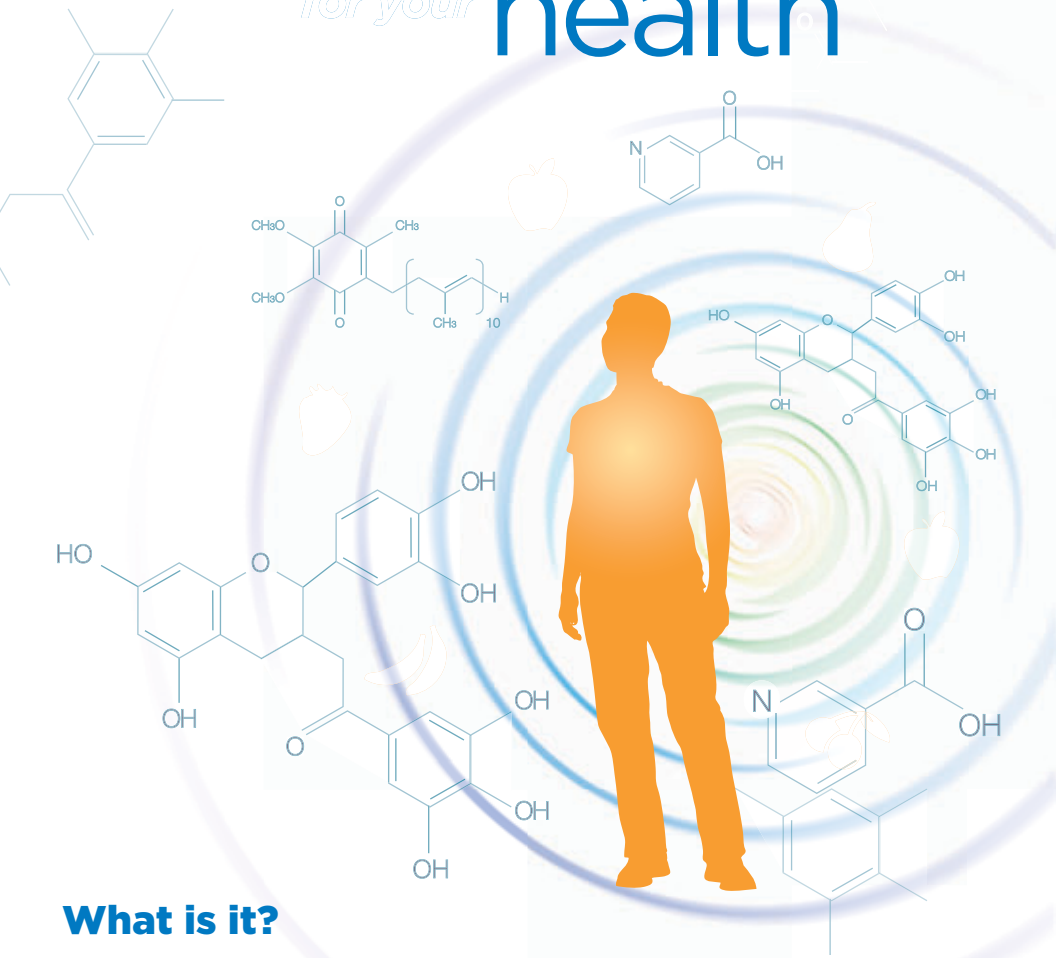
MICRONUTRIENT SYNERGY for your health



What is it?

How does it work?

How you can use it to benefit YOUR health!

A. Niedzwiecki, Ph.D. M. Rath, M.D.

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GENERAL CONCEPT

We refer to "synergy" very often. Synergy is defined as "working together" or cooperating in such a way that the final effect is greater than the sum of individual effects. Synergy allows achieving "more" with "less."

Everywhere you look synergy is at work … from our daily activities to the synchronized biochemistry of our cells and functioning of organ systems – synergy transforms us from a bag of different chemicals into human beings.

Synergy is the intelligent energy that transforms all the separate ingredients into something new and appealing.

Our food is a perfect example of how thousands of natural components in pasta, steak or broccoli react and cooperate with each other. Their synergistic interactions have been studied and long understood by scientists and nutritionists, however this knowledge has not been practically applied in the area of vitamins, minerals and other nutrient supplementation. In this aspect we are still searching for a "miracle" nutrient that can assure perfect health and a long life. There is no such a substance. At the Dr. Rath Research Institute in California, our research has shown that properly selected specific micronutrient combinations acting in synergy form the most effective, safe and economical way to sustain our health and longevity.

In this booklet we outline the principle of this modern health approach. You can learn how properly designed synergistic teams of micronutrients can translate into improving and optimizing your health.

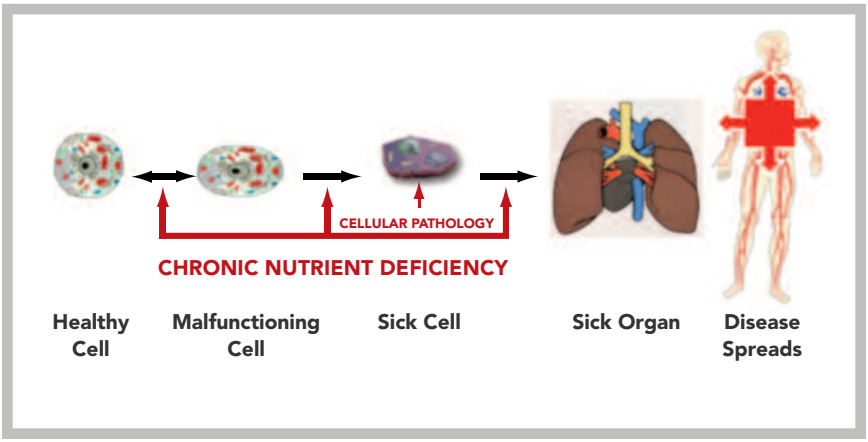
We will start this health synergy journey by looking at our body chemistry at the subcellular, cellular, tissue and organ levels.

MICRONUTRIENTS
THE BASIC ELEMENTS OF HEALTH

Health is determined by the optimum function of the trillions of cells building our entire body. These cells convert the macronutrients - proteins, sugars, and fats - in our diet into biological energy that fuels all functions in our body and sustains life. However, this process cannot occur without the help of micronutrients, such as vitamins, minerals, trace elements, some amino acids and many other components.

These micronutrients needed in relatively small quantities work as catalysts in a multitude of biochemical cellular processes, in building cellular structures, defending our body against invaders and harmful chemicals, and in sustaining life. Although without them life is not possible, the vast majority of micronutrients are not produced in our body and are derived only from the diet or taken as supplements.

