

You can't change your genes,
but you can (**do!**) alter (positively or negatively) their
expression through your diet and lifestyle.

We're all driving, but most people are driving blind.

**The most important nutrient
is the one you're missing.**

**It's not just what we are eating, it's also what we're
not eating that impacts our health.**

Our stomachs are full but our cells are starving.

**US Department of Agriculture (USDA), nutritional
values for fruits and vegetables today compared to
1975 have declined significantly.** Life Extension Magazine. March
2001.

I wish it were possible to obtain all the necessary essential nutrients that our
bodies need from normal dietary sources.

The cultural definition of "normal," however, has
slipped so far from a diet of fresh, whole, natural
foods that this goal has become far-fetched, virtually
impossible.

Furthermore, immunological and toxic challenges,
not known to earlier generations, abound in our
postindustrial environment.

Finally, keep in mind that as we age, even if we are
in relative good health, our stomach produce less
acid (necessary to extract, especially, minerals), and
as I've extensively discussed, the manufacture of
some other key "non-essential" nutrients declines
with age... vitamin D, GLA supplied in the Borage Oil,
Alpha Lipoic Acid and Ubiquinol (CoQ10) to mention a
few KEY anti-inflammatory and anti-aging nutrients.

Their stomachs are full and their cells are starving. (But not yours).

For example, magnesium regulates over 300 body functions every day and is so **critical to heart health and healthy glucose metabolism.**

Producers continue to create "hybrid" forms of fruits and vegetables - not for their ability to store nutrients - but for their color, weight and shelf life. Why? So they'll ship well and look pretty in the supermarket.

New Study: Vitamins Alter Aging

The next time you hear some nay-saying "expert" claim that there is no evidence that vitamins actually do anything, show them this (and all the other research studies I've sent you):

Longer telomeres associated with multivitamin use

Telomeres are part of your DNA. They are the protective caps at the ends of chromosomes that shorten with the aging of a cell... the shorter our telomeres, the older our cells behave. Think of them as a kind of countdown clock for aging. As your cells age, they're less able to defend against toxins and free radicals that damage your body. So you tend to become more susceptible to a wide variety of age-related diseases.

When our telomeres completely run down, cell division stops. When new cells no longer replace damaged ones, we die.

This study, conducted by researchers at the National Institutes of Health, provides the first epidemiologic evidence that the use of multivitamins by women is associated with longer telomeres: The study, reported online on March 11, 2009 in the American Journal of Clinical Nutrition, found that people who take a daily multivitamin had longer telomeres than non-users.¹ And it's not just your life span that's affected... Shorter telomeres have been linked with higher mortality within a given period of time and an increased risk of some serious diseases. Another study of 60 to 75 year olds showed those with short telomeres had a 300% higher death rate from heart disease and an 800% higher death rate from infectious diseases.²

For the current research, Honglei Chen and colleagues evaluated 586 participants aged 35 to 74 in the Sister Study, an ongoing prospective cohort of healthy sisters of breast cancer patients. In their discussion of the findings, the authors explain that telomeres are particularly vulnerable to oxidative stress. Additionally, inflammation induces oxidative stress and lowers the activity of

telomerase, the enzyme that that is responsible for maintaining telomeres. Because dietary antioxidants, B vitamins, and specific minerals can help reduce oxidative stress and inflammation, they may be useful for the maintenance of telomere length. In fact, vitamins C and E (antioxidant vitamins) have been shown in cell cultures to retard telomere shortening and increase cellular life span.

"Our study provides preliminary evidence linking multivitamin use to longer telomeres," the authors conclude. "This finding should be further evaluated in future epidemiologic studies and its implications concerning aging the etiology of chronic diseases should be carefully evaluated."

1. Xu et al. "Multivitamin use and telomere length in women," Am J Clin Nutr (March 11, 2009).
2. Cawthon RM, Smith KR, O'Brien E, Sivatchenko A, Kerber RA, "Association between telomere length in blood and mortality in people aged 60 years or older," Lancet 2003, 361(9355):393-395
3. Life Extension Update Exclusive. "Longer telomeres associated with multivitamin use." Life Extension. 3/17/09. www.lef.org
4. J.A. Vinson and P. Bose. Comparative Bioavailability of Synthetic and Natural Vitamin C in Guinea Pigs. Nutrition Reports International, 27, no. 4, 1983.
5. GW Burton, et. Al. "Human plasma and tissue alpha-tocopherol concentrations in response to supplementation..." Amer J of Clin Nutr, Vol 67, 669-684

The only factor considered in this study was multivitamin use. Dietary choices were not considered. Now, **imagine the results** when they get around to studying people who, like you, in addition to taking essential and key nutritional supplements, also follow an anti-inflammatory dietary lifestyle (90% of the time).

