

Which Are Effective? Which Are Toxic?

The Roadmap To Choosing Supplements

**Learn What You Need To Stay Healthy And
Never Be Sick Again**



© 2006 Beyond Health Corporation
P.O. Box 150578, San Rafael, CA. 94915

www.beyondhealth.com, email: mail@beyondhealth.com

Phone: 800-250-3063 - Fax: 415-453-7557

Rev. 0708-7

These guidelines are strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician.

Are You Getting the Nutrients You Need to be Healthy?

The leading cause of disease in America is malnutrition—virtually every American suffers from malnutrition to one degree or another. ***A chronic shortage of even one nutrient will cause disease—yet studies show that most Americans are short at least several.***

As a result of these nutritional deficiencies, we are experiencing an unprecedented pandemic of chronic and degenerative disease, including overweight, that is not only decreasing our quality of life but threatening to bankrupt our businesses and governments with unsustainable cost increases. It doesn't have to be this way. This epidemic is both preventable and reversible. We can get the nutrition we need by learning how to eat a good diet and by learning how to select supplements that do what they are supposed to do and are worth what you pay for them.

One of the biggest fallacies today is the myth that you can get all the nutrients you need by eating a so-called "balanced diet." Given the reality of today's nutritionally-depleted foods, this is next to impossible. Foods no longer contain what we need for good health, and any shortage will sabotage your body's biochemical balance, stimulate your appetite, keep you hungry, encourage unwanted pounds and undermine your best efforts to stay healthy. Then there is the myth is that you can compensate for this lack by taking commonly available vitamin and mineral supplements—*only a handful of the highest quality supplements are capable of supplying what is required.*

Supplementing the diet with any nutrient is always a tricky business. Nutrients work together as a team, supporting and enhancing each other's efficacy and efficiency. This cooperation produces checks and balances that promote safety and potency. But in most supplements, what you find is single, chemically manufactured, isolated compounds devoid of the necessary cofactors and synergy that enable them to properly metabolize, while containing analogs and contaminants that impair their effectiveness. Most people lack the technical knowledge needed to evaluate supplements and to select from among the few high-quality supplements available. Too many companies try to fool the public by making outlandish claims and promising "miraculous" results with little or no science to back them up. Low quality supplements, even the expensive ones, will be of little or no benefit and may even have a toxic effect.

The raw materials and methods used to make supplements determine whether they are helpful, useless, or even harmful. This report will help you find your way through the current maze of supplement products. You cannot tell how a product is manufactured, stored, shipped and distributed simply by looking at the product, its advertisements or even its label. But you *can* educate yourself about the different forms in which vitamins and minerals are manufactured and learn how to recognize the most beneficial types, including how to recognize ***indicators of quality*** on product labels. To help you get well, stay well and never be sick again, this report offers a primer on supplements, your basic A, B, Cs.

All nutrients act synergistically with each other, and a chronic shortage of even one will undermine the whole system *and* your health. So what should you take each day? As a minimum, most people should take a multivitamin/mineral formula, extra vitamin C and essential fatty acids every day. Beyond that, supplementing with additional vitamin E, bioflavonoids, calcium, and magnesium is also recommended. Anyone with an active disease needs extra vitamin C and a variety of other nutrients tailored to his or her specific cellular deficiencies. If you have a chronic disease or are overweight, it is especially important to supplement with antioxidants including vitamins C and E to protect yourself from free radical oxidative damage. Since diseases and fat cells produce a flood of free radicals, they must be neutralized by antioxidants or they will damage your DNA, age your tissues and cause mutations that lead to cancer and other diseases.

Don't be misled, though: Supplements cannot do the job by themselves. In order to stay healthy you *must* eat a diet of fresh, whole foods filled with nutrients in the right balance. **However, given the sorry state of food today, satisfying your nutritional needs can only be accomplished by eating a high-quality diet of unprocessed, fresh, organic, whole grains, legumes, fruits and vegetables and also taking high-quality supplements.**

Feed Your Cells Well

A living cell is enormously complex. Think of each one of your tens of trillions of microscopic cells as a vast industrial park containing thousands of factories, hundreds of powerhouses, warehouses, distribution centers, raw material delivery systems, waste disposal systems, internal and external communications systems, security systems and much more. Each of these industrial parks creates a vast array of products that are necessary to keep you alive and well, including neurotransmitters for your nervous system, high energy compounds to power your metabolic machinery, antibodies to protect you from infection and hormones to regulate your body.

More than 100,000 chemical reactions take place in each cell every second; each requiring what in an industrial factory would be called raw materials. In our bodies, these raw materials are called nutrients. In a factory, if even one raw material is missing, production will be impaired. The same is true for the body; a chronic lack of even one nutrient will cause cellular malfunction and chronic disease.

Given the complex needs of our cell factories, how is the average American doing regarding nutrition? According to the USDA's 1996 Continuing Survey of Food Intakes, not very well. More than 70 percent of Americans do not consume the recommended daily allowance for zinc. Eighty percent do not get enough vitamin B6, and 75 percent do not get sufficient magnesium. Other common nutrient deficiencies include vitamins A, B1, B2, B12, C and D and calcium, iron, enzymes and essential fatty acids.