Long-term deficiencies of micronutrients or lasting distortion of their balance in our body's cells are the main underlying causes of chronic health problems, such as heart disease, diabetes, cancer and many other conditions, including accelerated aging. In extreme cases of micronutrient deficiency, many serious and life threatening diseases such as scurvy, pellagra, anemia and others develop.



It is easy to develop micronutrient deficiencies because our body does not send us any warning signals if we do not have them. Knowing about it is our best protection.

OXYGEN

WATER

MACRONUTRIENTS
- *Carbohydrates*
- *Fats*
- *Proteins*

MICRONUTRIENTS
- *Vitamins*
- *Amino Acids*
- *Minerals*
- *Trace Elements*

MISSING LIFE ESSENTIALS	EARLY ALARM SIGNS	DEATH OCCURS WITHIN...
No Oxygen →	Suffocation →	Minutes
No Water →	Thirst →	Days
No Food →	Hunger →	Weeks
Zero Vitamins →	NONE! →	Months *(e.g., Scurvy)*
Vitamin Deficiency →	NONE! →	Many Years *(e.g., Heart Attack)*

We can't recognize micronutrient deficiency

NUTRIENT SYNERGY

SINGLE NUTRIENTS, THEIR COMBINATIONS OR NUTRIENT SYNERGY?

Even today, many people who take supplements or consider doing so, think in terms of single nutrients, such as taking calcium, supplementing with vitamin C, Coenzyme Q10 or an herb, like Gingko. However, today we realize that this is not always the best health approach.

Supplementation with a single nutrient is useful in testing how a particular substance can affect various biological and cellular mechanisms. This is how pharmaceutical drugs are being tested. Also, individual nutrients administered in high doses (megadoses), such as intravenous vitamin C has been used by many alternative practitioners in patients with cancer and other severe pathologies. Such single nutrient applications can be useful, but only in addition to multi-nutrient supplementation, or in cases when our body's metabolism has been significantly disturbed by advanced pathological changes.

Balance is the key to life

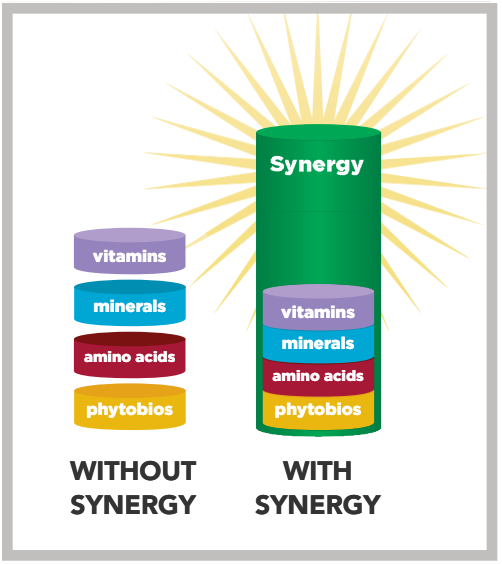
However, in the majority of people who look for effective ways to protect their health, to restore metabolic balance affected by chronic conditions (i.e., diabetes, heart disease, arthritis), or to optimize their metabolism, a high dose of a single nutrient is not the most effective health approach.

Micronutrients are an integral part of a multi-nutrient network in our body's cells and as such they do not work in isolation. Taking high doses of a single nutrient, such as calcium or individual B vitamins, especially over a long period of time, may distort cellular metabolic balance – the basis of health – and lead to unmasking any possible pre-existing micronutrient deficiencies.

It is important to know that not every nutrient mixture, even if it contains similar ingredients, works the same. Most multivitamins and nutrient combinations on the market are designed as mixtures of several different compounds usually randomly selected without proper research and testing. Therefore their health effectiveness can be underutilized, missed, or even some nutrients in the formulas may be cancelling the effects of others.

The new scientific concept of Cellular Medicine represents a modern direction in the area of natural health. It recognizes **biological synergy** of all components in our body as the basis of optimal health. Consequently, it applies the principle of nutrient synergy in selecting and combining various nutritional components for the best possible health effect. Our research has confirmed that micronutrient synergy:

- *Maximizes cellular effectiveness of nutrients*
- *Expands desirable health effects through tissue and organ synergy*
- *Does not require high doses of nutrients*
- *Helps maintain cellular metabolism in balance*

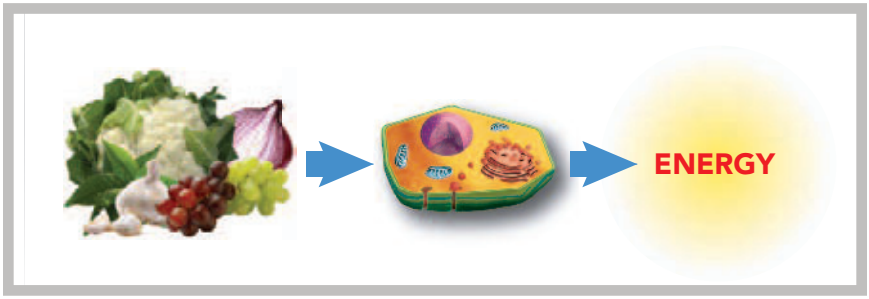


We are the pioneers in applying biological synergy in developing the most effective synergistic combinations of vitamins, minerals, and other micronutrients in various aspects of health.

Supplements are most effective when they are taken in the proper synergistic combinations.

MICRONUTRIENT SYNERGY:
WHAT IS IT?

Our body is composed of approximately 60 trillion cells. All of them work in a perfect synergy, forming tissues, organs and the entire body. Each cell utilizes and transforms the food we eat in a series of biochemical reactions linked to each other in a process called *metabolism*.



Cells transform the various foods we eat into energy needed by the body.

There are numerous metabolic pathways in the body. Each one operates under the biological law of synergy and they are all connected.

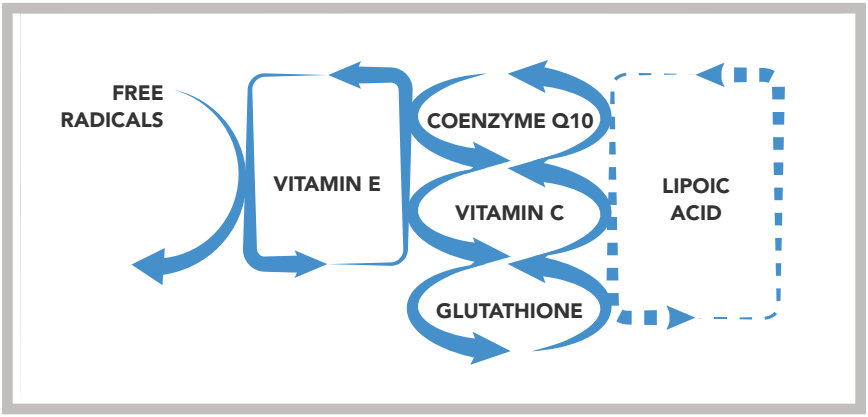
Let's look at a few examples of synergy in our body metabolism:

1. SYNERGY HELPS TO PRESERVE NUTRIENTS THROUGH RECYCLING

Our body is very careful to use nutrients as efficiently as possible. This way it saves energy and ensures that there will be a supply of critical ingredients available when needed.