Basic Nutrients: Multi Vitamin and Mineral Supplement

Manufacturers often send me samples of their products hoping I will recommend them to patients. For the reasons outlined below, in 25 years of practice I have yet to find a product superior to Basic Nutrients.

Here's why.

First of all, the water-soluble vitamins (vitamin C, B vitamins) found in nutritional supplements are all synthetic. It doesn't matter therefore if you buy them at Wal Mart or if you spend twice the price for a more expensive brand. It doesn't matter because they're all the same. (This is not true for vitamins A, D, E and K.)

The same is **not** true for minerals.

At best, minerals are very poorly absorbed. It doesn't matter how much of a mineral goes into your mouth. What matters is how much of the mineral gets transported from your intestines into your bloodstream.

You could conceivably get zinc by licking a galvanized cooking pot, but that doesn't mean that you would absorb any of the zinc. Most of it would pass right through you without being absorbed.

What makes the difference then are what are called mineral "transporters;" molecules the minerals are attached to, that transport the minerals from your intestines into your bloodstream. These transporters then are either poorly-efficient or highly-efficient.

Most people don't know the difference so most manufactures produce low-quality products knowing that the average consumer standing in the aisle at the store comparing products, will make their decision based upon price alone, not knowing any different.

For example: magnesium oxide is commonly found in supplements.

Magnesium oxide is very poorly absorbed. Magnesium citrate, or magnesium malate on the other hand, are much more efficiently absorbed. High quality products will have higher efficiency transporters (which vary from mineral to mineral) and are manufactured for those informed consumers who know the difference. You'll actually get more of the minerals into your body.

The most efficient transporter for magnesium for example is not the most efficient transporter for zinc or selenium or boron, etc.

Trace Minerals: boron, selenium, vanadium, chromium, manganese, etc. are essential to health and most often lacking in our food supply. Here again, efficient transporters are important.

Potency is also important. Many vitamin/mineral supplements are a little better than nothing. They contain just enough of a particular nutrient to be permitted to list it in the ingredients, nowhere near optimum levels. Again, in order to appeal to the masses, they supply only that nutrition that can be compressed into a single tablet. Yes, they're better than nothing.

Tablets versus capsules. Capsules dissolve in your stomach releasing their contents in a matter of minutes. Tablets often don't. I recommend capsules, but because the ingredients are loose in the capsules, not compressed into tablets, you have to take a higher number of capsules to get the nutrients.

Agriculture is a business. Commercial producers are more concerned with producing pretty broccoli than they are nutritious broccoli. Our soils have become depleted of minerals from over-farming. Combine this with earlier (pre-ripened) picking, and longer storage and it's not surprising that there are fewer

nutrients in our food than there were 100 years ago.

Unfortunately, we need to take supplements (supplement our diet) to get the same amount of nutrients and minerals our grandparents were getting naturally from food. These are the times in which we live.

We will all have expensive urine. Either we will decline in health, take (and pee) multiple medications, or we will be forward thinking and spend money on fresh, whole food and nutritional supplements.

In a study reported in the Journal of the National Cancer Institute, (August 18, 1998), over 33,000 men with high levels of **selenium** were found to have only 1/3 the risk of developing advanced **prostate cancer** when compared to those with low levels of the mineral. Other studies have suggested that selenium **may help prevent cancers of the lung and colon.**

Men who took the mineral selenium in daily doses of 200 mcg for four years lowered their rates of lung, colorectal, and prostate cancer by more than half on average than men who didn't take it. - Journal of the American Medical Association, December 25, 1996

Speaking of selenium:

Both selenium and vitamin E are associated with stimulation of the part of the immune system dealing with production of immunoglobulins.

