

KOFINAS PERINATAL

Providing care to the unborn

UPDATES ON PERINATAL ISSUES AND NEWS ABOUT KOFINAS PERINATAL

◉ The truth about nutritional supplements and vitamins ◉

Risks of synthetic vitamins and supplements

Alexander Kofinas, M.D.

Kofinas Perinatal Baby of the Month

Daniel was born 1 month early at 5lbs 10 oz. Now he is 3 months old and just over 12lbs! He is a healthy, happy sweet baby. He



coos

and giggles at us and likes to be in his play pen swatting at the overhanging toys. Daniel is even letting us sleep through the night!!! He is such a wonderful addition to our family and we are enjoying him so very much!

Proud Parents

Michelle and Darren

"Train, say your prayers, and eat your vitamins!" – Hulk Hogan, Real American

Although many of us may not be WWF enthusiasts, myself included, we cannot help but be struck by the prominence the Hulkster placed, in his Real American theme song, on that famous and ubiquitous phrase: "...and eat your vitamins!" It seems that even a tag-team of Spartacus and Jesus Christ would agree that faith and fitness are not complete without that all essential, and yes, All-American vitamin.

Indeed, nutritional supplements of one sort or another have become as American as apple pie. Some studies show that close to 50% of our countrymen and women consume some form of nutritional supplement *daily*. (Nielsen Global Online Survey

2008) That amounts to over \$20 billion spent on nutritional supplements annually in the United States alone.

However, despite the overwhelming success that this industry has had in penetrating the American market over the past 50 years, few Americans understand what role these vitamins and supplements play in the maintenance of their health, let alone the possibility that the vast majority of supplements available on store shelves today may actually do more harm than good, an assertion that we will expand on further.

Vigorous scientific research, as well as countless anecdotal studies have proven, beyond a shadow of a doubt, that our bodies need certain vitamins, trace elements and minerals in order to remain healthy. They are

necessary for day-to-day functioning of our cells, and are essential for the completion of certain metabolic processes that are vital for life preservation. Indeed, it is an interesting fact of history that more sailors lost their lives to scurvy – a disease caused by dietary deficiency in Vitamin C – during the 15th to 17th century than to war, storms, shipwreck, or other diseases combined. In fact, scurvy and beriberi (a disease



caused by a deficiency in vitamin B1, otherwise known as thiamine) were two of the deficiency-related diseases that helped scientists discover the *very existence* of vitamins and the crucial role that they play in maintenance of bodily health.

For a time, those who could recognize vitamin and nutrient deficiencies could treat them easily through dietary supplementation, which simply meant eating more limes, brown rice, or whatever particular food possessed the nutrients needed to treat the deficiency. Eventually however, as

science – in particular the field of chemistry – progressed, it was discovered that one could synthesize and isolate, on a molecular level, a specific vitamin. The first breakthrough happened in 1920, with the chemical synthesis of ascorbic acid, known to the public as Vitamin C. Seven years later, responding to a rickets epidemic, pharmaceutical companies Merck and Bayer, would team up to launch the first commercially available synthetic vitamin – a vitamin D product marketed by the name Vigantol.

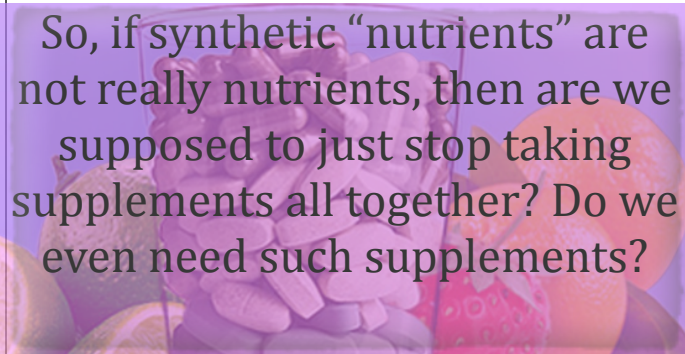
In the years that followed, more and more vitamins would be discovered, and synthetic substitutes for them would be produced and marketed to consumers across America. Eventually, vitamin manufacturers, the vast majority of whom are pharmaceutical companies and large multi-national agribusinesses, found that they could ‘fortify’ commercially popular foods like breakfast cereal, milk (that’s right, that Vitamin D you are getting from your milk didn’t come from your neighbor’s cow), bread, salt, etc., with synthetic vitamins.

So, now that we have run through a brief history of this industry, it is time that we turn back to an assertion we made earlier on that, besides not being an effective mode of treatment, synthetic vitamins could actually be doing *more* harm than good. Let us explain, using what is perhaps the most commonly used and known vitamin: Vitamin C.