Depleted soils, resulting from intensive farming, the use of artificial fertilizers, and poor crop rotation practices plus premature harvesting, long transit times to market, processing and other factors have *dramatically* reduced the nutritional quality of our food. The average American gets only a fraction of the nutrition they need for optimal health, but most people are totally unaware of this. They think that the produce they buy at the supermarket is of the same quality as what our ancestors ate—not so.

For example, a 2001 study in *The Nutrition Practitioner* looked at calcium levels in food over the period 1940 to 1991. On average, in the space of 50 years, the calcium content of vegetables dropped by about half. It is worse today as the soils have become even more depleted. In short, you have to eat at least twice as many vegetables today to get the same amount of calcium that people were getting in 1940. You have to eat four carrots today to get you same magnesium you got in one carrot 50 years ago, and you have to consume about 15 carrots to get the same amount of zinc. A shortage of even one mineral can throw the entire body out of balance. As Nobel Prize winner Dr. Linus Pauling once said, **"You can trace every sickness, every disease and every ailment to a mineral deficiency."** This is why it was so alarming when the 1992 Earth Summit Report suggested that **99 percent of Americans are mineral deficient**. If the minerals are not in the soil, they will not get into the plant, and you end up mineral deficient. No wonder more than three out of four Americans have a diagnosable chronic disease, and most of the remainder are in the early stages of disease. We are a sick population and getting sicker every year.

Food is meant to be harvested ripe and consumed soon after. Today food is harvested before it is ripe so it can be shipped, but this drastically reduces the nutritional content by as much as 80 percent. The time spent in getting to market reduces nutrition. Fresh produce is days to weeks old before it gets to the store, and some of it has been in storage for a year or more. Food is remarkably hardy, but nutrients are not. Nutrients are easily lost or destroyed, and this process begins soon after the produce is picked. For example, spinach loses 60 percent of its folic acid in three days. Vegetables such as asparagus, broccoli and green beans lose 50 percent of their vitamin C even before they reach the produce counter. Cooking

© 2006 Beyond Health
P.O. Box 150578
San Rafael, CA. 94915

2

www.beyondhealth.com

1-800-250-3063

email: mail@beyondhealth.com

These guidelines are strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician.

these vegetables results in even more losses, including another 25 percent of the vitamin C, 70 percent of vitamin B1 and 50 percent of B2. Studies on “fresh” oranges have found that many contain no vitamin C whatsoever! Such so-called “fresh” oranges are harvested green, stored in warehouses, artificially colored and sold as fresh. Eating a “balanced diet” is not as easy as it sounds.

Prescription drugs, which are taken by half the American population, especially our elderly, only add to the problem by creating more nutritional deficiencies. For example, millions of people take cholesterol-lowering drugs, but these drugs deplete crucial nutrients such as coenzyme Q10 as well as vitamins and minerals including A, B12, D, E, calcium, magnesium and zinc. Such nutrient losses affect everyone, but in older people nutrient uptake is already compromised and nutrients are utilized less efficiently. If you choose to take prescription drugs, it is important to research how those drugs affect nutrients so that you can supplement your diet accordingly. This is information your doctor may not tell you—information he or she may not even know.

Malnutrition Despite Our Abundance

It has been estimated that our ancestors consumed three to four times more nutrients than we get today, yet the ***changes in our environment and lifestyle make our need for nutrients the highest ever.*** Most people are unaware of the unprecedented burden that our exposure to increasing numbers of environmental toxins is placing on our bodies, dramatically increasing our need for nutrients. For example, the chlorine in our water, ozone in our air and many other environmental pollutants create an oxidizing environment that requires unprecedented amounts of antioxidants to neutralize. Indeed, studies have shown that our need for antioxidants has *tripled* since 1970. Meanwhile the antioxidant level in foods has been *cut in half!* When you consider that the need in 1970 was already greatly elevated over historical levels, you can begin to understand that the declining nutritional content of our foods and our increasing nutritional needs are a prescription for an epidemic of malnutrition and disease. Unless we supply our bodies with massive amounts of antioxidants, oxidative free-radical damage will occur, DNA will be damaged, and we will age and get sick.

Our stressful modern lifestyles add to our malnutrition by requiring large quantities of nutrients to produce stress chemicals. The very manufacturing of stress hormones depletes us of precious vitamins and minerals.

Given that a shortage of even one nutrient will cause disease, we would have to eat an extraordinarily nutritious diet to meet this historically unprecedented need for nutrients. So are we eating an extraordinary diet? Yes we are—***we are eating a diet that is extraordinarily deficient in essential nutrients.*** The typical factory-produced, low-quality foods we get at supermarkets and restaurants is tragically far from the kind of fresh, whole, living food that supplies our cells with all the nutrients they need to provide us with good health. Unfortunately, these realities are all but ignored by modern medicine because our physicians have no training in nutrition. This is why the little nutritional advice they give is usually wrong.

