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THE TRACE NUTRIENTS™ PRODUCT LINE:

A conversation with Dr. David L. Watts

Are nutritional supplements necessary for most people?

Without a doubt, they are necessary for most people! It is well accepted that nutritional requirements are affected by many factors. A person's age, sex, stress and activity levels, physiological needs, lifestyle, illness and even their use of medications can modify nutritional requirements. Each of these factors, as well as many additional factors, increases nutritional requirements far beyond what can be obtained simply by eating a "balanced diet."

But, experts continue to say that eating a balanced diet will provide the recommended daily allowance of all the essential vitamins and minerals. That's correct, we all have heard this time and time again. However, maybe we should review just what the recommended daily allowance, or RDA, means. The definition of RDA established in 1974 is: *"the levels of intake of essential nutrients that, on the basis of scientific knowledge, are judged by the Food and Nutrition Board to be adequate to meet the known nutrient needs of practically all healthy persons."* Based on this definition, I am sure that you can tell that these guidelines are merely estimates based upon judgments and opinions about presumably healthy people. These guidelines are certainly not based upon "real life people," with varied genetic makeup and potentially suffering from illnesses such as diabetes, obesity, depression, heart disease and cancer. Real life people have different stress and activity levels, may take medications, and are on varied diets. Since the guidelines were first published in 1943, its' description has changed over the years. The guidelines were once called minimum daily requirements (MDR) and were eventually changed to RDA. Sarcastically, many in the nutritional field refer to the RDA as "ridiculous daily amounts" since they do not take into consideration the needs of the individual.

So the RDAs have been modified over the years?

Yes, they are updated about every five years based on the latest research. In fact, research is continuing to show that the daily allowances are really just the bare minimum for preventing acute nutritional deficiency states. As I said before, the RDA's are simply estimates based upon population studies, which rarely relates to the nutritional needs of a particular individual.

Why can't we get the nutrients we need from our diets?

I have been asked this during my lectures many times over the years. My answer is we could, but only if we lived in an ideal world. That is, if we did not have the extensive

environmental pollutants, depleted soils, thousands of chemical additives in our foods, and so many other detrimental factors, we could derive the necessary nutrients from our diets. But, we are living in the 21st century, with all its advantages and disadvantages, so we have to make due the best that we can. We are in a war so to speak, living in a kind of chemical soup from which most of us cannot escape. We must therefore protect ourselves, and I feel that nutritional supplements are a necessity for coping with the adversities of the modern world.

Are not many diseases related to a poor diet?

Well, yes and no. We certainly know that diet or nutrition can help prevent many major diseases. But, the research shows that the food intakes of individuals who develop chronic diseases are actually similar to those who do not develop these conditions. So, in fact, a healthy diet alone does not ensure the prevention of disease. This is probably another reason that targeted nutrition through dietary supplements is so important.

Can nutritional supplements take the place of a good diet?

Absolutely not, and I can't stress this enough. Nutritional supplements are just that: supplements. They are supplementary to the diet and can in no way take the place of a good diet. However, supplements help target the nutritional needs of the individual. Imbalances or conflicting relationships between nutrients are the main problem we are dealing with in today's society. Imbalances contribute to a host of health problems due to sub-clinical nutritional conditions that are just becoming more recognized.

Can people get what they need from a simple multi-vitamin and mineral supplement?

This would be an ideal solution if we were all the same. Again, speaking of real life people whose lifestyles vary considerably, it would be hard to fit everyone under one nutritional umbrella. Every person is unique and possesses unique nutritional requirements.

What were your reasons for developing the TRACE NUTRIENTS™ line of nutritional supplements?

As you know, TEI is a clinical laboratory specializing in hair tissue mineral analysis (HTMA). HTMA provides a great deal of information about a person's unique nutritional requirements, which are unobtainable from most other tests. From the test results, we can put individuals into specific metabolic categories. This provides us with information, not only about the needs of a person, but also about what they may not need, which is just as important.

Prior to the introduction of our unique formulations, there were no individualized metabolic supplements on the market. As you may recall, most supplements at that time were (and in fact, some still are) formulated to include the most ingredients possible containing everything from A to Z. These products may have contained some of the nutrients a particular metabolic type needed, but they also contained many of the things that were not needed, and were, in fact, detrimental to some metabolic types.

