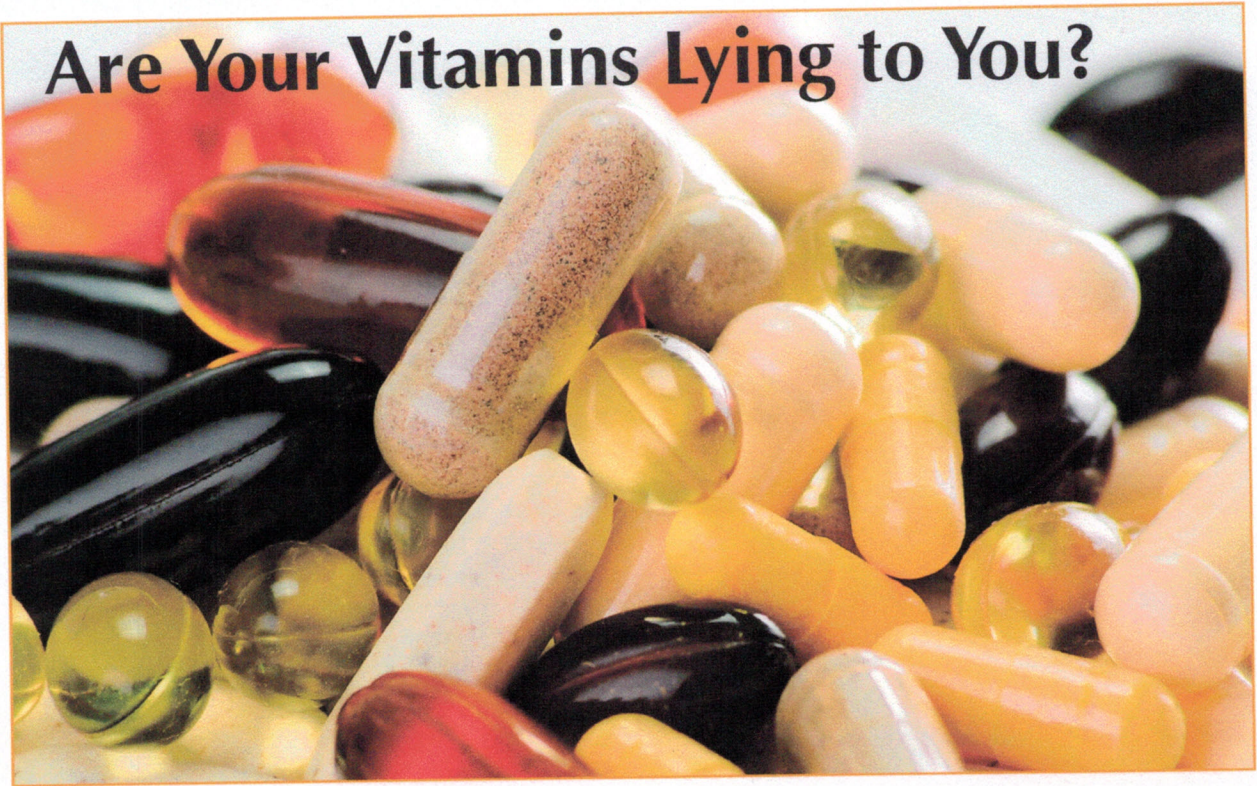


Are Your Vitamins Lying to You?



Picture this... shopping for supplements, you walk down the vitamin aisle of a store and you see a wall of products. Many have pretty pictures of fruits and vegetables on the label and others say things like "Raw", "Non-GMO", "whole-food", and "food-rich." You get excited; you know you don't eat perfectly and want to fill in the nutritional gaps. Maybe these products could help! The staff recommends the "raw, whole-food multivitamin," and you think, "Wow this product must be really great." You leave with the comfortable thought that they ground up lots of fruit and veggies and put them in a pill, but the truth may be they did nothing of the sort. This encounter happens thousands of times per day across the US, people buying vitamins thinking they are 100% natural products.