The bottom line is this:

- **The need for nutrients is up, while the supply is down.**
- **Supplements are necessary to bridge the gap.**

Feeling Tired? Check Your Nutrients

Most people are familiar with the term RDA (Recommended Dietary Allowances), which is now part of something more comprehensive called the DRI (Dietary Reference Intakes). RDAs are those levels of vitamins and minerals that the Food and Nutrition Board of the National Academy of Sciences has established as guidelines to prevent nutrient deficiencies that lead to obvious deficiency diseases such as

scurvy (vitamin C deficiency), pellagra (vitamin B3 deficiency) and beriberi (vitamin B1 deficiency). It is important to understand that the RDA is *not* the amount required to achieve optimal health. The RDA is only what is required to prevent obvious deficiency disease in most people—the amount required to optimize health is much higher.

But even though *the RDA is substantially less than what is needed for optimal health*, **very few Americans are even getting the RDA** for essential nutrients on a regular basis. One study of 10 vitamins and minerals found that out of 21,500 people, not a single person was obtaining the RDA for all 10 on a daily basis!

Even small shortages of nutrients result in sub-clinical deficiencies (before recognizable symptoms are observed), which lead to less obvious, though often no less serious, disease states. When we experience ongoing muscle aches and pains of no known origin or have frequent colds or other infections, nutritional deficiencies are usually the cause. Sub-clinical deficiencies can weaken the immune system and lead to various chronic disease states depending on which nutrient is lacking.

Although almost everyone now suffers from sub-clinical deficiencies, we usually don't know we have them because their effects are subtle. However chronic diseases such as heart disease, high blood pressure and cancer are all known to be more prevalent in people who consume fewer nutrient-rich fresh fruits, vegetables, high-fiber grains and legumes. Fortunately, such deficiencies can be corrected with diet, supplements and lifestyle modification.

A nutrient deficiency may also result from your unique biochemistry. Each of us is biologically unique. Each of us has a unique need for nutrients and a substantially above-average need for one or more nutrients. In fact, one person may need as much as 40 times more of a particular nutrient than another person. Thus, two people eating the same diet may achieve different results. One may be adequately provisioned and healthy, while the other is deficient and sick. For example, at least one third of all schizophrenia results from higher than ordinary needs for minerals such as zinc and vitamins such as B3, B6, B12 and folic acid. Rather than being medicated or hospitalized, these patients can recover completely when their above average nutritional needs are met. There is no such thing as an RDA that applies to everyone.

Unfortunately, there is no practical way to measure how much of each vitamin and mineral your body really needs. This is why we must always strive for optimal nutrition. *We cannot afford to eat junk foods that are loaded with calories and empty of nutrition.* It is also why it is critical that we eat a wide variety of living foods, each loaded with different nutrients. Although RDA guidelines reflect average requirements, most Americans are not even getting the RDA. How could they when close to a third of the average person's caloric intake comes from sugar, white flour, sodas and other empty-calorie junk foods?

Supplements Are Essential, But Many Products Are Useless

In June of 2002, a landmark study analyzing 36 years of data in the *Journal of the American Medical Association* concluded that *everyone needs a daily multivitamin regardless of age or health*. Four years earlier, in April of 1998, the National Academy of Sciences issued a profound statement saying that most people will not get all the vitamins they need even if they eat a good diet with lots of fruits and vegetables. In our modern world, ***supplementing is essential!***

Many Americans now know they need supplements, but their product choices lead them down unhealthy paths and dead ends. Although Americans spend almost 20 billion dollars on supplements every year, they are getting fatter and sicker. You may have heard people say that all you really get from taking vitamins is expensive urine. Lending credence to this view, large-scale epidemiological studies by the federal Centers for Disease Control and the National Research Council (NRC) have failed to find any health benefits among people who take vitamins. In July of 2002, an Oxford University study published in

the medical journal *Lancet* announced that vitamins are “a waste of money.” Other studies have found specific vitamins such as vitamins C, E and beta carotene to be ineffective and, at times, dangerous.

These negative findings fly in the face of decades of work and thousands of scientific studies showing the benefits of vitamin and mineral supplements. So which side is right? They both are! Supplements are beneficial and essential, but **the supplements most people are taking are of insufficient quality to provide measurable benefits and often do harm.** A sad fact: Most of the money spent these days on supplements is wasted because most supplements are not worth what you pay for them.

It is important to learn how to select supplements that *are* worth your money, but again, supplements are *not* a substitute for real food. Nothing can replace the nutrition provided by living foods. Many people take multivitamins hoping to compensate for their poor diets. Advertisements cater to these misplaced hopes, but simply supplementing a poor diet can never lead to good health. It would be preferable if we could get all of our vitamins and minerals from nutritious food, as our ancestors did, but the quality of the modern food supply is too low. **If we hope to thrive in today's world, we must optimize our diets and take high-quality supplements.**

How To Find High-Quality Supplements

Finding safe and effective supplement products is not an easy task. The truth is that poor formulation, adulteration, substandard manufacturing practices and substitution of inferior ingredients is rampant in this industry. You can get a sense of how difficult it is from a 1999 landmark study reported in the *Journal of the American Nutraceutical Association*. This study found that only 2.5 percent of the commonly available nutritional products they researched were both nontoxic and effective. In other words, 97.5 percent of supplements they studied were either toxic and/or ineffective. Your probability of going to a vitamin store and, without a lot of knowledge, being able to select a quality product is low.