This example illustrates how our cells can regenerate antioxidant molecules after they have been "used up" in performing their antioxidant function. Vitamin C, vitamin E, and glutathione, together with niacin (vitamin B3) , Coenzyme Q10 and lipoic acid form an antioxidant recycling network.

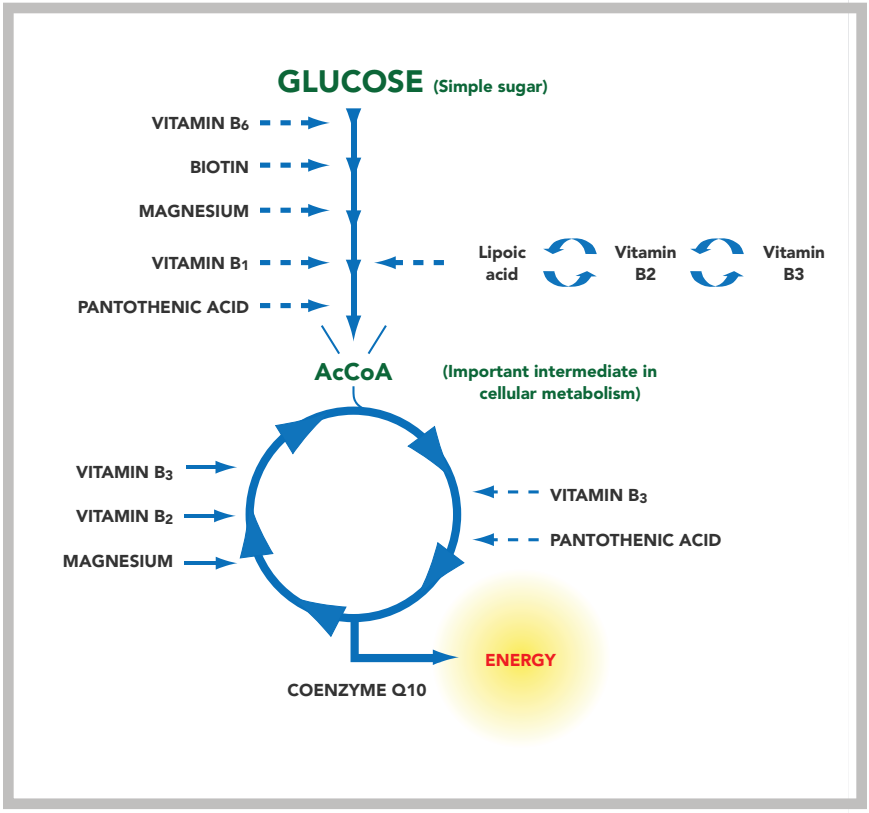
Biological recycling of nutrients compensates for their temporary insufficient intake. Also, it allows the body to use its resources in an economical way in the same way we recycle paper so we can save more trees.



2. SYNERGY IS AN ECONOMIC WAY TO GENERATE BIOENERGY IN OUR BODY'S CELLS

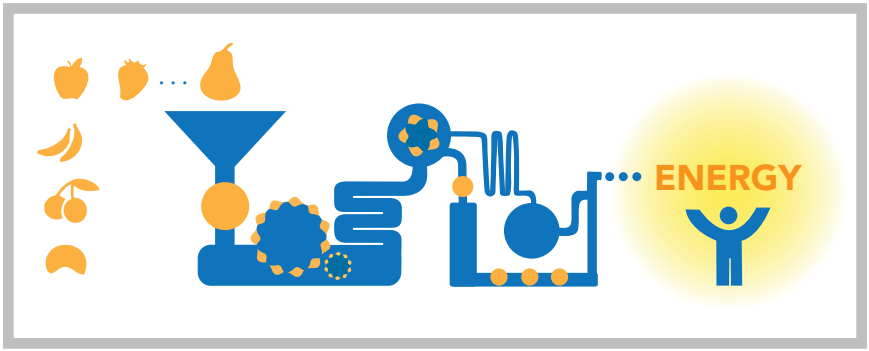
In this process, the body's cells transform glucose from grains, potatoes and other food into biological energy. This transformation involves several steps which occur in different cellular compartments and requires specific micronutrients, including all the B-vitamins, minerals such as magnesium and iron, Coenzyme Q10 molecules and others.

Every single one of these nutrients are needed in the right quantities and proportions, forming a team in your body's cells that converts that baked potato into a life force.



Nutrient synergy is utilized in converting sugar molecules into energy.

This is an example of why all of the B-vitamins should be taken together in a complex. It also shows that for optimum bioenergy a variety of nutrients are needed.



3. SYNERGY OF SPECIFIC MICRONUTRIENTS IS NEEDED FOR OPTIMUM FUNCTION OF COLLAGEN - THE MOST IMPORTANT PROTEIN IN OUR BODY

Collagen is a fibrous protein that forms the foundation of connective tissue. This tissue "binds" and "glues" together all cells in our body, forms a reservoir for various biological messengers and facilitates biological communication throughout the body. Collagen also builds our body's organs, such as the blood vessel walls, bones, cartilage and tendons. It comprises 75% of the proteins in our skin and forms the surrounding of nerve fibers. Since one third of all proteins in our entire body is collagen, it is not surprising then that our health highly depends on its function.

A critical nutrient which regulates both how much collagen is produced and assures its optimal structure, is vitamin C. We know that in the vitamin C deficiency disease - scurvy - collagen is not produced and the entire body falls apart, leading to death. Today, in the industrialized countries, scurvy is rare, but suboptimal vitamin C intake is common. Although vitamin C is essential for healthy collagen, it does not work alone. Optimal collagen function requires a cooperative effort of several other micronutrients, which are listed in the table on the following page. Most of them are, like vitamin C, not produced in the human body and we need to be aware of a risk of their insufficient intake.

