



BEYOND HEALTH®
Your Ultimate Health Solution

**FREE
Report**



We've Taken the Mystery Out of Choosing Supplements

The Roadmap To Supplements

Every American needs at least a daily
multivitamin regardless of age or health.

“You can trace every sickness, every disease and
every ailment to a mineral deficiency.”

Dr. Linus Pauling, Nobel
Prize Winner

WHY YOU NEED SUPPLEMENTS

In April 1998, the National Academy of Sciences issued a profound statement saying that most people can no longer get all the nutrients they need *even* if they eat a good diet with lots of fruits and vegetables. In June of 2002, a landmark study analyzing 36 years of data in the *Journal of the American Medical Association* concluded that every American needs at least a daily multivitamin regardless of age or health.

Both vitamin and mineral supplements are needed. 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. Intensive industrial farming, the use of artificial fertilizers, and poor crop rotation practices have left our soils depleted. If the minerals are not in the soil, they will not get into the plant, and you will end up with mineral deficiencies and disease.

Food isn’t what it used to be

Premature harvesting, long transit times to market, factory processing and other practices of agribusiness have dramatically reduced the nutritional quality of our food. Today the conventional produce you buy at the supermarket is vastly inferior to what was available only fifty years ago. Compared to fifty years ago, you have to eat twice as many vegetables to get the same amount of calcium. You have to eat four carrots to get you same magnesium and up to twenty carrots to get the same amount of zinc that used to be in just one carrot.

Today food is harvested before it is ripe so that it can be shipped, but this reduces the nutritional content by as much as 80 percent. Fresh produce is days to weeks old before it gets to the store. Nutrients are lost rapidly after the produce is harvested. 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 long before they reach the produce counter. When you cook these vegetables, it results in even more losses, including another 25 percent of the vitamin C, 70 percent of vitamin B1 and 50 percent of B2.

Eating a “balanced diet” is not as easy as it sounds!

The leading cause of disease in America is malnutrition—virtually every American suffers from malnutrition to one degree or another. According to the USDA’s 1996 *Continuing Survey of Food Intakes*, 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, D, calcium, iron, enzymes and essential fatty acids. No wonder more than three-out-of-four Americans have a diagnosable chronic disease, and almost all of the remainder are in the early stages of disease. We are a sick population and getting sicker every year.

The typical factory-produced, low-quality foods we get at supermarkets and restaurants are tragically far from the kind of food that can supply 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 little or no training in nutrition, and their focus is on disease, not prevention. It has been estimated that our ancestors consumed three-to -four times more nutrients than we get today. Americans spend 90 cents of every dollar on processed foods, which are lacking in nutrition. Yet the decline in the nutrient quality of our food is only half the reason why supplementation is needed. The other reason is that changes in our environment and lifestyle make our need for nutrients higher than ever.

Our modern lives require more nutrients

Most people are unaware of the unprecedented burden that 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 more than tripled since 1970. Meanwhile the antioxidant level in foods has been cut in half! Unless you supply your body with extra amounts of antioxidants, oxidative free-radical damage will occur, DNA will be damaged, and you will age and get sick.

The additive loaded processed foods we eat contribute considerably to our toxic burden. Prescription drugs, which are taken by half the American population, especially our elderly, add another toxic load, creating even 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.

All the stresses of modern lifestyles also add to our malnutrition because to manufacture stress chemicals, we deplete ourselves of precious nutrients. Nutrient shortages sabotage your body's biochemical balance, stimulate your appetite, keep you hungry, encourage unwanted pounds and undermine your best efforts to stay healthy.

The bottom line is this:

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

Unfortunately, there is no practical way to measure how much of each vitamin and mineral your body really needs. The National Academy of Sciences' Recommended Dietary Allowance (RDA) guidelines are designed to prevent obvious deficiency diseases like scurvy (vitamin C deficiency), pellagra (vitamin B3 deficiency) and beriberi (vitamin B1 deficiency). Even though RDAs are substantially less than what

is needed for optimal health, most Americans are not even getting the RDA for at least several essential nutrients on a regular basis. And how could they? Close to a third of the average American's caloric intake comes from sugar, white flour, sodas and other empty-calorie junk foods.