There are thousands of vitamin brands, but they are mostly made from the same inappropriate ingredients and few are effective. New supplement products come out almost weekly, often making outlandish claims, but few are worth what you pay for them. The cheapest brands are usually the worst bargains because they provide little to no benefit, and they are usually loaded with cheap fillers and contaminated with solvent residues, artificial food colors and flavors, allergens and other potentially harmful chemicals. Unfortunately, even many higher-priced brands, including professional brands, provide only marginal benefit. Too many companies spend their money on advertising, not on creating a quality product that will synergize with the body's biochemical pathways and provide optimal nutrition. Quality ingredients are expensive. Even if quality ingredients are used, improper formulation and care in the manufacturing process can make a huge difference in the quality of the final product. Temperature, humidity, exposure to light, processing time and other factors must be carefully controlled. Offers in the mail or at drugstores and supermarkets for cut-rate vitamins are virtually always a poor choice—save your money and your health.

In the scientific literature, it is assumed that between 5 and 25 percent of a vitamin or mineral supplement will actually be utilized by the body, but properly formulated high-quality supplements can achieve far higher utilization rates. However, even this 5 to 25 percent assumption is based on another assumption. It is assumed that digestion is perfect and that all of the necessary chemical transporters, protectors and enablers are present in the body to properly metabolize the nutrients. Unfortunately, these assumptions are not valid for most Americans. Three out of four Americans have a diagnosable chronic disease; their metabolism is compromised making them unable to utilize nutrients at the assumed rate. Many supplement formulas contain something close to the RDA, but if you are metabolizing less than 5 percent of what is in the pill, you will not come anywhere near supplying what you need by taking such a low-potency formula. This is a major reason why large-scale studies have been unable to measure any benefits resulting from vitamin consumption.

Metabolizing nutrients requires energy, and most vitamin formulas take energy from the body to do this. These formulas assume the energy is available, but especially in those whose health is compromised, energy deficits are common. The number-one complaint made to doctors is fatigue or lack of energy. When cells lack energy, nutrient uptake is impaired. The way to get around this is to supply energizing factors in the supplement itself. Adding energizing factors (nutrients that help cells produce energy) substantially increases nutrient intake, but it costs more to do that, so very few supplement manufacturers do it or even know how to do it.

Most vitamins on the market today are synthetics, which contain toxins and molecular forms that are not biologically helpful. As an alternative to synthetics, some supplement manufacturers offer products that are dehydrated foods in powdered form or that have been extracted from fresh fruits and vegetables. So called “whole food” supplements are touted as superior to all others. On the surface this appears to make sense, but it doesn’t work well in practice. These products often undergo extensive nutrient losses due to oxidation and heat-related damage. They rarely retain much of the nutritional potency and biological activity of the original whole food because their processing denatures proteins and destroys or decreases the potency of other nutrients. Most deliver only a small quantity of nutrients and are deficient in key nutrients. For example, the vitamin B12 in these products has been transformed from a biologically active form into one that is useless. Often touted as “super foods,” they come nowhere near the hype.

Another trend, often accompanied by big marketing hype, is for processed food manufacturers to fortify their products with vitamins and minerals to make them more attractive to the buyer. Unfortunately, such fortification is seldom effective. They almost always use cheap, poorly formulated, biologically-inappropriate vitamins and minerals. The minerals are almost always in inorganic forms such as calcium carbonate and magnesium oxide, which have low bioavailability. The vitamins are no better. Beverage products are supplemented with B vitamins and then sit under bright lights in the refrigerated section, and the exposure to light destroys any little good that these cheap vitamins might do. Don’t fool yourself into thinking that breakfast cereals and other processed foods are any better for you because they are fortified with junk vitamins and minerals.

Some supplement manufacturers try to awe you with the 50 or 60 ingredients they put in their product, but the amount of each is usually too small to be of therapeutic value. Often such products list certain nutrients on the label only to impress the buyer, but when you examine the amount, it is miniscule. For example, one popular antioxidant formula lists alpha-lipoic acid, a valuable antioxidant. This looks good on the label; the problem is it contains only *100 micrograms*—an amount so small that it is worthless. The formula would need to contain at least 1000 times that much to be of any benefit. Another popular product contains only 3.5 mg of CoQ10, an amount of little biological value. Yet the public is duped into thinking these are good products.

Choosing good products is a task for an expert. Raymond Francis, author of *Never Be Sick Again* and *Never Be Fat Again* and founder of Beyond Health, is an expert in vitamin chemistry and a consultant to vitamin companies. He has spent over two decades studying supplement chemistry, learning how to separate poor quality supplements from those that will provide effective health benefits.

It takes a vast amount of knowledge, care and extra expense to create an effective supplement. The quality of the raw materials used to create almost any product will largely determine the quality of the finished product. Biologically, it is no different. The quality of the nutrients used in your supplement will have a big influence on how they are used in your body and the effect they have on your health. Any particular vitamin or mineral can have a *vastly different* biological effect depending on its chemical form, purity and quality.