Left to right:
Collagen fibers under a microscope
Collagen molecular model

NUTRIENT SYNERGY
FOR EFFECTIVE SUPPORT OF HEALTHY COLLAGEN

Micronutrient	Needed for	Produced in our body
Vitamin C	*Regulates how much collagen is produced and it is needed for formation of chemical bridges that stabilize collagen structure*	**No**
Lysine	*Key amino acid component building collagen fibers* *Forms chemical bridges linking collagen fibers*	**No**
Proline	*Important amino acid component building collagen fibers* *Forms chemical bridges linking collagen fibers and stabilizing its structure*	**Yes, but can be insufficient**
Vitamin B6	*Cofactor needed to form chemical bridges linking collagen fibers and stabilizing its structure*	**No**
Copper	*Cofactor needed to form chemical bridges linking collagen fibers*	**No**
Iron	*Cofactor needed to form chemical bridges linking collagen fibers and stabilizing its structure*	**No**
Vitamin A	*Stimulates collagen synthesis and its deposition by fibroblasts*	**No**
Zinc	*Cofactor in collagen synthesis*	**No**

4. COLLAGEN NUTRIENT SYNERGY IMPROVES THE FUNCTION OF MANY BODY ORGANS

Collagen serves as a prominent example of how the health benefits of micronutrient synergy support the health of this important protein, and therefore affect the entire body through organ synergy.

Healthy collagen improves the function of blood vessels, cartilage, skin and bones, and many other organs in our body. On the other hand, long-term deficiencies of the micronutrients essential for collagen function, such as vitamin C, B6, copper and others can be manifested as blood vessel dysfunction and atherosclerosis, cartilage problems (arthritis), impaired tissue integrity facilitating the spread of cancer cells, skin damage and premature aging and many others.

In this aspect cell synergy translates into organ synergy.

Examples of Collagen-Rich Organs		Health-Benefits of Supplementation with Collagen Synergy
Blood Vessels		***Strength and integrity of blood vessel walls*** ***Improved blood circulation*** ***Resistance to atherosclerotic deposits*** ***Decreased risk of aneurysms*** ***Optimum blood pressure***
Bones		***Stable mineralization of the bone*** ***Improved healing of fractures*** ***Prevention of osteoporosis***
Joints **Cartilage** **Tendons**		***Less wear and tear*** ***Prevention of arthritis*** ***Improved spine strength*** ***Muscle strength***
Skin		***Less wrinkles*** ***Radiant skin***

MICRONUTRIENT SYNERGY:

HOW DOES IT WORK?

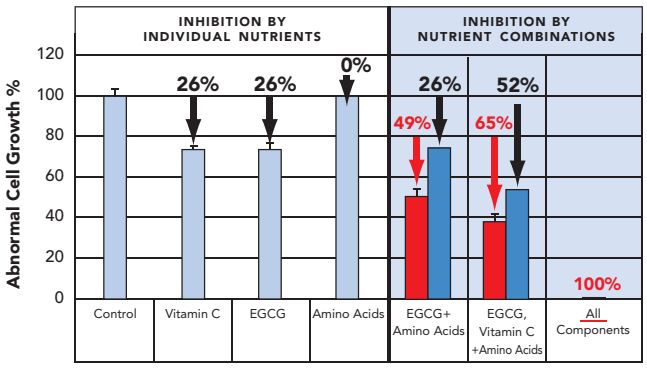
Following are selected examples from our own research on nutrient synergy conducted at the Dr. Rath Research Institute. They illustrate the importance of proper selections and the right combination of nutrients for obtaining maximum health benefits.

A. PROPER SELECTION OF NUTRIENTS IS CRITICAL FOR MAXIMUM SYNERGY EFFECT. *EXAMPLE: STOPPING THE GROWTH OF CANCER CELLS:*

Below is an example of how synergistic interactions of various individual natural substances can completely stop growth of breast cancer cells stimulated by estrogen.

In our study (see chart below), we observed that the specific amounts of vitamin C and EGCG (epigallocatechin gallate) from green tea used individually were able to decrease cancer cell growth by 26% each. At the same time, growth of these cells was not affected by selected amino acids. However, these same amino acids synergistically enhanced EGCG, because this combination further decreased cell growth by 49%. Without synergy we could expect only 26% inhibition resulting from the EGCG effect only.

If there is no synergy between vitamin C, amino acids and EGCG, one could expect to achieve inhibition of cancer cell growth through an additive effect, resulting in 52% inhibition. However, these compounds work in synergy and the cancer cell growth inhibition was higher than expected (65%). Our further studies led to developing more comprehensive synergy by including additional components. Synergy of these micronutrients was able to stop the cancer cells growth completely (100% inhibition.) All without increasing doses of individual nutrients in this mixture. This is the power of "synergy."



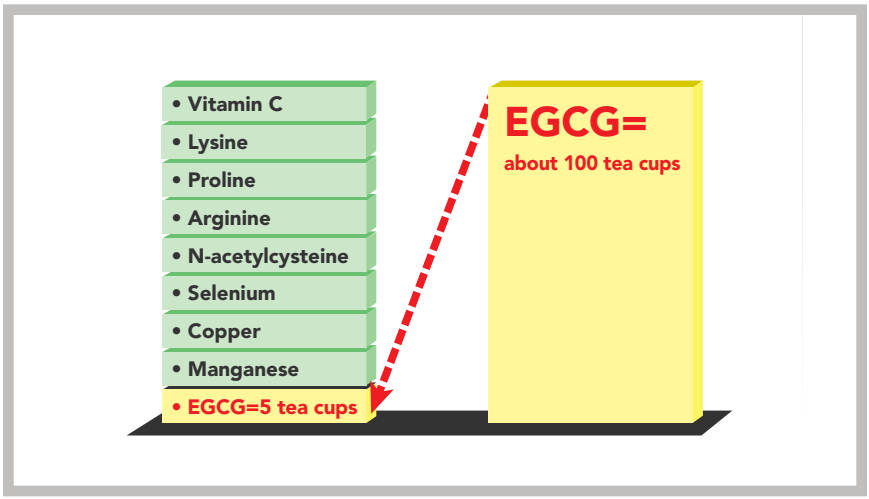
Cancer cell growth can be controlled more effectively with a synergistic combination of nutrients compared to individual nutrients or when synergy is not present.

B. NUTRIENT SYNERGY CAN ENHANCE THE EFFECTIVENESS OF A SINGLE NUTRIENT. *EXAMPLE: STOPPING THE INVASION OF CANCER CELLS*

Destruction of collagen and connective tissue is a prerequisite for cancer cells to spread in the body and invade other organs (metastasis). By applying the nutrient synergy effect, we developed a combination of micronutrients that was able to stop the spread of many types of abnormal cells in the tissue. One of the components of this synergy mixture is EGCG, an active component of green tea with known anti-cancer properties.

The following graph illustrates that EGCG used in a very high dose can completely stop the spread of cancer cells. We calculated (not accounting for limitation in absorption) that for achieving such a dose of EGCG, a person would need to drink approximately 100 cups of green tea a day.

