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The Mineral Deficiency Theory of Obesity

Conrad LeBeau

Along with our national debt, our national waistline grows by the year. The obesity epidemic started sometime in the 1980's and is now widespread in many developed nations.

According to **healthyamericans.org**, obesity in American adults has more than doubled from 15% in 1980 to 30% or higher. Childhood rates of obesity have tripled. Obesity is linked to more than 30 diseases. 34% of all adults over the age of 40 are obese. They have a body mass index (BMI) greater than 30.

Healthypeople.gov states:

“Most Americans, however, do not eat a healthful diet and are not physically active at levels needed to maintain proper health. Fewer than 1 in 3 adults and an even lower proportion of adolescents eat the recommended amount of vegetables each day. Compounding this is the fact that a majority of adults (81.6%) and adolescents (81.8%) do not get the recommended amount of physical activity.”

Weight gain during the Holidays

Weight gain during the winter months and holidays can range from 1 to 10 lbs. Getting it off is not as easy as putting it on. Adults over 40 have a harder time losing weight, even with regular daily exercise, than for someone in their 20's. When you are over 50 or 60, the weight comes off even slower, if at all.

There is a long list of reasons for this, including lower DHEA levels, human growth hormone (HGH), and less restful restorative sleep. Excess consumption of salt and sugar leads to a decrease in insulin sensitivity. With an aging body, there is a loss of metabolic efficiency.

Complex health conditions like obesity and cancer can have 101 contributing factors. There are also genetic and life style factors. There are no simple pills to take to cure obesity.

The Mineral Deficiency Theory of Obesity is linked to a loss of potassium and trace minerals in the diet

Metabolic syndrome covers a whole range of modern health problems including insulin resistance, increased craving for sweets, and carbohydrates. The effect of this altered appetite in people is increased consumption of refined carbohydrates, increased belly fat, diabetes, hypertension, and obesity.

Potassium and magnesium are two critical minerals that have been depleted from the soil after decades of commercial farming. It could be said that the food brought to market as a result of these farming practices is also deficient in some 60 trace-minerals as well as lacking in flavor and taste.

This is all before the food processors touch it and processed it in way to make it even more deficient in potassium, magnesium, trace minerals and other essential nutrients. The public buys highly processed food that has too much sodium in it, too much sugar, and corn syrup – all the result of refining and over processing. Refined white flour is the culprit and enriched wheat flour is as bad or worse.

Enriched wheat flour and breads made from it should be avoided. Manufacturers add iron and a few synthetic B vitamins to the flour. The iron is made in a laboratory and causes oxidative stress and damages the intestines; the iron and B vitamins are not plant based. Synthetic B vitamins are not in sync with multiple co-factors only found in whole grains. Artificial B vitamins can increase your appetite for sweets and refined carbs. This sets the stage for a complete range of health problems from diabetes to obesity.

The outer bran (such as wheat bran) and germ from the whole grains are the most nutritious part of the grain and have the highest

fiber, mineral and vitamin content. By removing these, you create nutrient deficiencies and imbalances that negatively impacts how the body processes carbs, protein, sugar and creates energy.

The second problem is how grains are ground. Grains too finely ground produce breads and bakery with a high glycemic index and spike blood sugar. **To keep blood sugar on the level, you need whole grains** used for breads that are **chopped, crushed, steel cut or cracked** (not finely ground).

At least half the grains in healthy breads and crackers should be coarsely ground as described in the preceding paragraph. Nearly all the breads I observe at the local food markets and bakeries are contaminated with “enriched wheat flour” and are made entirely from finely ground flour. Those are two good reasons not to buy them.

Other things to look for are to avoid breads with Carmel coloring or corn syrup added. However, molasses, honey and vinegar are healthy choices as ingredients. Also, buy bread that weighs 1.5 to 2 lbs. or more and is not squeezable.

Unless you have celiac disease, gluten free breads are poor choices due to their lack of high fiber content, and coarsely ground grains. The presence of **egg whites, a common allergen**, is usually found in gluten free breads. **Egg whites, but not the yolk**, may induce inflammatory reactions in the gut and joints.

The role of dietary potassium in hypertension and diabetes.

J Physiol Biochem. 2015 Dec 3. by [Ekmekcioglu CI](#) et al.

Abstract

Potassium is an essential mineral which plays major roles for the resting membrane potential and the intracellular osmolarity. In addition, for several years, it has been known that potassium also affects endothelial and vascular smooth muscle functions and it has been repeatedly shown that an increase in potassium intake shifts blood pressure to a more preferable level...