Since the basis of competition in the supplement market is price, there is little incentive for companies to spend the money to create quality. Very few manufacturers even attempt to make and market a high-quality supplement because of the cost of high-quality ingredients plus the optimal manufacturing, storage and shipping costs. Then if you factor in the money it would take to educate the consumer as to why your

© 2006 Beyond Health
P.O. Box 150578
San Rafael, CA. 94915

6

www.beyondhealth.com
1-800-250-3063
email: mail@beyondhealth.com

These guidelines are strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician.

product is better, you can see why it doesn't happen. The buyer cannot see the quality and without knowing a lot of chemistry cannot understand the subtle but important differences. Reading labels almost never gives sufficient information to fully evaluate a supplement. In fact, two brands with *identical* labels can represent two *vastly different* products. You have to understand what is going on behind the label.

Supplement Buyer Beware

Poor-quality supplements suffer from numerous problems, including their resistance to being effectively dissolved once ingested and their inclusion of allergens and other problematic ingredients. Studies have shown that almost half of all vitamin formulas do not dissolve soon enough to be utilized by the body. Binders, used to hold the pill together, can prevent it from dissolving. Lubricants used to improve flow in the manufacturing process can also bind tightly to the nutrient particles and prevent them from dissolving. Better products are made with high-quality binders, but it is more expensive to use them. Never take time-release vitamins; they are coated to prevent their being dissolved until they reach a certain point in the digestive system. Unfortunately, they often pass this point before being dissolved. The particle size of the powder also makes a difference in how fast the nutrients will dissolve; finer sizes dissolve faster but cost more and are more difficult to handle.

Almost all vitamins are synthetic, made from petroleum-based chemicals. Unfortunately, synthetic vitamins can be fundamentally different from vitamins found in nature. Quality products are derived from natural molecules, but they cost more. Petroleum-based synthetics lack the natural co-factor and synergist molecules found in food. But the most serious problem is the shape of their molecules, which are often the mirror image of their natural counterparts. An analogy is comparing your right hand to your left hand; both hands are the same yet fundamentally different. It is the precise shape of a molecule that tells the body what to do with it. A slightly different shape will produce different results, often with ineffective or even toxic outcomes. For example, synthetic beta-carotene is a 100 percent left-handed molecule, while natural beta-carotene is right handed. This is why synthetic carotene is a poor choice; it has the wrong shape, and studies have shown it to be *unhelpful*.

Natural supplement ingredients are derived from food sources, but the cheapest sources are also common allergens, such as corn, milk, wheat and soy. The allergic reactions they cause are harmful. It costs more to use less-allergenic sources. Unfortunately, information regarding the source is not listed on the label. Usually when a label claims to be allergen-free, it means that the ingredients are made from petrochemicals. However, even in such formulas, additives such as the fillers, binders and lubricants often contain allergens. Since most people today have allergies, whether they know it or not, taking a vitamin product that provokes allergic reactions, usually unrecognized reactions, will have a negative effect on your health.

Almost all vitamin pills also contain so-called "inert" additives that are rarely disclosed on the label because it is not legally required. People are amazed when they learn what kind of junk manufacturers can put into their supplements. Even products thought to be the "best" commonly contain 50 percent or more by weight of these additives—lubricants, fillers, binders, and artificial colors and flavors. Some formulas contain up to 90 percent fillers. Additives are often of lower purity than the nutrients. In addition, they can be allergenic and toxic and can interfere with the absorption of the nutrients. For example, magnesium stearate and ascorbyl palmitate are lubricants whose only purpose is to facilitate the manufacturing process by keeping the ingredients from sticking together. However, these lubricants are saturated fats that tend to coat the active ingredients and interfere with their absorption. Unless very carefully applied, magnesium stearate has been proven to prevent from 60 percent to 100 percent of the absorption of the nutrients in the pill. Further, these lubricants are made from hydrogenated cottonseed or palm oil. Up to 5 percent of a typical 1000 mg tablet is magnesium stearate; you may be giving yourself a lot of toxic hydrogenated oil by taking ordinary supplements.

Dicalcium phosphate is another additive to avoid. It can interfere with the absorption of nutrients, even from your food. Additives are totally unnecessary. Fillers, such as corn starch for example, are added to make pills bigger. Many supplements contain artificial colors to make them look more attractive. Again, these additives often cause allergic reactions that are detrimental to your health. High-quality supplements do not contain such additives.

Supplements should be taken daily, and this is why the purity of the ingredients becomes critical. Small amounts of impurities add up over time. Every ingredient is available in a range of different purities and chemical forms. By purchasing lower-grade purity and inexpensive forms, the supplement manufacturer can save a lot of money while the consumer is none the wiser. There is a huge variation in the prices of supposedly similar vitamin products. Higher quality ingredients always cost more.

The lowest acceptable purity is called "food grade." It is the least expensive. Most popular supplement brands are made from such low cost, impure, food-grade ingredients. These nutrients have been found to contain toxic heavy metals such as lead and arsenic, inappropriate analogs, pesticides, solvents and other harmful chemical contaminants. As an example, food-grade vitamin B6 contains analogs that interfere with vitamin B6 metabolism, creating a vitamin B6 deficiency. Studies have found that taking a vitamin containing food-grade vitamin B6 can actually cause a B6 deficiency, and most vitamin brands are made from such low-cost ingredients.