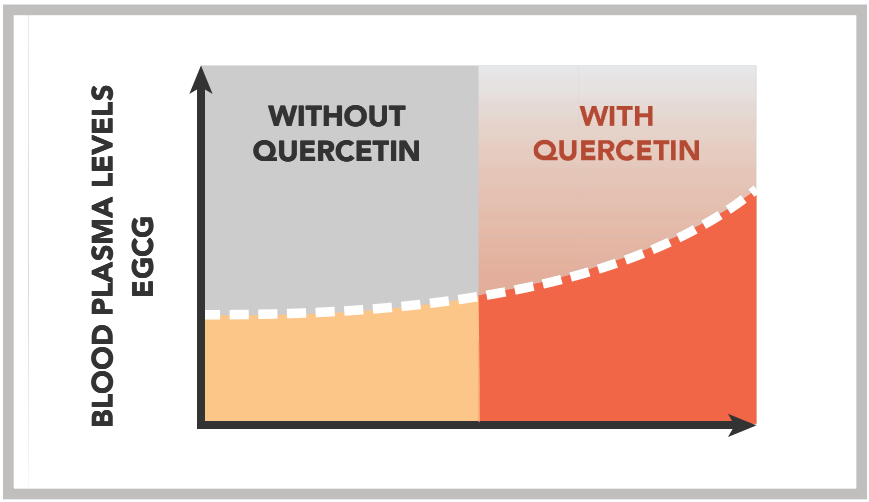
However, synergistic interaction of this compound with other nutrients eliminated the need for such a high amount of EGCG without compromising its effectiveness. The amount of EGCG in the mixture containing vitamin C, lysine, proline and other micronutrients was significantly reduced to a reasonable dose equivalent to five cups of green tea without compromising the effectiveness. **This synergy was able to completely stop the spread of more than 40 types of human cancer cells!**



C. SYNERGY HELPS INCREASE BIOAVAILABILITY OF NUTRIENTS. *EXAMPLE: QUERCETIN INCREASES BIOAVAILABILITY OF EGCG*

EGCG, an active component of green tea, has many beneficial health effects, however it is not well absorbed by our body's cells. In a human study, we demonstrated that bioavailability of EGCG in the blood stream can increase by consumption of food that is rich in another natural component, quercetin. This is an example of nutrient cooperation.

Rich sources of quercetin include red onions, apples, tea, capers, red grapes and many others.



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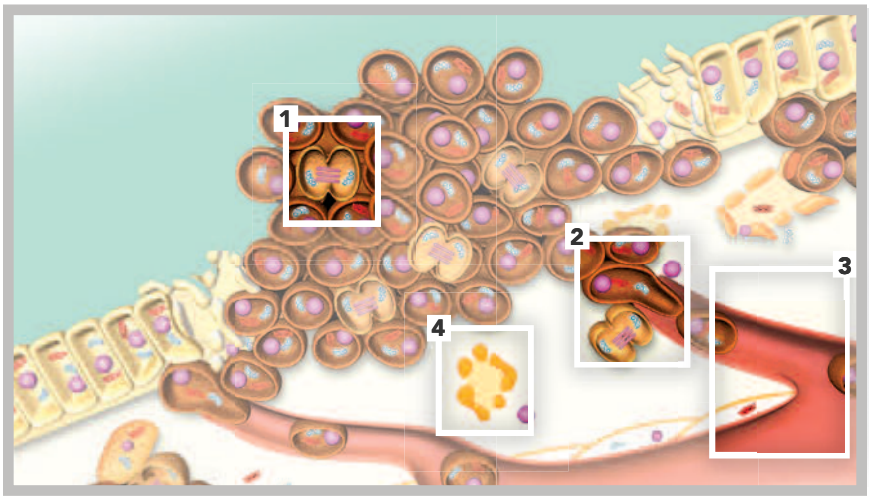
ONE SPECIFIC NUTRIENT SYNERGY HAS A WIDE RANGE OF METABOLIC EFFECTS

The benefits of nutrient synergy are numerous. Based on it, we can control many complex problems at once, as in the saying, "One arrow can hit many targets."

Let's see how this works in our cells and organs.

A. MICRONUTRIENT SYNERGY AFFECTS MANY DIVERSE BIOLOGICAL TARGETS AT ONCE. EXAMPLE: CANCER

Let's turn again to the example of cancer as a multifaceted disease. It is difficult to control cancer because it uses multiple mechanisms to overpower our body. The picture below presents the most important of them.



1 Stopping continuous multiplication of cancer cells **= tumor growth**

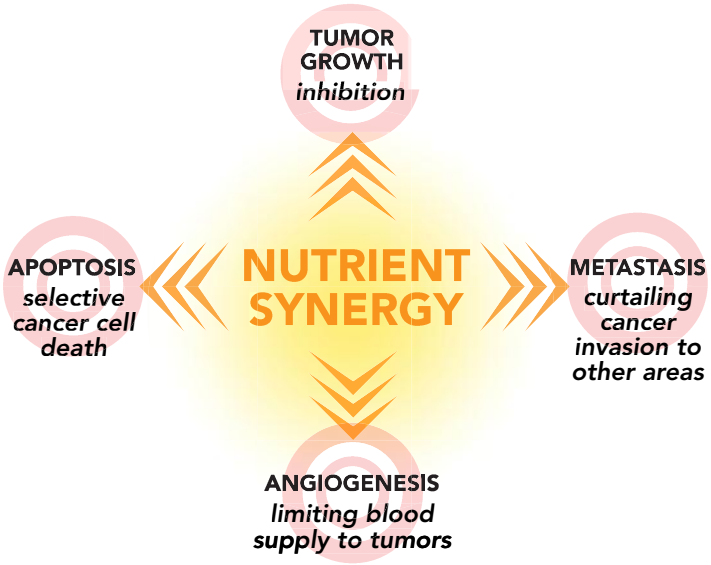
2 Inhibiting cancer cells invasion to other organs **= metastasis**

3 Inhibiting growth of new blood vessels in tumors **= angiogenesis**

4 Reversing the immortality of cancer cells and inducing their natural death **= apoptosis**

The goal of conventional cancer therapies, such as chemotherapy and radiation, is to kill cancer cells. Unfortunately, healthy cells are also destroyed. Furthermore, this is not fully effective because cancer cells can often modulate their metabolism and escape these toxins invading other organs in the body, a process chemotherapy can't stop. As a result, since these toxins also drastically impair the function of the immune system, cancer cells can continue spreading throughout the body even more aggressively. It is no wonder that cancer is still largely incurable.