The good news is you can get the nutrition you need by learning how to eat a good diet of fresh, whole, organic foods and by learning how to select supplements that do what they are supposed to do and are *worth what you pay for them*.

So what should you take each day?

At 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 health problems.

HOW TO CHOOSE QUALITY SUPPLEMENTS

Any supplement you put into your body should be both safe and effective. Are vitamin supplements safe? According to statistics from the U.S. National Poison Data System, not one death has been caused by vitamin supplements in the last 28 years. Contrast that to the official estimate of about three million people killed by properly prescribed prescription drugs during the same 28-year period. (Many knowledgeable observers believe a more realistic estimate of deaths caused by prescription drugs in this period is about twelve million.)

Dietary supplements are safe, but are they effective? This part gets trickier. The truth is some are not effective at all, and most are only partially effective. Consumers must educate themselves if they want the best value for their dollar. Finding effective supplement products is not an easy task. The truth is that poor formulation, adulteration, substandard manufacturing practices and substitution of inferior ingredients are 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 effective. In other words, 97.5 percent of supplements they

studied were ineffective. Your probability of finding a high-quality supplement, without extensive knowledge, is low.

There are thousands of vitamin brands, but many of them are made from inappropriate ingredients or formulations, and few are effective. 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 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.

HOW MANUFACTURERS CUT CORNERS

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 a high-quality supplement because of the much higher prices for the best ingredients and the extra costs of optimal manufacturing processes, careful storage and proper shipping. Then if you factor in the money it would take to educate the consumer as to why your 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.

Following are some of the ways supplement manufacturers lower their costs, resulting in an inferior product. They are counting on the consumer not being able to tell the difference.

“Food grade” purity

Supplement manufacturers can purchase ingredients in a range of purities and chemical forms. By purchasing less expensive, lower-grade forms, the supplement manufacturer can save a lot of money while the consumer is none the wiser. There is a huge variation in the cost of supposedly similar ingredients. Higher quality ingredients always cost more. Most popular supplement brands are made from food-grade ingredients. Food grade sounds good, but it's the lowest level designated for human consumption. Food grade ingredients 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. Studies have found that taking a lot of food-grade vitamin B6 can actually cause a B6 deficiency that results in permanent nerve damage, and most vitamin brands are made from such low-cost ingredients.

Synthetic vitamins

Almost all vitamins are synthetic, made from petroleum-based chemicals. Petroleum-based synthetics lack the natural co-factor and synergist molecules found in food. 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 mostly right-handed. This is why synthetic carotene is a poor choice; it has the wrong shape, and studies have shown it to be unhelpful. Synthetic vitamin E presents a similar problem; it is not well absorbed and can interfere with the absorption of beta-carotene from food.

Allergenic vitamins

Natural, non-synthetic supplement ingredients are derived from food sources; however, the cheapest sources are 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 seldom 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 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—is not helpful.

So-called “inert” additives

Almost all vitamin pills contain lubricants, fillers, binders, and artificial colors and flavors. These chemicals, which can be 50 percent or more of the total weight, are rarely disclosed on the label. Additives are often of lower purity than the nutrients. In addition, they can be allergenic and toxic, and they can interfere with the absorption of the nutrients. In general, supplements with lots of fillers, which comprise most supplements, should be avoided.

Fillers, such as cornstarch 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.

Magnesium stearate is often used as a lubricant. This is the magnesium salt of stearic acid, which is present in many natural foods. There is a lot of confusion over the use of stearates, so let's clarify. Magnesium stearate prevents the nutrients from sticking together, allowing for a consistently maintained mixture and preventing ingredients from sticking and jamming the encapsulation machine. This is a good thing. Problems arise when too much magnesium stearate is used, is improperly applied or impure.