Here's where "natural" vitamins can be derived from:

- Vitamin A - Acetone
- Vitamin C - GMO corn syrup (occasionally another sugar is used), synthesized using the Reichstein Process
- B1, B2, B3, B6, B5, Folic Acid - Synthesized from yeast, bacteria, or coal tar
- B12 - GMO bacteria or bacterial synthesis
- Vitamin D - Irradiated lanolin (Sheep wool)
- Vitamin E - GMO Soybeans
- Beta carotene - Benzene rings from acetylene gas
- Calcium - chalk (calcium carbonate)
- Other minerals - Ground up mineral ores

With all the negativity surrounding pharmaceutical companies, some of which comes from people in the natural products industry, you might be surprised to learn that the supplement industry uses similar compounds. To the shock of many, "Big Pharma" can also be called "Big Supplement." Pharmaceutical and chemical companies manufacture the vast majority of the raw materials that go into supplements most people use. For example, BASF, which is a chemical company, is a leading supplier of synthetic B vitamins to most of the

health-food stores, drug stores, and practitioner brands. We're not exempt; some of the brands we sell will have raw materials originating from a pharmaceutical company or chemical company.

Understanding Our Vitamins

We have to find an easy way to think about what a vitamin actually is. Imagine the hundreds of thousands of chemical reactions that are happening in our body at any given time. A vitamin is one, single ingredient of these chain reactions that is essential to "sustain life." We normally can't create these compounds so we need to get them from food. Remove the vitamin and the "life-sustaining" reaction won't happen. Typically, this causes some disease or deficiency. Remove Vitamin C, you'll get scurvy. Remove Vitamin K and you will have bleeding abnormalities.

A "vitamin isolate" then is that individual chemical in a product you buy at the store. Buying a vitamin isolate is like going to the car dealership and just buying the steering wheel. Compare this to food, the food will have the vitamin along with the other beneficial compounds, such as cofactors, protein, fiber, phyto-nutrients, etc. With isolates, though, we're talking about just one specific compound such as ascorbic acid (Vitamin C), retinol (a form of Vitamin A), pyridoxine (B6) and the like. Vitamin isolates can be made, like anything, via chemical processes in a lab. As shown above, those chemical processes are a far stretch from any of the "100% natural" claims the supplement industry would like you to believe.

Manufactured vitamin isolates can also come from natural sources. The best brands strive to use natural isolates but the cost difference is so vast that the synthetic sources are almost always used. For example, Vitamin A can be derived from fish liver oil, but usually the synthetic form is used. Beta Carotene can be derived from algae, but most companies use the synthetic form instead.

Here is a list of natural sources that vitamins can be made from:

- Vitamin A – fish liver oil (usually cod)
- Vitamin D – fish liver oil (usually cod)
- Beta Carotene – algae
- Calcium, Other Minerals – from mineral ores then chelated (attached to) amino acids or proteins

So besides a few whole food products, vitamin isolates such as B Vitamins, Vitamin C, and Vitamin E are made from synthetic sources. Occasionally, bioflavonoids or rose hips will be added to Vitamin C or an alternative sugar is used in ascorbic acid synthesis.

Are Natural Sources of Vitamins Better?

In some cases, yes, natural sources are preferred. This is because compounds may differ, albeit slightly, in chemical structure from food/natural sources as compared to the synthetic ones. A common example is folic acid versus food folate. Folate is preferred because it does not need to be converted in the body. Many women lack the gene to turn synthetic folic acid into folate.

Isolates are not always bad and are, in fact, necessary in some cases. We take to task the lack of transparency and misdirection in the supplement industry surrounding isolates. While it is not wrong to sell synthetic vitamins, it is wrong to mislead consumers into thinking that they are natural. Consumers have a right to know what is in their supplements and how they are made. We apply best-practice standards to each category in our stores (ie. fish oil, mushrooms, beauty care, pet nutrition, and isolates). An overarching theme for all categories is that there is honesty and transparency. Our requirement is that claims such as "Raw", "Natural", "Non-GMO", "Food Based", and "whole-food" when used to market the product (like on the label) are validated and accurate.

Whole Food Vitamins

The discussion again focuses on the vast difference between what consumers want and what they are given. Currently the pendulum is swinging again: people are moving away from isolates and towards, what they think, are more unprocessed, "whole-food" nutrients in their supplements. Unless you are an insider, however, you would not know the processes that are used to make such "whole-food" supplements.

An ideal whole-food vitamin is made using a very sophisticated process. First, organic crops are harvested, cleaned, quarantined and tested. They are then cold milled into a coarse powder. Then, they are low temperature dried to remove the water. The remaining powders are then blended and low temperature tableted or encapsulated. Doing it right is an expensive, labor-intensive practice that can be thrown off by the poor availability of crops or bad weather.