Instead of looking for another poison to kill cancer cells, our research in cellular medicine took another route, which is described in detail in our book *Victory Over Cancer.* We have succeeded in developing a unique synergy of micronutrients which is able to control simultaneously four key mechanisms of cancer without damaging normal cells [15]. This micronutrient synergy was effective in:



Successful control of only ONE of these cancer mechanisms means taking control over cancer. One nutrient synergy (one arrow) can hit many cellular mechanisms (many targets) at once such as cancer growth, spread, angiogenesis and cell death. Nutrient synergy is the basis of our breakthrough approach in the natural, safe and effective control of cancer.

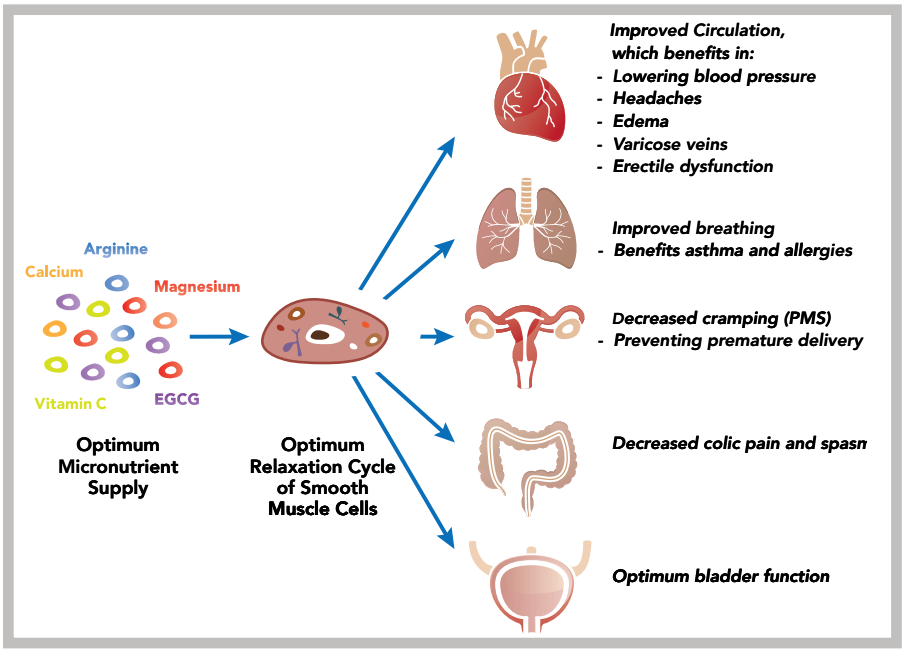
B. SYNERGY CAN OPTIMIZE FUNCTIONS OF VARIOUS BODY ORGANS AT ONCE

Benefits of nutrient synergy for specific types of cells can improve the function of organs that are built with these cells. For instance, smooth muscle cells build many body organs, such as blood vessels, airway passages in the lungs, intestinal walls and others.

Smooth muscle cells compose many body tissues and organs. Proper nutrient combination can optimize the metabolism of these cells in a synergistic way, thereby improving the fuction of many organs at once.

In this aspect, a nutrient combination that optimizes a relaxation cycle of smooth muscle cells and promotes production of relaxing factors in the endothelium, can improve the function of different tissues and organs in the body that are built with these types of cells.

Below, we can see how this nutrient synergy combination positively affects many organs in our body:



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HOW TO APPLY NUTRIENT SYNERGY
FOR THE BENEFIT OF YOUR HEALTH

CLINICAL EFFICACY OF NUTRIENT SYNERGY

Most clinical trials with nutrients have replicated the pharmaceutical study model, by using one substance at a time.

Our research team at the Dr. Rath Research Institute has pioneered a new area of clinical investigation based on synergistically acting groups of micronutrients. Our work demonstrated that the progression of many chronic diseases could be slowed down, or even reversed through dietary supplementation with broad-based synergistically acting combinations of vitamins, minerals and other essential nutrients, applied in moderate doses.

Following are descriptions of a few of our pioneering cellular medicine studies that document how nutrient synergy can benefit our health.

There are two important aspects of this cellular medicine rooted research:

1) A large variety (over 30) of different nutrients, rather than single nutrients, were taken by the study participants.

2) In general, only a reasonable quantity of each ingredient was supplemented.

With the growing impact of Cellular Medicine, other researchers are now beginning to look into the benefits of synergy in nutritional supplementation, and an increasing number of clinical trials are being conducted that investigate the effectiveness of "nutrient cocktails."

In just a few pioneering studies, researchers actually set up their trials to prove the synergistic benefits of nutrient combinations versus single nutrients.

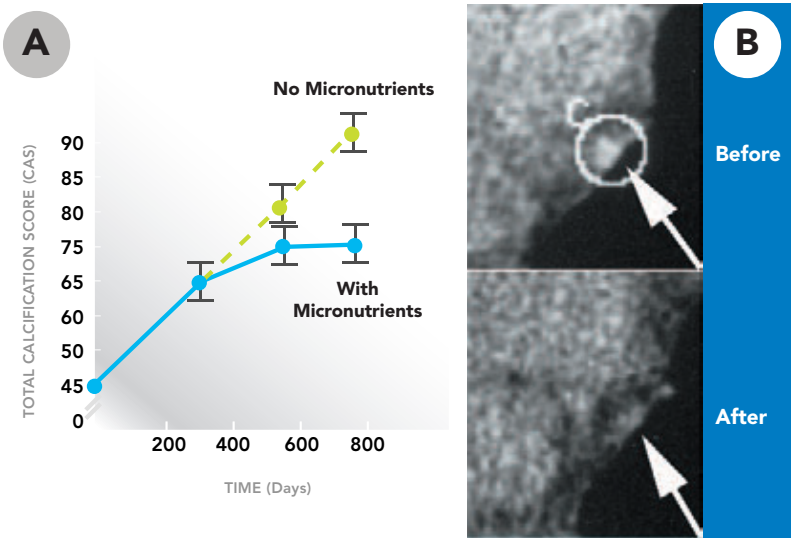
EXAMPLES OF THE EFFECTIVENESS OF CELLULAR MEDICINE NUTRIENT SYNERGY

CORONARY ATHEROSCLEROSIS: Already in 1994, our clinical study documented for the first time in medicine that a specific combination of nutrients acting in synergy can stop progression and even reverse calcified plaques in the coronary arteries. The synergistic effect of these nutrients supports the stability and integrity of the blood vessels, provides "Teflon" protection against cholesterol deposits in the blood vessel walls, optimizes bio-energy production and provides antioxidant protection to the cardiovascular cells [7].

Design: The study was conducted on 55 patients over 12 months.

Diagnostic Method: Ultrafast Computed Tomography, which measures the size of calcium deposits in the coronary arteries.