Many nutritional supplements contain a number of common allergens. In my work with environmentally ill people, I became keenly aware that those suffering from chemical and food sensitivities could not take certain products.

The cost to the patient was also a significant factor. I wanted supplements that were of high quality, hypoallergenic, provided the maximum absorption and metabolic effect, and were cost effective. No simple task, but I truly believe that we have achieved that goal and that these products, when used properly, are the best available.



There are some products on the market now that say they are for individual types. Are these products similar to the formulas found in TRACE NUTRIENTS™?

They are not similar by any means. Essentially, there are some companies out there that market their products by claiming they are individualized metabolic formulations. However, if you look closely, they are simply based on generalities, such as: age, sex, stress, body types, and blood types. None of these other product lines are based upon clinical data obtained from actual testing, such as the HTMA. At most, they are based upon indirect measurements and lengthy questionnaires. Whereas, our formulations are based upon clinical data obtained from tests of thousands of individuals.

What are some of the benefits that can be obtained with the use of TRACE NUTRIENTS™ metabolic formulations?

Well, first I would point out that the main benefits would depend upon each individual's chemistry. Generally speaking, Para-Pack, for example, contains the synergistic nutrients needed to support a reduced metabolism while supplying the specific anti-oxidants needed by the *slow metabolic* type. As you might have guessed, the "Para" in Para-Pack stands for parasympathetic. Para-Pack has been designed to help raise the metabolic rate by increasing cellular metabolic activity via the glycolytic cycle. Specific nutrients help in supporting neuro-endocrine activity and reduce specific free-radical activity associated with parasympathetic dominance.

As for Sym-Pack, it aids in reducing excessive sympathetic neuro-endocrine activity. The primary nutrients target the reduction of excessive glycolytic activity while enhancing Krebs cycle functioning in the *fast metabolic* type. The anti-oxidants in Sym-Pack also specifically address the oxidative free-radical formation in the mitochondria.

But, what are some health conditions that may be affected?

Let me just emphasize that the first and most important step in selecting the correct metabolic formula is to have an HTMA done. However, in general, Para-Pack would be indicated for individuals with a slow metabolism. Conditions associated with a reduced metabolic rate include low energy levels and fatigue accompanied by depression, which often can be due to thyroid and adrenal insufficiency. Low blood pressure, low blood sugar, cellular autoimmune conditions, type II osteoporosis, poor circulation, low histamine allergies, food and ecological allergies, and excess weight gain that develops in the hips and thighs are also common with parasympathetic dominance.

Sym-Pack, on the other hand, would be beneficial for a fast metabolism, which is associated with an excessive adrenal response, anxiety, and excessive thyroid function. Sympathetic dominance is also associated with high histamine allergies and respiratory allergies, type I osteoporosis, high blood pressure, high blood sugar, humoral autoimmune conditions, and excessive weight gain in the abdominal region. Again, I stress that these are general indicators, and it is always best to determine which metabolic formula a patient needs by performing an HTMA.

These formulas certainly seem specific.

Yes, they are very specific. Para-Pack contains only nutrients that help to enhance the metabolic rate while Sym-Pack contains those that aid in reducing an elevated metabolic rate. In addition, by separating the antagonistic nutrients, our formulas are much more cost-effective. They are also more readily absorbed and utilized compared to most other multiple supplements that contain every possible nutrient. These mixed jumbo bags of ingredients found in many of these heavily marketed products would be considered inappropriate for most individuals, whatever their metabolic type.



Can you give an example of antagonistic nutrients? Most people do not think of nutrients as antagonistic.

It has been found that nutrients, especially minerals, antagonize, or oppose, each other. This antagonism occurs on an intestinal level where one nutrient can reduce the absorption of another. Prolonged calcium intake can lead to an iron deficiency, for example. Vitamin A, which is known to enhance thyroid activity, is antagonistic to vitamin D, which decreases thyroid activity. That's why vitamin D is contained in Sym-Pack and vitamin A is contained in Para-Pack. Antagonism between nutrients occurs on a cellular level as well. For instance, most everyone knows that vitamin D helps with the absorption and utilization of the mineral calcium. However, did you know that consuming too much vitamin A can increase calcium loss from the body? Often vitamin C is taken in excess, which can contribute to poor collagen integrity, bleeding gums and bruising.