Vitamin C is mostly comprised of a chemical known as ascorbic acid. However, ascorbic acid is *only part* of what constitutes natural vitamin C. Extracting a vitamin from its matrix of complimentary cofactors hinders the proper functioning of that nutrient. In the case of ascorbic acid, there are several chemicals that are attached to the molecule that help it to be absorbed into the blood stream, aiding its response with reactive oxygen species (ROS) – ROS are free radicals that cause cellular damage, premature aging and death. Natural vitamin C

acts as an anti-oxidant by destroying such ROS. Furthermore, because synthetic vitamins are recognized by our bodies as foreign entities, their introduction elicits an immune response that is itself taxing on our bodies. In practice, this means that isolated chemical or synthetic vitamins are immediately 'quarantined' by the body until it can determine the cofactors needed to enable their availability. In this sense, synthetic vitamins are at best, *potential* sources of nutrition and in the worst case, toxic.

What makes this situation worse is that current laws enable supplement manufacturers and distributors to market their products in such a way so as to give the appearance of being 'natural,' when in fact they are spiked with



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synthetics. A vitamin can be marketed as natural so long as 10% of it consists of plant-derived ingredients. These manufacturers are not obliged to report that their “natural vitamins” are, in fact, nothing more than synthetics masquerading as whole-food supplements.

So, if synthetic “nutrients” are not really nutrients, then are we supposed to just stop taking supplements all together? Do we even need supplements? If the best source of vitamins and minerals come from food itself, then can't we just get the nutrients we need from organic food sources? In a perfect world, the answer to the last question would be yes, but as we know, the world today is far from perfect. Modern farming practices have led to a gross depletion of nutrients from the earth's topsoil – a trend that, if not addressed, will eventually have catastrophic

consequences for the world's population – and by the time the food you are consuming is harvested, refined, shipped off and cooked, there are hardly any nutrients left for your body to absorb. This is true, though to a lesser degree, even if one were to eat certified organic fruits and vegetables. So, in short, unless one is living on a farm or is able to verify that he or she has access to the highest quality foods, then supplementation is an unfortunate necessity. Fortunately, just because the majority of supplements out there are not from natural, whole-food sources does not mean that there are not companies that provide quality products. Indeed, there are, but the difficulty is in identifying those companies whose products meet the type of standards that we expect. There is no easy answer here. Ultimately, people need to pay more attention to what they are eating, and to spend a minimum amount of time educating themselves about what it is that they are putting in their bodies.

There are however, certain simple things that one can do in order to identify supplements that are truly natural and whole-food based. Andrew W. Saul, author of *Doctor Yourself*, recommends that you contact the manufacturer and politely ask for a full disclosure of ALL ingredients and excipients in every nutritional product the company sells. This sounds like common sense, but then why do so few of us actually do this? Next time you find a supplement that claims to be made from 100% whole-food products, contact the manufacturer and ask for further information on their supplement line. Reputable companies *should* respond with a full list of their products' ingredients.

As of yet, there does not seem to be an adopted standard by which consumers can judge particular brands, though the Naturally Occurring Standard (NOS) appears promising, and there are certain companies out there that are starting to carry this label. Still, it is important to note that the absence of such proper, robust and universally applied standards is not meant to suggest that the solution must come from organizations like the United Nations (UN) and the World Health

Organization (WHO) through existing mechanisms like the “Codex Alimentarius” (Latin for “food code.”) These overstretched bureaucracies have already proven inept at providing sound standards for the supplement industry, and instead, seem more interested in securing a monopoly for Big Pharma by opening the door to legislation that would classify these products as pharmaceutical drugs. We must be cautious, and wary of governments and international institutions that attempt to legislate our use of these essential products. Proper standards cannot be expected to form out of the same nexus of political and economic power that has brought us a grossly overpriced pharmaceutical sector, skyrocketing insurance costs, and disingenuously underpriced food, void of essential nutrients. The good news is that citizens across the world are awakening to this reality, and are expressing their support for organic products not only with their votes, but also with their pockets. The general message regarding supplements remains the same: be wary and always do your homework before buying into any particular product or brand.

Types of supplements

The phrase “nutritional supplements” is quite a generic term, and can mean a great many things to a great many people. I therefore, would like to spend a little time focusing our attention specifically on those items that we know are essential and helpful for the maintenance of good health.

As was mentioned earlier, in an ideal world with minimal stress and a healthy environment, no one would need any supplements. Unfortunately, this is not the world we live in. Most of us are running left and right just trying to make ends meet that we often lack the time to cultivate the type of relationships with ourselves, as well as with

others that is part and parcel of a truly healthy lifestyle. From a physiological perspective, such stress causes cellular damage that taxes our bodies and impairs our ability to recuperate and cope with a daily inflow of ‘insults.’ Such insults are abundant and come in the form of highly refined foods, coloring additives, artificial sweeteners, food enhancers, food fillers and all other chemicals that have become part of our daily intake.



According to a Federal law, industrial chemicals can be added to our daily foods without any need to test them for safety, even in animals. These artificial “food elements” increase the burden of our cellular metabolic pathways and distort the normal functioning of our body’s cells in ways that promote chronic diseases and premature aging. Currently, there are 70,000 such industrial chemicals that make their way into our bodies with the FDA’s blessings. Every newborn is loaded with more than 90% of industrial wastes. According to a study done by the Working Environmental Group – a non-governmental non-profit organization – newborns were found to carry in their umbilical cord, 287 such industrial chemicals out of the 300 most common that they were tested for. Unless something major happens, the life expectancy of our newborns will be severely compromised not to mention their quality of life severely impaired.