Results: Slowing down of the progression of calcifications in all study patients, and even reversal of deposits in individual patients with a low level of calcification.



Growth of calcified deposits in the heart arteries stopped (A) or event reversed (B) with selected micronutrient intake for 12 months

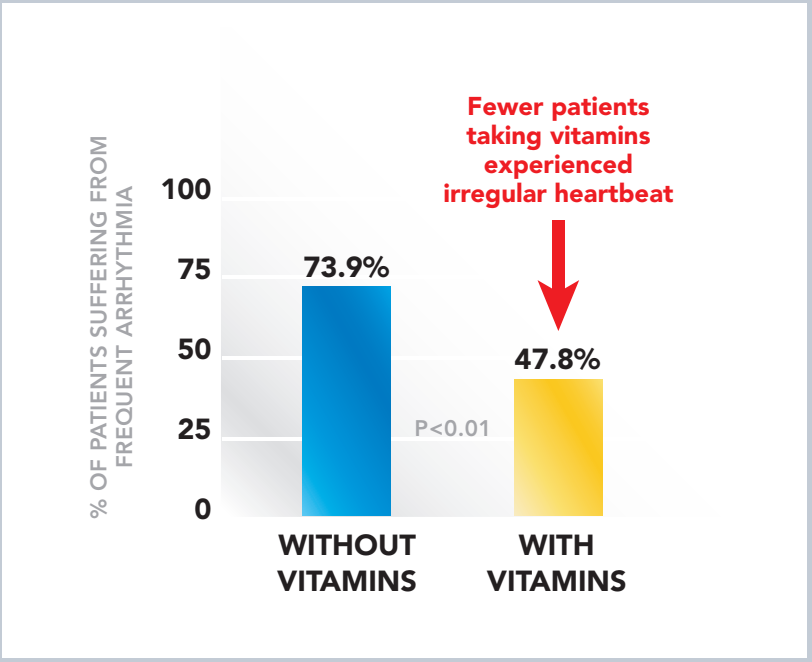
ARRHYTHMIA (IRREGULAR HEART BEAT): In a double blind, placebo-controlled study, we investigated the effect of a specific combination of nutrients as an adjunct therapy in patients with arrhythmia.

The synergistic effect of these nutrients supports bio-energy formation essential for conducting regular heart rhythm and optimizes heart cell metabolism[8].

Design: This study was conducted on 140 patients over 6 months.

Diagnostic Method: Measurement of the number of episodes of arrhythmia and assessment of perceived quality of life.

Results: There was a decrease in the frequency and severity of arrhythmic episodes, as well as an improvement in the perceived quality of life. These results were highly statistically significant.



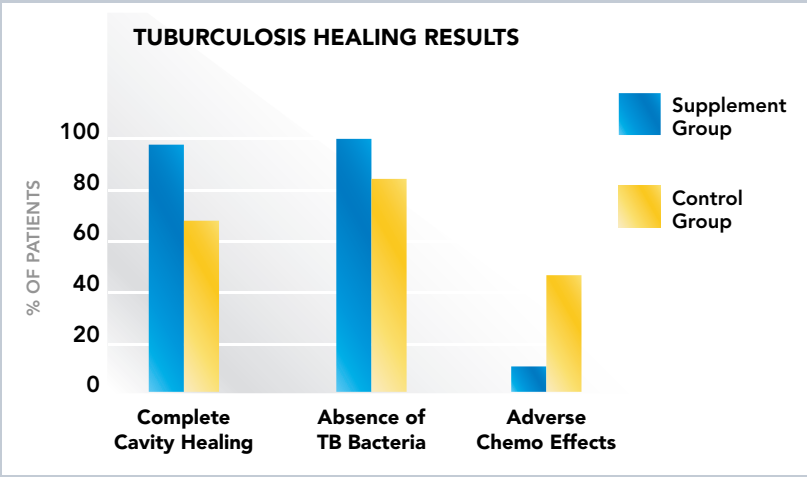
TUBERCULOSIS: We investigated the effect of a specific combination of nutrients as an adjunct therapy in hospital patients diagnosed with active tuberculosis.

The synergistic effect of these nutrients supports function of the immune system and increased integrity of tissues curtailing the spread of infections [11].

Design: Two-month study in 220 patients aged 20 to 65 years diagnosed with active pulmonary tuberculosis (120 treatment and 100 control patients).

Diagnostic Method: Cavity healing (primary measure), Ziehl-Neelson sputum test, respiratory compromise, adverse effects of therapy.

Results: Complete cavity healing occurred in 98% of the patients of the vitamin supplemented group (69% of the control group), TB bacteria was absent in all patients taking vitamins (only in 88% of the patients in the control group). Supplementation with vitamins/essential nutrients resulted in a significant decrease in the frequency and severity of adverse events from anti-TB therapy; only 11% in the vitamin group experienced adverse events while 46% did in the control group.



PILOT STUDIES

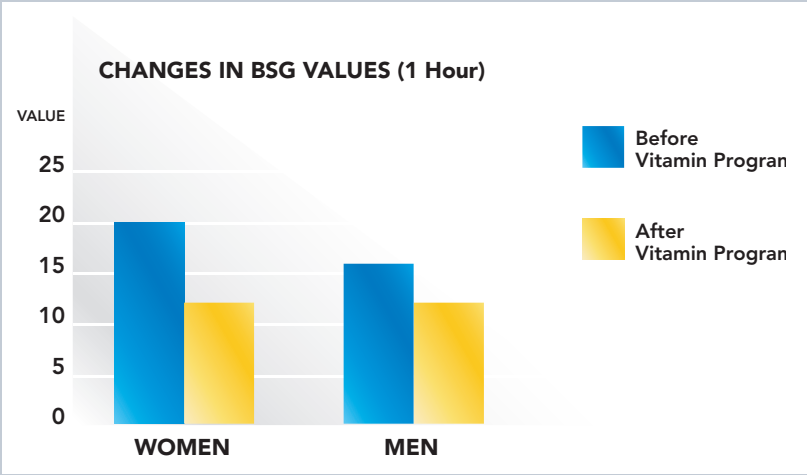
ARTHRITIS: This pilot study investigated the effect of a cellular health nutrient program in arthritis patients [9].

The synergistic effect of these nutrient synergy combinations supports the stability of connective tissue in the joints and modulates inflammatory process.

Design: The study was conducted on 10 patients for 6 months.

Diagnostic Method: Progress was assessed through blood tests that are indicators of inflammation in the body, and through X-rays.

Results: Markers of inflammation (BCG Values) in the blood decreased by 27 to 35% in men and women and X-ray tests showed cartilage improvement in half of the study participants tests.