Furthermore, accumulating epidemiological evidence from, especially, the last decade relates **low dietary potassium intake or serum potassium levels to an increased risk**

for insulin resistance or diabetes....in addition to reduction of sodium intake, increasing dietary potassium intake may positively affect blood pressure and possibly also glucose metabolism in many populations.

1. **Potassium and risk of Type 2 diabetes**
Expert Rev Endocrinol Metab. 2011 Sep; 6(5): 665–672.
[Ranee Chatterjee](#) et al

2. **Effects of potassium supplementation on insulin binding and insulin action in human obesity:.....** by Norbiato G, et al
Eur J Clin Invest. 1984 Dec;14(6):414-9.

Sugar – its negative effects

Sanjay Gupta MD reported on CNN today Jan 2 that in a 10-day study, the abstinence of sugar in the diet resulted in a significant decrease in triglycerides, blood pressure and insulin resistance. It is well established that reducing insulin resistance equates often with a reduction in appetite for sugar and refined carbohydrates and a reduction in abdominal fat.

Better Meals and Snack choices

Whole Grain Breads - characteristics of healthy bread – crushed whole wheat or cracked wheat or chopped rye whole grains should be the first ingredient listed. [Breads that list enrich flour should be avoided]

Good choices: “**Hunza Bread**” by Bruno Bakeries in Chicago (I); **Russian or Polish Rye bread; New England Brown Bread or Earth Friendly Wheat Bread.** Also **WASA rye, sourdough or multigrain crackers, AkMak crackers,** and **Crunch Master whole grain gluten free** crackers. **Wheat Bran** blueberry muffins are usually high in fiber and minerals.
I. Bruno’s Bakery 3341 S Lituanica Ave Apt S, Chicago Ill 60608 773-254-6376. They also have bakeries in New York and N.J.

Breakfast or snacks -

Whole grain breads, crackers and raw vegetables. Toast the whole grain bread and make a veggie sandwich (lettuce, tomato, onion, avocado, sliced carrots, organic cucumbers, sliced carrots, and sprouts) other raw veggies like radishes and green onions may be eaten with whole grain crackers.
Lima beans, Great Northern Beans, peas,

black beans, pinto bean paste and many other beans. Serve with **WASA whole** grain crackers and salsa or with a baked yam.

Lemonade Recipe – to 1 cup of freshly pressed lemon juice, add 7 cups of spring water, ½ cup of maple syrup and 1/4th cup of Xylitol. Drink a small glass 3 times daily to flush fat from the liver and belly. [I use an electric citrus juicer to make this drink – available in department stores.]

Coconut Water – a superb source of potassium and some 60 trace minerals. Drink 6 to 8 ounces before or with meals. Coconut water lowers blood pressure and your waistline.

Organic Low Sodium Chicken broth and Wakame seaweed flakes. To one cup of chicken broth, add 1 spoonful of Wakame flakes. Simmer for 3 minutes. Increases energy and burns fat for hours. – has powerful anti-cancer effects also.

Organic Molasses tea and mint. A real appetite killer due of its high concentration of potassium and 60 trace minerals. Add 1 teaspoon Molasses to a cup of hot water and 1 bag of peppermint tea. Steep 10 minutes. Use one or more times daily.

Apple or Acai Whey protein shake
Add 2 ozs of frozen Acai pulp or cut and core one small granny smith apple and add to a blender. Add one cup of **homemade lemonade** and 15 to 20 grams of **Whey protein** from grass fed cows plus 2 teaspoons of **cold pressed flax oil**. Blend and drink as a meal replacement once or twice daily.

Pot-roasted organic chicken or bison with a mix of vegetables (onions, celery, carrots, rutabagas, zucchini etc.). A slow cooker works best for this meal. Use Mrs. Dash or Spike Vegit herbal blends for seasoning. Serve once daily.

Greek Salad or Chef Salad with oil and vinegar dressing. Goes great with one slice of real whole grain bread or crackers.

Supplements - Nutritional Yeast or Brewer's Yeast Powder (consider Solgar's Brewers yeast powder). Fiber and Probiotic blends, **Wheat grass powder (Kamut).**

Fiber-Probiotic blend – One tablespoon of

Psyllium husk powder, one rounded teaspoon of Kamut (a heirloom wheatgrass) juice powder and ½ tsp. of a probiotic blend (e.g. Ojibwa Probiotic Blend). Use once in the AM or for more rapid weight loss, once before each meal.