The first concern is purity. To save money, manufacturers can use cheap, impure forms of magnesium stearate. This can introduce solvent residues and other toxins or allergens into the final product. Secondly, to make their machines run even faster and save money, manufacturers add a lot of magnesium stearate. It is not unusual to see five percent of a tablet as magnesium stearate. This is bad because this much will affect the ability of the pill to properly dissolve and reduce the bioavailability of its ingredients. Thirdly, care has to be exercised regarding how long the mixture is mixed and how much heat is generated in the mixing process, as this can affect how strongly the stearate bonds to the nutrients. This again will affect the ability of the pill to dissolve and reduce the bioavailability of the nutrients.

Beyond Health, when necessary, uses only very small amounts of highly pure magnesium stearate. By carefully monitoring the mixing procedure and using small amounts, the use of magnesium stearate is not a problem.

Improper formulations

Multivitamins must not only be formulated with the correct nutrients, but the nutrients must be in the correct ratios. Since most people's body chemistry is 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 nutrients in chemical forms that are not found in foods and are therefore difficult for the body to excrete. A high-quality formula will use the correct and more expensive chemical form that is found in foods. Any excess nutrients are easily removed from the body so they do not build to toxic levels. 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 correctly.

Inadequate dosages

Some supplement manufacturers try to awe you with the fifty or sixty ingredients they put in their product, but the amount of each is often too small to be of therapeutic value. Often such products list certain nutrients on the label just 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 a thousand times that much (100 mg) to be of real benefit. Another popular product contains only 3.5 mg of CoQ10, an amount of little biological value.

A CLOSER LOOK AT INGREDIENTS

Vitamin C

Vitamin C's 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, much of the vitamin C on the market is less than 50 percent effective. Most are half D-ascorbate and half L-ascorbate (remember the right and left hands?), so if the label reads 1000 mg of vitamin C, you are getting only 500 mg of the biologically-active L-ascorbate form of the vitamin. The D- form is not biologically useful to the body and is irritating to gut tissue. In addition, vitamin C oxidizes very quickly, and if not made with sufficient care, supplements may contain up to 25 percent of harmful oxidized vitamin C. Most vitamin C is made from corn, which can cause allergic reactions in those sensitive to corn. Fillers and additives can be detrimental to health and cause the vitamin C to become unstable and break down long before their expiration dates. Only vitamin C that is corn-antigen free, fully-reduced and 100 percent L-ascorbate will have the highest stability, potency and biological activity.

Vitamin E

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 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 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 a loss of carotenes 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.

Vitamin B12

All B12 supplements are not the same. Most of the vitamin B12 used in supplements is in the form of cyanocobalamin. Cyanocobalamin is not a natural molecule, and it is not efficiently converted by the liver into the biologically active form of B12. It is used because it is cheap, and not because it is a good source of B12. Cyanocobalamin 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.

There are two forms of recommended B12: Methylcobalamin is the form used by the body, but supplemental methylcobalamin is used up rather quickly. Hydroxocobalamin acts more like a storage form from which methylcobalamin is made. Beyond Health's formula combines fast-acting methylcobalamin with long-lasting hydroxocobalamin for maximum coverage.

CoQ10

Coenzyme Q10 is an antioxidant and coenzyme that helps cells to produce energy. Among half a dozen manufacturers, only a couple of them produce 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. Most people are taking CoQ10 that does not meet these standards. Why? Few consumers understand the difference, and good CoQ10 is expensive.

Recent marketing hype recommends the ubiquinol form of CoQ10 as being superior to ubiquinone. However, the available data indicates this is simply not true. For one thing, in addition to being more expensive, ubiquinol is unstable in the stomach and is converted into ubiquinone before being absorbed into the body.

Vitamin D

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. Unfortunately, most supplements contain forms of vitamin D that can only be converted into the biologically active form with the help of sunlight on the skin. 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.

SAMe

S-adenosylmethionine (SAMe) is a molecule that all living cells produce constantly; it is involved in a fundamental biological process called methylation. In 1999, a national news magazine had seven different brands of SAMe analyzed. 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, and why buying from a source dedicated to quality is essential.