How could that be? Those are all symptoms associated with a vitamin C deficiency.

That's correct. Vitamin C is antagonistic to copper, and a copper deficiency can contribute to all the same symptoms as a vitamin C deficiency. Arbitrarily taking a supplement over a long period of time could be harmful. By now, I am sure you can surmise that balance is an important factor in maintaining health. A targeted nutritional approach will be much more beneficial than using guesswork or a shotgun approach.

Some of the TRACE NUTRIENTS™ supplements contain animal protein, what is their purpose?

First of all, let me begin by saying that these animal proteins do not contain hormones. They are simply protein concentrates, which possess potential activity as tissue-specific activating substances. That is, they have tissue-specific physiological effects that are considered restorative and regenerative. Most people are familiar with bone marrow transplantation and bone grafts, which follow the same principle of tissue specific physiological effects. Bone marrow, when implanted into a compatible recipient, will perform its intended purpose. When a bone is grafted to another bone in the same body, the new bone will eventually blend with whatever parts of the skeleton it is implanted into. Today, cells are even being injected into diseased organs. Healthy liver cells injected into diseased livers will colonize and begin performing essential functions.

Did you know that the nutritional use of glandular-organ proteins has existed for centuries? Sometimes called organo-therapy, its use has been referred to in ancient Roman, Chinese, Egyptian and Ayurveda texts.

What about vegetarians, what can they do for metabolic support?

Actually, most of the TRACE NUTRIENTS™ products are vegetarian-approved formulas, and that's clearly indicated on the supplement order forms. As for the metabolic support, we have metabolic packs designed specifically for vegetarians. Para-Vege and Sym-Vege have been introduced within the past couple of years as the vegetarian alternatives to Para-Pack and Sym-Pack.

Tell us a little about your mineral supplements.

Well, first of all, our mineral products contain full-spectrum amino acid chelates. Secondly, and this is quite unique they are formulated with nutrient synergists. For instance, Calcium Plus also contains vitamin D as the synergist, since vitamin D enhances the absorption of calcium. Another product, Zinc Plus, contains the amino acid synergist methionine, which is known to enhance zinc absorption. GT-Formula contains a true chromium chelate and the other known glucose tolerance factors: niacin, glycine, cysteine and glutamic acid.

Are all the minerals you use amino acid chelated?

No, not all. But the majority of the minerals we use are amino acid chelated. There are just a few specialty products that do not contain complete amino acid chelates in order to achieve their response. However, for the vast majority of the products containing minerals, we use full-spectrum amino acid chelates.

What do you mean by full-spectrum chelates?

By this I mean that the minerals we use are chelated using a full spectrum of amino acids from a rice protein source. As to why we use rice protein, the answer is related to the allergen issues of many other available protein sources.

Why not use the popular picolonates and citrates?

Even though these are currently popular, I have not found any data that shows that they have any greater effect, in either absorption or utilization, than the full spectrum amino acid chelates. In fact, to the contrary, using HTMA as a measure, my research has found picolonates and citrates to be of very limited value.

But, doesn't the literature state that they are superior to other forms of chelates?

Yes some literature does, but you have to understand the marketing behind these claims. The reported studies of these forms of chelate have only been compared to the elemental mineral, not the other forms of mineral chelates. Studies of zinc picolinate, for example, only compare it to the absorption of non-chelated zinc sulfate. Although the literature may state that zinc picolinate has superior absorption, it is really only comparing its absorption to the absorption of the elemental salt form of the mineral. We have read between the lines of these studies, and HTMA research has not found these types of chelates to be as effective as the full-spectrum chelates. I want to assure you that if they were better, I would be the first to incorporate them into our products. However, I will not justify their use just because they are currently popular.

Calcium appears to be quite popular for the prevention of osteoporosis and bone thinning? Is calcium your most recommended mineral?