Selenium provides protection against **cognitive decline**: When French researchers periodically measured selenium levels in nearly 1,400 elderly subjects over nine years, they found that subjects with the greatest selenium decrease during the study period had the highest probability of cognitive decline. Selenium levels naturally decrease with age, which may contribute to decline in cognitive function.

Selenium provides protection against cancer: Two human studies have revealed evidence that high selenium levels are associated with the activation **of a key tumor-suppressing gene called p53.** Dr. Martin L. Smith (the author of one of those studies) noted that daily intake of selenium probably needs to be around 200 mcg to ensure adequate protection.

Selenium provides protection against colorectal cancer: In a study in which medical records and blood tests from more than 1,700 subjects were analyzed, results showed that those with the highest blood selenium values had "significantly lower odds" of developing a colorectal tumor compared to subjects with the lowest selenium levels. In addition, **cancer patients with the highest selenium levels had more than a 40 percent reduced risk of tumor recurrence.**

Selenium provides protection against **bladder cancer**: In a study published in the

September 2006 issue of the International Journal of Urology, researchers noted that bladder cancer risk was lowered 14 percent for every 10 mcg/L increase of selenium.

Selenium supports **cardiovascular health**: In a trial that tested a 110 mcg daily supplement of selenium, blood samples taken from 14 healthy middle-aged subjects over 10 days showed that selenium **prevented a meal-induced increase in LDL oxidation**.

Selenium helps control **type 2 diabetes**: Research shows that selenium plays a role in insulin efficiency by improving glucose metabolism.

Selenium deficiency is known to cause hypothyroidism and goiter. Selenium is essential to form the enzymes which convert T4 (the hormone our thyroid gland makes) into T3 (the hormone our cells use).

Selenium inhibits the duplication of the entire herpes family of viruses, including **Epstein-Barr virus and the Shingles virus**.

Rayman MP. The importance of selenium to human health. *Lancet* 2000;356:233-241.

Combs GF Jr. Impact of selenium and cancerprevention findings on the nutrition-health paradigm. *Nutr Cancer* 2001;40:6-11.

Basic Nutrients contains 200 mcg of selenium picolinate, a highly absorbable form.

Flu: Because flu virus mutations create new virus strains each year, it becomes virtually impossible for the body's immune system to develop a permanent defense. However, taking adequate amounts of selenium can prevent those mutations from occurring. Melinda A. Beck, Ph.D., a virologist at the University of North Carolina, Chapel Hill, and her colleagues exposed two groups of laboratory mice to a flu virus strain called influenza A Bangkok, which also infects people. Flu viruses infecting selenium-deficient mice developed 29 mutations, which led to greater virulence. In contrast, selenium-replete mice experienced no mutations in the infecting virus and had milder symptoms. [1]
1. Nelson HK, et al. Host nutritional selenium status as a driving force for influenza virus mutations *FASEB J* 2001 (Aug); 15 (10): 1481-1483

Selenium is an essential element for normal development, growth, and metabolism because of its role in the regulation of **thyroid hormones** (2, 5).

Selenium deficiency has been associated with impaired function of the **immune system** (16). Moreover, selenium supplementation in individuals who are not overtly selenium deficient appears to stimulate the immune response. A considerable amount of basic research also indicates that selenium plays a role in regulating the expression of cell-signaling molecules called cytokines, which orchestrate the immune response (20).

There is a great deal of evidence indicating that selenium supplementation reduces the incidence of cancer in animals. (22, 23, 24).

Lower serum selenium levels were associated with an increased risk of lung

cancer (26, 27, 28).

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Zinc

Numerous aspects of cellular metabolism are zinc-dependent. Zinc plays important roles in growth and **development, the immune response, neurological function, and reproduction**. On the cellular level, the function of zinc can be divided into three categories: 1) catalytic, 2) structural, and 3) regulatory (3).

Catalytic role

Nearly 100 different enzymes depend on zinc for their ability to catalyze vital

chemical reactions. **Zinc-dependent enzymes can be found in all known classes of enzymes** (4).

Structural role

Zinc plays an important role in the structure of proteins and cell membranes. A finger-like structure, known as a zinc finger motif, stabilizes the structure of a number of proteins. Foreexample, copper provides the catalytic activity for the antioxidant enzyme copper-zinc superoxide dismutase (CuZnSOD), while zinc plays a critical structural role (4, 5). The structure and function of cell membranes are also affected by zinc. Loss of zinc from biological membranes increases their susceptibility to **oxidative damage** and impairs their function (6).