Minerals

The minerals in most supplement formulas are of low quality. Consider the most common source of calcium—calcium carbonate—that is made from inexpensive, ground-up seashells, often harvested from polluted waters. 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. Minerals are most effectively used by your body when combined with an organic transport molecule that enables them to travel across cell membranes and to be metabolized by your cells. Calcium citrate or calcium malate are examples of effective mineral forms in which the citrate and malate are the transporters. Many supplement manufacturers, particularly if they have used an inferior ingredient, just list the nutrient but do not tell you what form it is in. If a manufacturer has invested in the more expensive, more effective choice, they are more likely to show that on the label.

CHEAT SHEET

With so many variables, and so much that isn't on the label, how can you possibly tell if a multivitamin/mineral supplement is any good? Unfortunately, in most cases, you can't be sure just by looking at the label that a supplement is of the highest quality. But don't despair! There are some unmistakable indicators of inferior quality that will help you weed out 80 percent of them.

Look at the minerals in the formulas, such as calcium, magnesium, and zinc. What chemical form are they in? Inferior supplements will contain cheap ingredients that have low absorption rates.

Red Flags

If the minerals are in these forms, the manufacturer is definitely not serious about making a quality supplement. Put these back on the shelf—don't waste your money.

Low Absorption/Bioactivity

- Carbonates (e.g. calcium carbonate)
- Oxides (e.g. magnesium oxide)

- Sulfates
- Phosphates [except coenzyme forms]

Yellow Flags

These mineral forms have better absorption rates and bioavailability than the previous group, but they are still not the best forms. The manufacturer may be cutting corners, or may not know any better. Keep looking.

Medium Absorption/Bioactivity

- Aminoates
- Chelates
- Gluconates
- Protein Hydrolysates

Green Flags

High-quality formulas will contain expensive ingredients with maximum absorption. While not a guarantee of a perfect supplement, if you find minerals in these forms, the manufacturer is more likely to be serious about creating a quality product.

High Absorption/Bioactivity

- Ascorbates
- Citrates
- Fumarates
- Glycinates
- Malates
- Picolines
- Succinates
- Tartrates

Extra Credit

If you've found a multivitamin/mineral supplement that's "in the green," look for this additional factor as a tie-breaker. In a high quality formula, vitamin B2 (riboflavin) will be accompanied by its more expensive form, riboflavin 5-phosphate. A similar rule holds true for vitamin B6 (pyridoxine hydrochloride). 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.

- Vitamin B2: riboflavin with riboflavin 5-phosphate
- Vitamin B6: pyridoxine hydrochloride with pyridoxol 5-phosphate

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 in America today. Supplements have become a necessity, but most supplements are improperly made with cheap ingredients, are poorly formulated and manufactured, and are often ineffective, allergenic or even toxic. 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, formulating and selecting the highest quality health-supporting products, and then making them available to the public all in one place. Since 2006, Beyond Health has offered its own brand of vitamins, minerals, enzymes and antioxidants, based on more than twenty years of research into supplement chemistry. Beyond Health supplements use only the purest, highest quality and most biologically active ingredients, the latest technology and best manufacturing practices. All ingredients are disclosed on the label—there are no hidden additives.

Beyond Health's products often cost more than seemingly similar supplements. However, they 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 are toxic, or do not dissolve soon enough to be useful to the body, or are only zero-to-20 percent biologically active, are extremely expensive products. In the long run, a superior product is your best value and the wisest choice.

To obtain Beyond Health supplements, Call 800-250-3063 or go to www.beyondhealth.com.

Raymond Francis is an expert in vitamin chemistry and a consultant to vitamin companies. He has spent over two decades studying supplement chemistry, learning how to distinguish poor quality supplements from those that will provide effective health benefits. He is the author of *Never Be Sick Again*, *Never Be Fat Again*, and *Never Fear Cancer Again*, the founder of Beyond Health International, and the chairman of The Project to End Disease (TPED).



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