Because of the daily onslaught from such toxicants, our body needs all the help it can get from healthy, natural nutritional supplements. Numerous scientific studies published in the medical literature support the view that nutritional supplementation can be quite beneficial. The following items are the most known and best studied:

1. Vitamins
 - a. Vitamin A complex
 - b. Vitamin B complex
 - c. Vitamin C
 - d. Vitamin D
 - e. Vitamin K
 - f. Vitamin E
2. Mineral and trace elements
 - a. Calcium
 - b. Iron
 - c. Magnesium
 - d. Phosphorous
 - e. Potassium
 - f. Sodium chloride (salt)
 - g. Chloride
 - h. Aluminum
 - i. Chromium
 - j. Copper
 - k. Fluoride
 - l. Iron
 - m. Iodine
 - n. Manganese
 - o. Molybdenum
 - p. Selenium
 - q. Sulfur
 - r. Zinc
3. Essential fatty acids (omega 3 and omega 6)
 - a. Omega 3 fatty acids
 - i. Alpha-linolenic acid
 - ii. Eicosapentaenoic acid (EPA)
 - iii. Docosahexaenoic acid (DHA)
 - b. Omega 6 fatty acids
 - i. Linoleic acid

The supplements above, when taken by means of food (natural and whole foods) act synergistically with each other and thus help our bodies to derive the maximum benefit from them. The four vitamins A, D, E and K for example, are available naturally and are usually absorbed as a group. Their functions are integrated in such a way that if one were to consume only such vitamins by means of isolated synthetics, one would experience significant health problems. In fact, several studies attempting to examine the benefits of synthetic vitamin A and vitamin E in the prevention of certain cancers, found surprising results. The conclusion of the researchers was that supplementation of vitamin A and vitamin E is harmful to our health. This, of course, is the wrong conclusion. The correct conclusion would be: “*synthetic* vitamin supplements are harmful to our health.”

When vitamins are synthesized in a laboratory and then introduced into our bodies, they cannot be properly used, since, as mentioned previously, they are introduced in isolation. They thus have the potential to become toxic, causing significant side effects. For example, the presence of large quantities of synthetic

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vitamin A in a pregnant woman is toxic to the fetus and has been associated with congenital defects. In contrast, consumption of vitamin A in its natural form from foods can never lead to toxic levels (hypervitaminosis) because our bodies are made to keep the absorption and elimination of natural vitamins in balance. In

addition, consumption of synthetic vitamins leads to deficiencies of other significant cofactors and nutrients. This is the result of the inability of synthetic vitamins to function in our biological systems. In order for them to be biologically active and execute their natural functions they need to combine with the missing cofactors. This leads to an unbalanced consumption of such cofactors, which causes deficiency of some of the most valuable nutrients. The ultimate result is vitamin deficiency (avitaminosis) in the presence of excessive synthetic supplementation, which leads to cellular malfunction and disease, the very thing we are looking to avoid!

Taking a tablet of calcium produced from some kind of a rock is not the same as calcium taken by means of whole foods in its natural state. It cannot be stressed enough that our bodies were made to consume and metabolize whole foods, not isolated and industrially synthesized variants. Calcium supplements are not absorbed by our gastrointestinal system unless they are bound to vitamin D. In natural form, metals such as calcium are chelated (naturally bound in chemical form to cofactors and other nutrients) and form digestible forms of multi-nutrients. This is the kind of calcium that our body can use. Adding vitamin D in a tablet of synthetic calcium does not make it any more digestible and usable. Only calcium that is taken as part of a whole food complex is useful to our bodies.

In conclusion, vitamins and other antioxidants, metals and phytonutrients are essential to our health. Our biology has evolved over millions of years and adapted to our needs of obtaining such elements by means of a variety of naturally occurring, whole foods. Our modern life styles and poor nutrition has lead to significant deficiencies with numerous health consequences. Taking chemically synthesized nutritional supplements *is not* the solution. Eating

nutrient rich, organically grown foods is the most important step in the right direction. It is expensive and time consuming, but it all starts from here. Either we develop the discipline and allocate our financial resources in a way

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that enables us to feed our bodies with life, or we choose to eat highly processed foods and consume tons of synthetic vitamins that inevitably lead to disease and suffering. The choice is ours!

*Future issues of this newsletter will address specific topics regarding the various supplements and their effects in health and disease as well as practical advice on how to nourish ourselves.

For those who want to read more on this subject, or who are looking for a starting point to learning more about how and where to find the supplements you need, please see the links below.

[Vitamin Fraud](#)

[Pharmaceutical companies involved in vitamin fraud](#)

www.hippocratesinst.com www.nosg.org