Vitamin C has many roles in the body are so basic to healthy function that it is almost a wonder drug. It is a powerful antioxidant, anti-inflammatory, antiviral, antibiotic and anticancer compound. Unfortunately, only a tiny percentage of the vitamin C on the market is something you should be taking. Most vitamin C products are less than 50 percent effective and some are even harmful.

Most of the vitamin C on the market is 50 percent D-ascorbate, a form of vitamin C that is not biologically useful to the body and is irritating to gut tissue. In fact, if the label reads 1000 mg of vitamin C, in most cases, you are getting only 500 mg of the biologically-active L-ascorbate form of the vitamin. In addition, most vitamin C has not been made with sufficient care. It has been exposed to oxygen, and it contains various amounts of oxidized vitamin C, which can be harmful to the body. Many products contain up to 25 percent of this harmful oxidized vitamin C. Most vitamin C is made from corn, which is a major allergen, and it contains sufficient corn residues to cause allergic reactions in those sensitive to corn. Most vitamin C products contain fillers and additives that can be detrimental to health and cause the vitamin C to become unstable and breakdown. Such products are extremely susceptible to the harmful effects of moisture and become unusable long before their expiration dates.

To protect and enhance your health take only ***corn-free, fully-reduced, 100 percent L-ascorbate***—it should say this on the label. If your vitamin C label does not say this, do not buy it. Only vitamin C of this description will have the highest stability and potency and exhibit the most beneficial biological activity.

Vitamin E has proven to be one of our most powerful biological antioxidants. Yet deficiency is epidemic. About 95 percent of Americans do not consume the RDA for vitamin E, while much more than the RDA is needed for good health. There are different forms of vitamin E, and they are not equal in chemical structure or function. Most vitamin E supplements contain alpha tocopherol, yet there is growing evidence indicating that it may be harmful to consume alpha tocopherol without at the same time obtaining gamma tocopherol. They must be taken together for best results.

Another problem is synthetic vitamin E, which is not well absorbed and is less biologically active than natural vitamin E. It has been found to be only half as effective as natural E. Further, synthetic vitamin E can interfere with the absorption of beta-carotene from our food and lower carotene levels in the blood. Synthetic vitamin E acetate should never be taken; it has very little antioxidant and anticancer effects and can cause the loss of carotenoids from the liver. There are even problems with natural Vitamin E products. Most of them contain one-third to one-half vegetable oil (usually soybean oil), which turns rancid, creating health-damaging free radicals. Choose only natural, concentrated, mixed tocopherols that are free of additives or oils that can turn rancid.

© 2006 Beyond Health
P.O. Box 150578
San Rafael, CA. 94915

8

www.beyondhealth.com

1-800-250-3063

email: mail@beyondhealth.com

These guidelines are strictly educational and not intended as medical advice. For diagnosis and treatment, consult your physician.

Most of the vitamin B12 used in supplements is cyanocobalamin. Cyanocobalamin is used because it is cheap, but it is not efficiently converted by the liver into the biologically active form of B12, so it is not a good source. In addition, it will remove toxic mercury from the brain, but it leaves cyanide behind in its place—not a good tradeoff! Further, it can exacerbate pre-existing cyanide toxicity from smoking tobacco or other sources. In view of this, some brands use methylcobalamin. This is a biologically-active form, but its useful life in the body is very short, providing only minutes worth of B12. Well-designed formulas will use hydroxocobalamin. This form is nontoxic, has good absorption and has a long useful life, supplying B12 for hours. So why doesn't everybody use hydroxocobalamin? Simple. It costs over \$3000 a pound for high quality stuff.

There are more than a half dozen manufacturers of coenzyme Q10, an antioxidant and coenzyme that helps cells to produce energy. Only a couple produces high-quality CoQ10. Further, the CoQ10 must be blended with specific oils and fat-soluble nutrients to meet the high-quality standards that you should look for in a supplement. Meanwhile, there are a lot of people out there taking CoQ10 that does not meet these standards. Why? Few people understand the difference, and good CoQ10 can cost over \$2500 a pound.

There is a growing body of science showing the many health benefits of vitamin D, while many Americans are being found to be deficient. Vitamin D plays an important role in your health, working to prevent osteoporosis, cancer, multiple sclerosis, infections, Alzheimer's and autoimmune diseases as well as helping to regulate blood sugar and blood pressure. Every vitamin and mineral has superior and inferior forms. Unfortunately, most vitamin brands use forms of vitamin D that require sunlight to be converted into the biologically active form of vitamin D. Such a supplement does you little good in the winter in a northern climate when you need the vitamin D the most. A high-quality formula will use the more biologically active and expensive form, dihydroxycholecalciferol.

In 1999, a national news magazine had seven different brands of SAME (S-adenosylmethionine) analyzed. SAME is a molecule that all living cells produce constantly; it is involved in a fundamental biological process called methylation. Only two products out of the seven were found to have both the correct amount and the correct chemical form of SAME. This is what the consumer is up against when choosing supplements.