Sweeteners – Good choices - Xylitol, chicory inulin, Malitol, maple syrup, and or honey.

Foods to avoid or restrict– high fat cheese, all processed meats, nearly all processed foods, lunchmeats, sausages, eggs (use once or twice a week only), foods and pastries, most breads and pasta, candies, chocolate candy and ice cream.

Avoid multiple vitamin tablets and high potency B vitamins. They stimulate the appetite.

What to eat and when to eat

At Medjugorje, the Virgin Mary told the visionaries that the best fast is bread and water. She recommended this on Weds and Friday.

[In my opinion, the next best fast is to eat toasted whole grain bread with raw vegetables.]

Suggestion: Try one or more of the ideas presented here and write to me conradlebeau @ gmail.com and let me know what works for you.

Case Reports

#1. Milwaukee, WI. About 15 years ago, a middle-aged person was considerably overweight. As a result, he developed Type II Diabetes. In order to control his blood sugar, he began to eat 5 times each day. What he ate was vegetables, mostly steamed mixed vegetables. He said steamed green peas were his main source of protein. Within 6 months, as a result of this simple primitive diet, he not only balanced his blood sugar that returned to normal, he lost 50 lbs. and regained his health.

His diet contained no meat, no milk products and no refined carbohydrates or sugar. He said he avoided most fruit juice and opted to eat whole fruit when he ate fruit. He said that fruit juices would spike his blood sugar, especially grape juice.

His diet was high in what is lacking in most diets today. It was high in fiber, both soluble and insoluble, high in **potassium, calcium, magnesium and trace minerals.** It was

low in fat, low in sodium and low in refined carbohydrates including breads, candy and soda. He also took no vitamin supplements and used no drugs.

#2. This case is also from the Milwaukee area. This person drinks a quart of skim milk every day and never has a problem with any excess fat buildup and has no abdominal fat. He does not spend time at a treadmill, does not jog, or lift weights, and yet remains an energy dynamo. He credits the drinking a glass of skim milk with each meal as his secret for staying slim.

He also said he does not crave candy, refined carbs and eats little fat. His diet of meat, potatoes and veggies is not exceptionally different from an ordinary diet except for the amount of skim milk he drinks with each meal.

Like case #1, the skim milk in his diet would be high in potassium, calcium, magnesium and trace minerals. Whole vegetables, especially dark green vegetables like broccoli, spinach and kale, are naturally low in sodium, high in potassium, calcium and other trace minerals and low in fat.

#3 was from Kenosha. A male in his 50's who belonged to a University started by Alfred Lawson, who stated the federal government should print money to finance its deficits instead of borrowing credit from private bankers.

He told me he was vegetarian and ate no meat. I attended a luncheon once and noticed he was considerably overweight, probably 50 to 70 lbs. I also remember what he chose to eat. He ate lots of cheese and bread although he also ate some vegetables. By the size of his waistline, I would consider this "vegetarian" diet a failure.

His diet would have a higher fat content since most commercial cheese contains 4% milk fat. A better choice would be low fat cheese or 1% or low fat milk or yogurt. The white bread would be deficient in fiber, and minerals including potassium, calcium, magnesium and trace minerals. He also drank fruit juices. A better choice would be green tea with honey and lemon.

This case shows that simply following a meatless diet alone does not make you a true vegetarian or give you a slim waistline.

B-12 for nerve and brain health

Ronald Peters MD, MPH

Your ability to think and deliver oxygen to the cells in your body depends on vitamin B12. In addition, this key player in the enormous wisdom of your body helps to prevent stroke, heart disease and cancer. If Big Pharma could patent B12, you would hear about it nightly during the evening news.

Vitamin B 12 has the largest and most complex chemical structure of all the vitamins. Since it contains the metal ion cobalt, the term cobalamin is used to refer to compounds having vitamin B 12 activity. Methylcobalamin is the primary form of the vitamin used by the body.

The food industry can extract B12 easier in the form of cyanocobalamin and this is the form found in many vitamin and mineral supplements.

While it is easy for the body to convert cyanocobalamin into methylcobalamin, the cyanide fraction, which is a known poison found in cigarette smoke and charcoal, must be eliminated from the body like any toxin.

Methylcobalamin is required for the function of the folate-dependent enzyme, methionine synthase. This enzyme is necessary for the synthesis of the amino acid, methionine, from homocysteine.

Methionine in turn is required for the synthesis of S-adenosylmethionine (S-AdoMet), a universal methyl donor used for almost 100 essential biological reactions in the body, involving DNA, RNA, hormones, proteins and lipids.