Regulatory role

Zinc finger proteins have been found to regulate gene expression by acting as transcription factors (binding to DNA and influencing the transcription of specific genes). Zinc also plays a role in cell signaling and has been found to influence hormone release and nerve impulse transmission. Recently, zinc has been found to play a role in apoptosis (gene-directed cell death), a critical cellular regulatory process with implications for **growth and development, as well as a number of chronic diseases, including cancer** (7).

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Chromium

A biologically active form of chromium participates in glucosemetabolism by **enhancing the effects of insulin**.

Chromium uptake is enhanced in animals when given at the same time as vitamin C (3). In a study of three women, administration of 100 mg of vitamin C together with 1 mg of chromium resulted in higher plasma levels of chromium than 1 mg of chromium without vitamin C (1).

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Vitamin C and Diabetes

The findings of University of Cambridge researchers published in a recent issue

of the Archives of Internal Medicine revealed an association between higher levels of vitamin C in the bloodstream and a lower risk of developing Type II diabetes. The study included 21,831 non-diabetic participants who were followed over a 12-year period.

The researchers found that those with the highest levels of vitamin C (in the top 20 percent) had a 62 percent lower risk of developing diabetes compared to those with the lowest levels of vitamin C.

Vitamin C and Blood Pressure

In a recent study a link was found between high blood levels of vitamin C and lower blood pressure.

This "strongly suggests that vitamin C is specifically important in maintaining a healthy blood pressure," lead author Dr. Gladys Block, of the University of California, Berkeley, says.

Vitamin C and Weight Loss

Consuming an inadequate amount of the vitamin can hinder weight loss.

Researchers from Arizona State University, in a recent study published in the journal Nutrition & Metabolism evaluated the fat-burning rates of two groups of people - those with adequate vitamin C levels and those with a vitamin C deficiency. The researchers found that when the participants with low blood concentrations of vitamin C walked on a treadmill for an hour, they burned 25 percent less fat than those with adequate C.

So how does vitamin help to speed fat-burning? It is essential for creating carnitine - a substance necessary to burn fat.

Aim for 800 to 1,000 mg of vitamin C per day. "A" list foods like peppers, and broccoli. "B" list foods like fresh tomatoes, citrus fruits and strawberries. **Basic Nutrients contains 850 mg. of vitamin C.**

Researchers believe that about 15 percent of Americans suffer from C deficiency. That number is about 200 percent higher than it was in 1980.

Life is a Choice Experience

We will all have expensive urine. Either we spend money on nutritious, whole food, and nutritional supplements, feel good, sleep well, enjoy life with vigor and don't spend money on drugs, or we skimp on the food, the nutrition, and like 98% of Americans, feel terrible, dull, sick and tired all

the time, and end up taking multiple medications (and feel even worse).

It's going to be one or the other. I choose groceries rather, than drugs.

You are at a crossroads. Either

We spend money on healthy, fresh and nutritious food.

- We supplement our diet with essential (not optional) nutrients, recognizing that our bodies have greater challenges than our ancestors' bodies had (environmental toxins, depleted soils, agri-business foods selected for looks and shelf-life, etc.)
- We preserve our health and feel great every day into old age.
- And... we never know what we prevented because it never occurred.

OR

- We eat like the average American, without regard to these considerations (look around... this ain't a healthy society).
- Spend our money on doctor's visits, over-the-counter and prescription medications and hospital expenses.
- Our normal slowly declines... our world shrinks a little more each passing year as we lose our health, our vitality, our vigor, our enjoyment and our smarts. Life gets smaller and smaller.
- We join the masses in expecting to feel unhealthy as the years go by. "I guess that's just what happens when you hit (30, 40, 50...)".

Life is a choice experience. Ain't it grand!

When we prevent something (disease and infirmity) we never know what we prevented.

Spread the Word!

**Life is a Choice Experience
Go outside and play!**

To your ever-improving health,

Sincerely,

Dr. David Pellington

* These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

Life is A Choice Experience

"Mechanisms that influence how quickly we age are adjustable."

Go outside and play!

Spread the Word ('cause the people you care about will never get this information, or hear about this health-restoring Detox program on the news)

Sincerely, Dr. David Pellington