The minerals in most supplement formulas are of low quality. Consider the most common source of calcium—calcium carbonate—made from inexpensive, ground-up seashells that have been harvested from polluted waters and contain toxins. This form of calcium has low biological activity; only about 10 percent of the calcium is actually available for use by the body. In addition, calcium carbonate is devoid of the magnesium required to help it metabolize properly, so instead of ending up in your bones, it can calcify soft tissues and accumulate on your artery walls. Magnesium is often listed on labels as magnesium oxide—another poor choice because of low bioavailability. It is surprising how many supplements will list an ingredient, but not tell you what form it is in. For example, they may list calcium without telling you it is calcium carbonate so you won't know what cheap ingredients they are using.

Minerals must be in the correct chemical form to be properly metabolized. The chemical form that will be most effectively used by your body is a form that is created in combination with another compound called a transporter. The transporter enables the mineral to be transported across cell membranes and to be metabolized by your cells. Calcium citrate is an example of an effective mineral form in which the citrate is the transporter. You can spot a low-quality mineral formula when the label lists carbonates, sulfates, phosphates, or oxides (i.e., calcium carbonate, magnesium oxide). These inorganic compounds do not act as transporters, resulting in low bioactivity and depriving you of the minerals you think you are getting. Some formulas will use amino acid chelates, proteinates or hydrolysates. While these are somewhat more effective than the inorganic carbonates and oxides etc., they do not contain sufficient quantities of the correct transporters to be truly effective and they often cause allergic reactions. In addition, amino

acid chelates often contain compounds called excitotoxins that can damage the brain. Better formulas will combine the mineral with the correct transporter in a highly purified form. These more effective and expensive transporters include ascorbates, citrates, fumarates and malates. Doing it right costs more, but doing it wrong costs even more by damaging health and providing the buyer with little benefit for what they pay. See the guidelines below for what to look for in a high quality formula.

Formulated incorrectly, vitamins and minerals themselves can become toxins. Multivitamins must not only be formulated with the correct nutrients, but the nutrients must be in the correct ratios. Nutrients in the body are found in specific relationships. Imbalances can do more harm than good. Since most people are already imbalanced, taking an imbalanced supplement will only make matters worse. For example, B vitamins act together in complexes that depend on these relationships. High-quality formulas respect these relationships, while poorly formulated supplements upset them, leading to an imbalance that impairs B vitamin metabolism. Most vitamin formulas contain synthetic nutrients in chemical forms that are not found in foods and are difficult for the body to excrete; creating a build-up that can have a toxic effect. A high-quality formula will use the correct and more expensive chemical form that is found in foods. Any excess is easily removed from the body so they do not build to toxic levels. Similarly, minerals such as selenium and chromium, even at low levels, can be toxic in their inorganic forms; their natural and more expensive organic forms eliminate the problem. Only forms that nature uses in foods should be used in supplements, and this includes the transporters and cofactors that enhance the nutrient uptake from foods. Unfortunately, this rarely happens because most supplement manufacturers either lack the knowledge or are unwilling to spend the money to do it right.

In the human digestive system, there are extremes of pH. In the stomach, pH is extremely acidic. Yet the absorption of nutrients takes place in the small intestine, which is extremely alkaline. This range of extremes can damage nutrients and render them useless. Some ingredients will react with each other, destroying nutrient value. Good-quality supplements take these considerations into account and compensate for them, but few manufacturers do this because it costs more and the consumer is clueless about the need.

Another common problem is that many supplement products mix antioxidants with oxidants. This initiates a destructive process during the blending, production and storage of these products whereby valuable antioxidants such as vitamin C are destroyed by the oxidants, while the consumer has no idea this has happened. For this reason, knowledgeable manufacturers exclude oxidants such as iron, copper, iodine, sulfites and oxidizing preservatives from their multivitamin formulas. Fortunately, this problem is easy for the consumer to check by reading the label and looking for inappropriate ingredients such as iron, copper and iodine in their multivitamin.

Nutrients can compete for absorption. For example, synthetic beta-carotene will interfere with the absorption of natural carotenes from foods. Nutrients that lose this competition will pass through the body unused. To avoid these problems, the chemical forms of the nutrients must be carefully chosen to minimize competition. Again, few supplement manufacturers do this because either they don't know how to do it or they are unwilling to pay for the more expensive assortment of ingredients this requires.

To save money, some supplement manufacturers purchase old and even outdated ingredients whose potency has been diminished. How the ingredients have been shipped and stored also makes a difference. Shipping in an unrefrigerated truck in the summer and/or storage in a hot and humid warehouse will damage the potency. Nutrients are also destroyed by allowing the mixed products to be exposed to oxygen, moisture and light prior to tableting and packaging. The packaging must be done carefully and correctly to protect the nutrients until the user consumes the product.

These are just a few of many considerations. When you realize how poorly most supplements are put together, it is no wonder that large-scale studies find no benefit from taking them. Raymond Francis once advised a company he was consulting for to remove the iron from its multivitamin because it was reacting with and destroying the antioxidants in its formula. The company decided not to remove the iron because

the marketing department thought that consumers wanted iron and that including iron on the label would be good for sales. Sadly, marketing hype and salability are paramount in the supplement industry.