Methylation of DNA is essential in cancer prevention. Inadequate function of methionine synthase can lead to an accumulation of homocysteine, which has been associated with increased risk of cardiovascular diseases.

Elevated homocysteine is considered by some to be a marker for DNA health.

In addition to producing methionine synthase, B12 is required to make another key enzyme, call L-methylmalonyl-CoA mutase, which is required to make hemoglobin, the complex protein that carries oxygen to every cell in your body.

According to the medical literature, B12

deficiency is estimated to affect 10%-15% of individuals over the age of 60. I believe many more people have B12 deficiency due to the digestive problems that are common with people of all ages.

Absorption of vitamin B12 from food requires normal function of the stomach, pancreas, and small intestine. Stomach acid and enzymes are required to free vitamin B12 from food but these are commonly low, especially in people with intestinal yeast overgrowth, gluten sensitivity and low stomach acid production.

In the alkaline environment of the small intestine, B12 is bound to intrinsic factor, a protein secreted by specialized cells in the stomach. Many people, especially those with a history of digestive problems do not make enough intrinsic factor.

In the elderly, food-bound vitamin B12 malabsorption is thought to result mainly from atrophic gastritis, a chronic inflammation of the lining of the stomach that ultimately results in the loss of glands in the stomach and decreased stomach acid production.

Because stomach acid is required for the release of vitamin B12 from the proteins in food, vitamin B12 absorption is diminished. Decreased stomach acid production also provides an environment conducive to the overgrowth of anaerobic bacteria in the stomach, which further interferes with vitamin B12 absorption.

Homocysteine and Heart Disease

The results of more than 80 studies indicate that even moderately elevated levels of homocysteine in the blood increase the risk of cardiovascular disease, and stroke, though the mechanism by which homocysteine increases the disease risk remains the subject of a great deal of research. The amount of homocysteine in the blood is regulated by at least three vitamins: folate, vitamin B12, and vitamin B6.

Elevated homocysteine levels are thought to promote blood clotting and impair the function of the endothelium, the complex biologically active lining of the arteries. It also causes oxidation of lipids in the body, which is important in cardiovascular and brain function. And finally, high homocysteine can induce

vascular smooth muscle proliferation which may contribute arterial narrowing.

Cancer Prevention

Folate is required for synthesis of DNA, and there is evidence that decreased availability of folate results in strands of DNA that are more susceptible to damage. Deficiency of vitamin B12 traps folate in a form that is unusable by the body for DNA synthesis. Both vitamin B12 and folate deficiencies result in a diminished capacity for methylation reactions. Thus, vitamin B12 deficiency may lead to an elevated rate of DNA damage and altered methylation of DNA, both of which are important risk factors for cancer.

A recent series of studies in young adults and older men indicated that increased levels of homocysteine and decreased levels of vitamin B12 in the blood were associated with a biomarker of chromosome breakage in white blood cells.

In a double-blind, placebo-controlled study, the same biomarker of chromosome breakage was minimized in young adults who were supplemented with 700 mcg of folic acid and 7 mcg of vitamin B12 daily in cereal for two months.

Breast Cancer

A case-control study compared prediagnostic levels of blood folate, vitamin B6, and vitamin B12 in 195 women later diagnosed with breast cancer and 195 age-matched women who were not diagnosed with breast cancer. Among women who were postmenopausal at the time of blood donation, the association between blood levels of vitamin B12 and breast cancer suggested a threshold effect.

The risk of breast cancer was more than doubled in women with serum vitamin B12 levels in the lowest levels of B12 compared to women with higher levels. The investigators found no relationship between breast cancer and serum levels of vitamin B6, folate, or homocysteine.

A case-control study in Mexican women (475 cases and 1,391 controls) reported that breast cancer risk for women in the highest quartile

(1/4) of vitamin B12 intake was 68% lower than those in the lowest quartile.

Stratification of the data revealed that the inverse association between dietary vitamin B12 intake and breast cancer risk was stronger in postmenopausal women compared to premenopausal women, though both associations were statistically significant.

Mental Decline, Dementia and Alzheimer's Disease

Researchers have long been interested in the potential connection between vitamin B12 deficiency and dementia. A deficiency in vitamin B12 causes an accumulation of homocysteine in the blood and might decrease levels of substances needed to metabolize neurotransmitters.

Observational studies show positive associations between elevated homocysteine levels and the incidence of both Alzheimer's disease and dementia. Low vitamin B12 status has also been positively associated with cognitive decline.