A real whole food supplement does not use any synthetic or isolated chemicals at any time during the manufacturing of the product. The label should not list any chemical names such as Thiamine HCl, Ascorbic Acid, Calcium Citrate, Pyridoxine HCl, or Retinol Palmitate, just to name a few.

When examining the procedures at most "whole-food" companies, we're left wondering if they are even trying. A major "whole-food" supplement manufacturer actually published their procedures, admitting that no food goes in or out of the factory. Like others, they take the chemical isolates that we talked about previously and "feed" them to Brewer's yeast. This simply creates a yeast mixed

with a chemical isolate. It does not change the chemical structure of the nutrient or improve the absorption or bioavailability of the nutrient.

We recently removed a company from our shelves because of a change in their whole food manufacturing process. They used great procedures and had an industry leading product. Recently, they wanted higher concentrations of vitamin strengths, and instead of concentrating their foods, they added in chemical isolates to their whole food mixture. Soon, they started using less food (since it was more expensive) and more isolates.

Another problem is that many companies use high heat drying methods. Some will use methods such as spray drying (high heat, high pressure) to speed the process, thus making it cheaper. How much nutrition is left in a vegetable after it has been heated excessively? Thankfully, spray drying is used by manufacturers that are not using much food to begin with.

Many vitamin companies will use claims such as "food-rich" or "whole-food" when discussing their supplement products. The reason supplement companies use those terms is because there is no regulation of them. You can have as little as five percent food in a product and call it "whole-food, "food-based", or "food-rich."

Finding the Real Stuff

The happy patient from the beginning of our discussion then asks, "If the supplement industry is not being forthcoming about what's really in their products, what can be done about it?"

First, the point of this article is to create a dialog. Ask questions. What do you want to accomplish with a wellness program? What would best help you achieve that? (Hint: It's Food First) What supplements can you use? Are the supplements really what they are claiming to be?

After you've modified your diet to include foods rich in vitamins, you need to find companies that are selling truly whole-food supplements. These are the companies we want to support. They're doing the right thing in the face of lower margins and subsequently, profit. Quality supplement companies aren't just those that have top-of-mind recognition. Quality supplement companies are companies who put the consumer above the bottom line. These companies have proper manufacturing and quality procedures. These companies are honest about what they sell and do not attempt to mislead the consumer with false claims or advertising.

In the whole food world, the bad news is there are only a few companies dedicated to an entire line of 100% whole-food products. Some companies make one or two products that are truly whole-food and the rest of their line is made of synthetic or isolated vitamins. Many companies make great "green drink" powders or the occasional high quality food powder. But as far as true whole-food supplements, there are only a handful of companies left.

The Vitamin Industry Let Us Down

It's really sad that an industry that started with so much potential has decided the bottom line is more important. Original supplement companies made whole foods like wheatgrass, spirulina, and desiccated liver pills. Now, isolated compounds are the standard fare.

If we can erase the negatives from the industry, we may have more widespread acceptance of natural products. We know there are good products out there. We know there are companies doing the right thing. If we can constantly search for the best, safest products and match that with expertise and the best available evidence,

then maybe there will be a paradigm shift. Consumers will be more skeptical, searching through the propaganda and misinformation, while doctors will be less skeptical and open to using supplements they can trust.

We're here to raise the bar in the natural products industry. We know the wellness experience people are looking for. We hope to be a trusted, honest advisor to help you along the way. If enough of us band together, we can be the catalyst for change in an industry that has lost its way. Our desire is to achieve "Honesty in Wellness" - transparency in the manufacturing of vitamins and wellness products and truth in their promotion and marketing. We know that the natural products industry has tremendous potential to make healthier, happier people. We also know that regulations and their enforcement, especially around what we call "buzzword claims," are weak. We are on a mission to educate the populace on what's really going on in the supplement industry and how that differs from the marketing mirage.

Submitted by Neal Smoller, Jr, PharmD and Josh Boughton of Village Vitality. Neal is the owner and Compounding Pharmacist of Village Apothecary in Saugerties and Woodstock, NY and founder of Village Vitality, a new breed of vitamin stores set on raising the bar in the natural products industry. Josh is Village Vitality's Natural Product Director, responsible for establishing the standards of excellence for the products, and designing products unique to Village Vitality. He has over 10 years experience in the natural products industry and has worked as a consultant formulating many top-selling vitamin products. For more information, visit their new location in West Hartford Center or www.villagevitality.com.