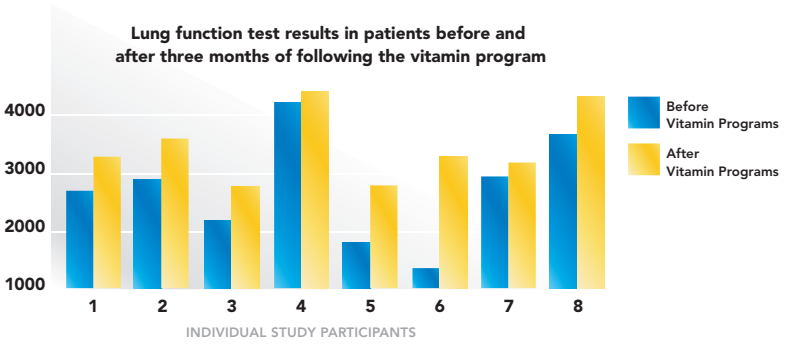
ASTHMA: Asthma is a frightening illness in which patients experience coughing, wheezing, shortness of breath and difficulty breathing. This pilot study explored the use of a micronutrient synergy formulation in the treatment of asthma [10].

The synergistic effect of these nutrients supports the optimum relaxation of the smooth muscle cells therefore relaxing and widening airway passages.

Design: This study was conducted on 8 patients for 6 months.

Diagnostic Method: Changes were monitored via pulmonary function tests that measure the volume of exhalation.

Results: All subjects demonstrated increased lung capacity after 3 months (mid-point of study).



Results confirm improvement in lung capacity from at least 2900 to 3200 in exhalation volume (about 9% improvement) to 300 to 3400 exhalation volume (250% improvement).

All 8 participants in this study experienced improved lung capacity.

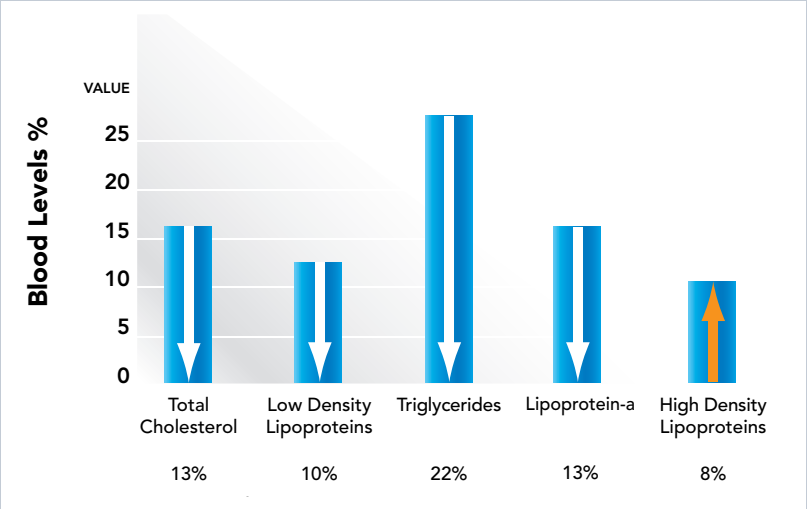
FAT METABOLISM: This pilot study examined the effect of cellular nutrient synergy in individuals with elevated levels of blood lipids, such as cholesterol, triglycerides, and lipoprotein a (Lp-a).

The synergistic effects of the tested nutrient combination aim at strengthening the blood vessel walls, thus reducing the need for elevated levels of lipids to be used as repair material for weakened areas [11] and regulating cholesterol and fat metabolism in the liver.

Design: This study was conducted on 14 patients for 6 months.

Diagnostic Method: Blood levels of total cholesterol (TC), low density lipoproteins (LDLs), triglycerides (TGs), Lp-a and HDLs ("good" cholesterol) were measured at the beginning of the study and after 3 months.

Results: After 3 months the following changes were observed.



More studies in cardiovascular disease: www.drrathresearch.org

BONE FRACTURES: This randomized double blind placebo controlled study examined the effectiveness of micronutrients supporting the production of bone framework, the collagen, and on healing of broken bones [9]. This approach differs from common natural approaches in bone health, which focus on bone mineralization by supplementation with calcium alone or with vitamin D. However, healthy bone cannot be built with calcium only and if the collagen structure is not optimal, mineralization does not properly occur and biological stability of the bone cannot be achieved.

Design: 113 patients with unilateral displaced closed or grade I open tibial fractures were randomized to receive either standard care with a placebo or with supplementation with an essential nutrient complex containing ascorbic acid, lysine, proline, and vitamin B6.

Diagnostic Method: X-rays.

Results: In the vitamin supplemented group of patients healing time was two weeks shorter than in the placebo group. The percentage of patients with fractures healing in 10 weeks or less was 33.3% for the supplemented group and 11.1% for the placebo group.

Radiograph of fracture at randomization

Radiograph of fracture after 12 weeks

CONCLUSION

Once we understand the potential of synergy we have the ability to use its power to enrich and improve our health and lives.

We have discussed only a very few of the biochemical systems within our bodies that operate under the law of synergy. As scientists continue to investigate the field of nutrient synergy, our knowledge in this area will grow.

At present we can say that when making dietary choices and choosing supplements, it is important to remember that no single nutrient works alone in the body. Taking too much of one nutrient in isolation can have a potentially disruptive influence on the mechanisms that regulate balance in our biochemistry.

Our research at the Dr. Rath Research Institute is devoted to cutting edge research on nutrient synergy and the application of this fundamental principle for our health.

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Matthias Rath, M.D.

Dr. Rath is a world-renowned physician and scientist, who is known for his pioneering research in natural and cellular health. He is the founder of the scientific concept of Cellular Medicine - the systematic introduction into clinical medicine of the biochemical knowledge of the role of micronutrients as biocatalysts in a multitude of metabolic reactions at the cellular level.

Aleksandra Niedzwiecki, Ph.D.

Currently the Director of Research at the Dr. Rath Research Institute, Dr. Niedzwiecki is a leading biomedical researcher in the development of nutrient synergy approaches in various aspects of health and disease. Her work in the areas of cardiovascular health and cancer has won her recognition for her research into the biochemical link between disease and nutrients.

Dr. Rath Research Institute

The Dr. Rath Institute in Cellular Medicine is located in the Silicon Valley, in California. The Institute is staffed with experts handpicked from fields of medicine, biochemistry, and nutrition. Here, world-class scientists conduct innovative research utilizing the principle of nutrient synergy, and investigate the role of nutrients in preventing and treating a host of diseases.

Researchers at the Dr. Rath Research Institute are developing new scientific concepts based on Dr. Rath's discoveries in heart disease, cancer, infectious disease, and other diseases. These scientific concepts have been published in various media around the world.

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