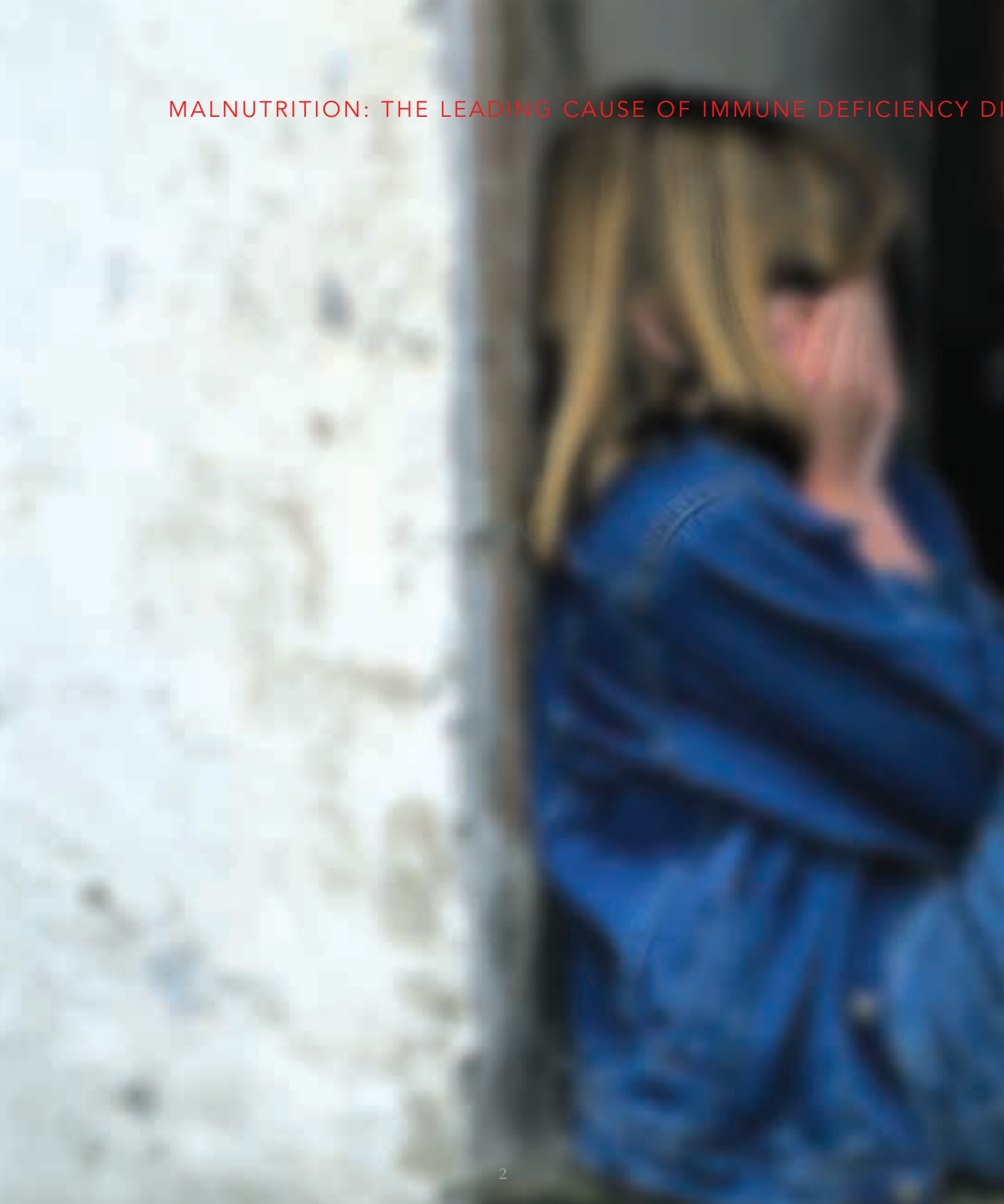


Malnutrition: The Leading Cause of Immune Deficiency Diseases Worldwide

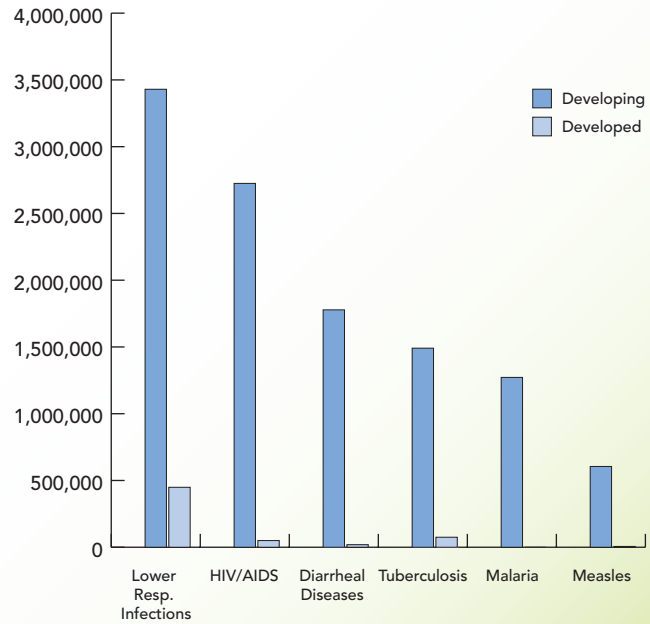
MALNUTRITION: THE LEADING CAUSE OF IMMUNE DEFICIENCY DI



Have you ever wondered why only some people get sick after being exposed to a pathogen such as the flu virus? Why are people most susceptible to infections when they are stressed or tired? It is conventional wisdom that good nutrition can prevent infections and many other diseases, and this aspect can be controlled.

Look at the statistics. Infectious diseases, induced by bacteria, viruses, parasites and other microorganisms, are the most common form of disease in adults and children, and episodes of infections occur even in economically advanced, modern societies. However, infectious diseases cause the greatest health threat, including death, in the developing world where malnutrition, accompanied by poverty and poor sanitary conditions, is common.

Infection Totals in Developed vs. Developing Countries



Worldwide, malnutrition and specific nutrient deficiencies are the leading underlying cause of immune deficiency, leading to infections and other diseases. Of the 13-14 million children dying each year in developing countries, 70 percent die of infectious diseases and most are malnourished. Failing immunity as a consequence of malnutrition is the leading cause of death of children, the elderly, and adults. In comparison to the overall mortality of AIDS caused by HIV, the consequences of nutrition-related AIDS are much more deadly. Nutrition-related AIDS deaths exceed 15 million per year, about seven times more than HIV-related causes.

Many of these infectious diseases can be prevented and controlled by simple and affordable measures, such as nutrient supplementation. Unfortunately, the importance of nutrients for the prevention and therapy of diseases has been replaced by business-promoting solutions, such as patented medications. These medical drugs, although aggressively promoted, do not eliminate the causes of diseases; they merely cover symptoms. Further still, drugs administered to malnourished people generate side effects often beyond those identified during drug testing on adequately nourished people.

Global pharmaceutical corporations have been exerting political pressure on governments to promote their pharmaceutical solutions. As a result, many economically struggling nations who comply with these measures do it at the expense of providing food and sanitation to their people, which further aggravates health problems.

The solution to preventing immune deficiency on a global scale is not supporting pharmaceutical corporations, but utilizing natural and affordable solutions that target the causes of diseases. Healthcare funds should be shifted from supporting pharma businesses to the prevention and elimination of diseases through natural approaches that are effective and within the means of even economically struggling nations.