Manufacturers also play games with how they list ingredients on labels. Two *identical* labels can contain two completely different products; one can be high quality, and the other low quality. Without talking to the manufacturer and getting first-hand knowledge of what raw materials they are purchasing and in what purity, it is not possible to know what is really in the pill. However, the following is a *simple test* for assessing the overall quality of a vitamin or mineral supplement. Products that do not meet this test *are* of low quality. Products that do meet this test *may or may not* be of high quality, but the probability of good quality is increased. The first thing to look at is the types of chemical compounds listed for the minerals. Look at the major minerals such as calcium, magnesium and zinc. What chemical form are they in? Low-quality formulas will contain cheap ingredients with low absorption rates. Here is what to look for:

Low Absorption /Bioactivity	Medium Absorption/Bioactivity
Carbonates (e.g. calcium carbonate)	Aminoates
Oxides (e.g. magnesium oxide)	Chelates
Sulfates	Gluconates
Phosphates (except coenzyme forms)	Protein Hydrolysates

High-quality formulas will contain expensive ingredients with maximum absorption such as:

High Absorption/Bioactivity
Ascorbates
Citrates
Fumarates
Glycinates
Malates
Picolinates
Succinates
Tartrates

Now that you have checked the minerals, take a look at the vitamins. The easiest way to check on quality is to look at the B vitamins, specifically vitamins B2 and B6. In a high quality formula, riboflavin (vitamin B2) will be accompanied by its more expensive biologically-active form *riboflavin 5-phosphate*. A similar rule holds true for pyridoxine hydrochloride, vitamin B6. A high quality formula will also contain its more expensive form *pyridoxol 5-phosphate*. These are the biologically active forms of these vitamins, and the body must convert B2 and B6 to these forms to be used. Since people with chronic diseases often lack the proper enzymes and have difficulty making these conversions, a good formula will include them.

Every ingredient in a vitamin product can be done correctly or incorrectly. Doing it correctly requires knowledge, extra cost and care, but results in a biologically superior product. In the long run, a superior product is your best value and the wisest choice.

Summary

In today's world, it is almost impossible to obtain the nutrients your cells need even if you eat a good diet filled with fresh fruits and vegetables. This fact of life is mostly responsible for the tragic epidemic of

chronic and degenerative disease that we are experiencing. Supplements have become a necessity, but most supplements are improperly made with cheap ingredients, are poorly formulated and manufactured, and are ineffective and often toxic. Taking the wrong supplements can harm you. High-quality supplements play a critical role in maintaining health, but selecting the highest quality supplements is a job for an expert.

Beyond Health provides this expert service for the consumer by painstakingly researching and selecting the highest quality supplements and health-supporting products, and then making them available to the public all in one place. In October of 2006, Beyond Health launched its own brand of vitamins—the Beyond Health brand. After more than twenty years of research into supplement chemistry, these truly superior products are state-of-the-art. They utilize the latest technology and best manufacturing practices and use only the purest, highest quality and most biologically active ingredients. All ingredients are disclosed on the label—there are no hidden additives.

To make it easy for consumers, these extraordinary products can be purchased in “kits” that fit specific needs. As a minimum, every American should be on Beyond Health’s Life Essentials [Basic Kit](#). This extremely powerful combination of a multi-vitamin/mineral formula along with the highest quality vitamin C on the market and a special mixture of essential fatty acids could, by itself, substantially lower America’s healthcare costs because it addresses the most common deficiencies. The [Comprehensive Kit](#) adds a potent detoxification capability, addressing both deficiency *and* toxicity. It contains what is in the Basic Kit plus a detox formula, vitamin E, a bone support formula and an anti-inflammatory flavonoid/flavanol combination that supports cellular repair. The Comprehensive Kit is essential to anyone suffering from a chronic disease, which means more than three out of four Americans. In addition, there are a number of add-on kits to complement the Comprehensive, including the [Cancer Support](#), [Cardiovascular Support](#), [Diabetes Support](#), [Digestive Support](#) and [Brain Support](#) Kits.

Beyond Health’s products often cost more than seemingly similar supplements. However, while they may cost more, by considering how much nutrition you get for what you pay, they are actually among the least expensive, most economical products you can buy. Beyond Health products offer the highest value to the consumer because they contain no toxins or allergens while having extraordinary and truly superior biological activity. No matter how little you pay, a supplement that doesn’t work is the most expensive supplement you can buy. Supplements that do not dissolve soon enough to be useful to the body, or that are toxic, or only zero to 10 percent biologically active, are extremely expensive products. If you pay a dollar and get little or no value, it hurts your pocketbook as well as your health. We can say with confidence that there is nothing that is biologically superior to Beyond Health supplements. These supplements represent the state-of-the-art in vitamin technology and manufacturing methods. We offer them with pride, knowing that, unlike the vast majority of the supplements on the market today, they truly have the power to dramatically improve your health, and with it your quality of life. To obtain Beyond Health supplements, call 800-250-3063 or go to www.beyondhealth.com.