B-12 deficiency is widespread

A recent study done at Oxford University and published in the journal Neurology, suggested that up to 40% of the population may be deficient in vitamin B-12. Vitamin B-12 deficiency is especially common among vegetarians and vegans, but it's also surprisingly common in meat eaters as well. Again, this is likely due to common intestinal absorption problems.

Symptoms of B-12 deficiency

1. Chest pain or shortness of breath
2. Fatigue or unexplained weakness
3. Dizziness, trouble with balance, and fainting
4. Confusion, memory loss or dementia
5. Coldness, numbness or tingling in the hands and feet
6. Slow reflexes or diminished nervous system function
7. Pale skin or yellowing of the skin
8. Sore mouth and tongue

How to take vitamin B12

Intramuscular injections of B12 are highly effective because they bypass the gut and go directly into the bloodstream. If you suspect B12 deficiency, an injection is a good choice to see if it makes you feel better with more energy. Thereafter you can take another form, such as sublingual.

Cyanocobalamin is an inexpensive, synthetic chemical made in a laboratory and you cannot find this form in nature. Low-end vitamin manufacturers use it because it can be bought in bulk and added to products with claims that they "contain vitamin B-12".

Removing the cyanide molecule from the vitamin and then flushing it out of your body requires using up so-called "methyl groups" of molecules in your body that are needed to fight things like homocysteine (high levels cause heart disease).

By taking low-quality cyanobalamin, you're actually stealing methyl groups from your body and making it do more work at the biochemical level. This uses up substances such as glutathione that are often in short supply anyway, potentially worsening your overall health situation rather than helping it.

The best choice is methylcobalamin, which is the form that exists in nature, and it is pre-methylated, meaning it's ready for your biochemistry to put to immediate use.

Methylcobalamin has several key advantages over cyanocobalamin:

1. It is better absorbed from the digestive tract.
2. It is better retained in the tissues
3. It does not contain cyanide.
4. It is more effective at enhancing the production of SAME

I believe the best way to take methylcobalamin is under the tongue, or sublingual.

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For more articles on health topics by Dr. Peters, go to healminbody.com

Food Sources of B-12

Brewer's yeast, Nutritional yeast, liver, dairy, eggs, fish, grass-fed or organic (beef, lamb, buffalo and other red meats), Nori – a purple seaweed. Mushrooms- Shiitake and Lion's mane, nuts and seeds.

Supplements: buy methyl B-12 tablets only. Take it sublingually. Methyl B12 often reduces nerve damage including neuropathy – where symptoms of tingling, burning and numb sensations exist. (B-12 is not known to increase appetite.) Methyl B12 supports brain cell health and function. Dosage for adults 1000 mcg to 5000 mcg daily. Have your doctor monitor blood levels.

Vitamin D update

Conrad LeBeau

After taking 10,000 i.u. of vitamin D daily since July of this year, it has barely moved my lab numbers. They were 47 ng/ml in July and are now 48 ng/ml in December. About 3 months ago I stopped taking Coral Calcium along with the vitamin D. While studies have widely reported that vitamin D is needed to absorb calcium, could the reverse be true: that calcium helps with the absorption of vitamin D?

Published studies indicate that magnesium assists vitamin D in immune function, and absorption may be improved by taking it with the evening meal instead of on an empty stomach.

[After the latest test results I decided to take one vitamin D(10,000 i.u.) capsule with the evening meal along with one magnesium oxide (500 mg), vitamin A, 10,000 i.u. and one coral calcium capsule. In a few months, I will retest using the Life Extension Fdn Labcorp test and see if this improves the serum levels.

Life Extension FDN has dropped annual membership fees

The \$75 dollar annual membership fee has been discontinued. Now you can join for free. The cost for the vitamin D test is just \$47. LEF provides a list of local labcorp offices where the blood draw is made and results can be emailed

or mailed to you within a few days. Since 75% of the population is deficient in vitamin D and it impacts the functional activity of your entire immune system, and as a hormone, vitamin D is involved in the prevention or treatment of over 100 health conditions, it should be considered a priority investment.

For more information contact the Life Ext Fdn at 1-800-544-4440 or at lifeextension .com. Note: Medicare and most insurance companies will pay for doctor ordered tests for vitamin D serum levels.