Actually, calcium is only recommended for roughly 20% of the HTMA tested population. This percentage also happens to be fairly equivalent to the percentage of those individuals that fall within the *fast metabolic* category. The general indications for calcium supplementation include: fast metabolism, high histamine allergies, hypovitaminosis D, hypervitaminosis A, anxiety, hypoparathyroid function, high blood pressure, and type I osteoporosis. Other indications include: some insomnia's, hyperthyroid and hyperadrenia, hyperactivity, and some cases of heavy metal accumulation.

I should emphasize that improper calcium supplementation can actually contribute to bone thinning in some cases. Remember antagonisms? Well, calcium can antagonize magnesium and phosphorus, which are also necessary in the proper balance for normal bone health. Osteoporosis can be a result of these three minerals becoming out of balance in the body. Also, we often see patients, particularly women, suffering from weight gain and depression, indiscriminately take calcium supplements. Unfortunately, this supplementation only exacerbates their weight and depression issues.

How can calcium supplements cause depression and weight gain?

Excess calcium can lead to myriad problems, but weight gain and depression are the most common. Calcium is a sedative mineral, which means it reduces the metabolic rate, and a reduction in an already *slow metabolic* rate will contribute to fatigue, and eventually, depression.



I should also mention that fatigue and depression could be contributed by iron-deficiency anemia, a common condition also brought on by excessive calcium intake.

Technically speaking, calcium can contribute to weight gain or the inability to lose weight due to its effect upon lipogenesis. When excess calcium builds up in the cell, it activates an enzyme called fatty acid synthase (FAS). This enzyme enhances the deposition of fat and reduces the ability of the body to break it down. This is on top of the inhibitory or suppressive effect of calcium and vitamin D on thyroid activity. This effect of calcium occurs not only from calcium supplements, but also from hard water supplies that contain high amounts of calcium. The good news is that we have seen many individuals improve emotionally and physically when their calcium intake was reduced or discontinued.

What do you think about the popular coral calcium?

The claims by those who market this product are simply outrageous and unsubstantiated. Calcium obtained from coral is a simple carbonate and contains many other constituents, hundreds in fact. Unfortunately, many of the other constituents present are definitely not desirable for supplemental intake.

What about silver supplementation, which is also very popular?

It is true that silver is a mineral that has been used for its antibacterial properties in the past. In fact, in the dental field, silver posts are typically inserted into root canals to inhibit bacterial growth. It is also used in water filters, particularly carbon filters, for antibacterial purposes. However, silver is a heavy metal and has considerable downsides. I would not recommend that it be taken as a supplement because, over time, it will build and stay in the tissue like the other heavy metals, lead, cadmium and mercury. I also need to mention that silver is antagonistic to the mineral zinc, and can contribute to excessive free-radical production. It can even, believe it or not, increase the susceptibility to viruses.

What is your opinion of the so-called “natural food supplements”?

Well, there is certainly nothing wrong with natural foods. However, once they are processed, the nutrients extracted, combined with other factors, and finally placed in a tablet or capsule, they are no longer a “natural” food. They are then a supplement. Many times, the promoters of so-called “natural food supplements” tout it as the best form of supplementation. However, they are merely trying to substitute a supplement in lieu of foods. As I have mentioned before, supplements cannot take the place of healthy eating habits. Supplements are an adjunct to the diet. Unfortunately, the makers of these supplements also feel that they can justify charging 300 to 1500 percent over the price of other supplements on the market by simply calling their products “natural food supplements.”

In closing, is there anything you would like to say?

I guess I would simply like to stress that nutrition, properly used, has the potential for a tremendous therapeutic effect. However, as many are aware, taking supplements, without knowing what the body needs, may contribute to deficiencies of other nutrients and can cause health problems by upsetting the natural balance of the body. In light of this, our main efforts here at TEI are to assist in restoring balance to the body, thereby eventually allowing normal function to occur.

Although there are many high-quality nutritional supplements available to the health professional, as yet, we have still not found those that are formulated according to the known synergisms and antagonisms that exist between vitamins and minerals. So, I would hope that our clients would consider taking advantage of their access to this unique product line. In addition to being of very high manufacturing quality, our products will complement metabolic type classifications and trace mineral analysis findings and eliminate the need to search for products with the proper quantities and balance of ingredients.