U.S. vs. LeBeau Update – still waiting

Since August 17, 2015, all the briefs have been filed in this “misdemeanor criminal” case that started in December 7th 2010 – five years ago. This case (10-CR-00253) should have been in the 7th circuit court of Appeals in Chicago two years ago. The case has been stalled because United States District Judge Charles Clevert who is required under Rule 58 to review the case before it can be appealed to the Federal Circuit Court of Appeals, has failed in his judicial responsibilities by not writing a decision.

The first set of “appellate briefs” was filed on Feb 13, 2013. U.S. Judge Charles Clevert should have decided this case by the end of December in 2013 based on those briefs. More than one letter was sent by me, and one by the U.S. Attorney Gordon Giampietro, who requested a timeline when the review would be completed – there has been no response from the judge.

At the July 21, 2015 hearing set for oral arguments, Judge Clevert asked me what were my most important issues that I wanted decided. A second set of briefs based on a narrowing of these issues was completed and filed on August 17, 2015.

With more than 90 days having passed since then, I called the Judge Clevert's chambers on November 16th and spoke with his secretary. I asked her what the timeline was when his decision would be published. I was put on “hold.” After a few minutes she returned and said “*the case has been prioritized and your will be hearing from the judge in a couple weeks.*”

I was happy to hear that news, and thought I would have heard from him by now.

Traditionally, judges like to wrap up complex cases like this one by the end of the year. As the year's end is approaches, I wait and check the government's website each day at pacer.gov for any new filings. If nothing happens by the end of 2015, I will call his chambers on Jan 4th and inquire again as to when I can expect a decision in this case.

Meanwhile, everyone can help by saying a prayer and ask that a decision will come soon.

Note: Both U.S. Attorneys, Gordon Giampietro, and James Santelle, who started this case against me in 2010, resigned from their jobs as U.S. Government attorneys at the end of July in 2015. Both have gone into private practice.

Following the resignations of U.S. Attorney Gordon Giampietro and James Santelle, U.S. Attorney Jonathan H. Koenig has taken over to represent the government as this case moves forward.

Vitamin D sufficiency and immune restoration

Denis from Croatia (orgonitash) sent the email group a link to this article originally published in the Journal of Clinical Nutrition. Here is an excerpt from the author, Amara Ezeamama of the University of Georgia:

"Ezeamama conducted an 18-month longitudinal study in which the immune status of 398 HIV-positive adults was measured at 0, 3, 6, 12 and 18 months. The researchers, through observation, related the rise in immune function to whether or not individuals had adequate levels of vitamin D."

"Specifically, Ezeamama found that vitamin D helped the adults' CD4+T cells recover more quickly. CD4+T cells are a type of T cell that helps the immune system fight off pathogens. For HIV-positive adults, CD4+T cells are critical because of their weakened immune systems.

Ezeamama found that participants with sufficient levels of vitamin D recovered more of their immune function -- on average 65 CD4+T cells more -- than those with vitamin D deficiency. The benefit of vitamin D sufficiency seemed greater for younger and underweight HIV-positive adults."

The following is a reprint from Positive Health News, Report No 23 in Sept 2001.

Selenium against Cancer and AIDS

Richard Passwater first published his research on selenium in the December, 1971, issue of Prevention magazine. His 48 page book "Selenium Against Cancer and Aids" is published by Keats Publishing. In reading his book and in a review of hundreds of scientific abstracts, here is a useful but incomplete summary of what I have learned.

Selenium -

1. reduces mutations among viruses and other pathogens.
2. Increases glutathione peroxidase levels, the main antioxidant that our cells use to protect us from free radicals.
3. helps prevent most types of cancer including prostate cancer.
4. is used to produce an enzyme that helps the thyroid convert the hormone T4 to T3. (may help normalize body temperature)
5. low levels have been associated with depression and schizophrenia.
6. reduces the toxic effects of mercury and cadmium in the body.
7. protects the liver
8. improves cell mediated immune responses by helping with antigen processing inside cells.
9. helps cellular respiration.
10. works synergistically with vitamin E in preventing cancer.
11. At therapeutic doses, reduces HIV and Hepatitis viral replication and helps shrink cancers.
12. levels of selenium have been found to be subnormal for all types of cancer tested.

Selenium – your best source is Organic Brazil Nuts. Each Brazil nut has an average of 100 mcg natural selenium in it. This will vary depending on where it was grown. For preventive purposes, eat 2 to 4 nuts daily. For therapeutic effects, eat 6 to 12 nuts daily. Have your doctor monitor blood serum levels. Like vitamin D, you want to be at the upper end of the reference range for its most beneficial anti-cancer and anti viral effects. Avoid selenium supplements that are not labeled as "natural" or "plant based."

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