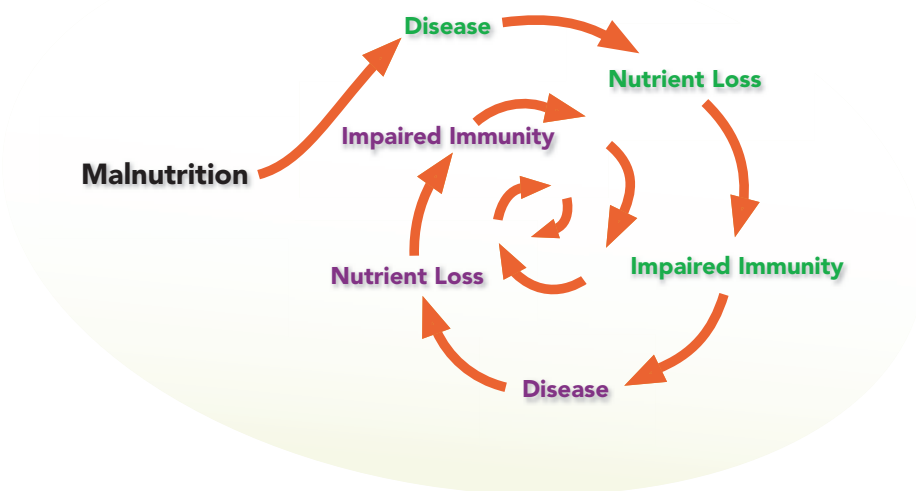
The effective and affordable control of infectious diseases starts with an understanding of how nutrients work in various aspects of failing immunity. This booklet serves that purpose.

Malnutrition Leads to a Vicious Cycle of Immune Dysfunction and Diseases

Although infectious illnesses vary in severity and duration, they all put a physiological and biochemical burden on the immune system. In order to withstand this metabolic challenge, the function of cells building the immune system needs to be supported by a continuous supply of nutrients.

Malnutrition, unhealthy diets deficient in micronutrients, and micronutrient imbalances can disrupt the function of various immune system components. This weakens immune defense, decreasing its effectiveness in the elimination of pathogens and making us vulnerable to various diseases.

In addition, the illness itself, whether symptomatic or asymptomatic, is always accompanied by the loss of many nutrients in the body, which further aggravates already existing nutrient deficiencies. If these nutrient losses are not adequately and quickly addressed, the vulnerability to other diseases increases, thereby triggering a spiral of diseases often impossible to control.



Malnutrition triggers a spiral of diseases.



Nutrients Support All the Critical Steps of Our Immunity

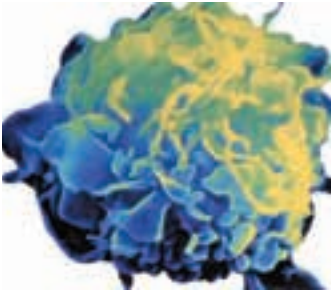
Good nutrition and an optimum supply of micronutrients are important in supporting various cellular functions critical for an effective immune response. Among them, nutrients are needed to support:

- Non-specific defense components, which are needed to defend against any type of infection. These include the synthesis of interferon and the optimum function of phagocytic cells.
- Protective anti-microbial barriers created by the skin, mucus membranes, tears, saliva, gastric juice, etc. An optimum supply of nutrients, in particular those supporting protein synthesis, is also important for normalizing serum proteins, some of which function as anti-microbial agents (e.g. lysozyme).
- Production of antibodies and optimization of cell-mediated immunity. Based on its functions, the immune system is divided into the cellular system and humoral system. The humoral system consists of B-lymphocytes, plasma cells, and specific immunoglobulins that produce antibodies. The cellular system is the major defense mechanism that the body uses to combat various viral and bacterial infections, as well as fungal and parasitic diseases. This cell-mediated immunity is built and depends on the function of T-lymphocytes – a subset of white blood cells produced in the bone marrow – that requires the proper function of the thymus for their functional maturity. Impaired T-lymphocyte response has been associated with general protein malnutrition, which is usually accompanied by a deficiency of vitamins and other micronutrients in the body.

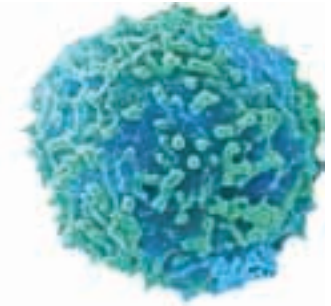
The immune system is built of various types of white blood cells that have different functions in the body's defense.



Neutrophils: Form the first line of defense against aggression.



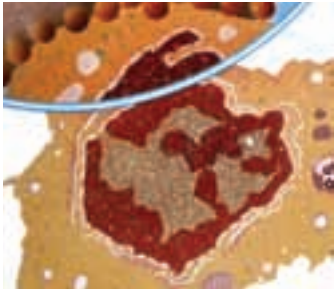
Monocytes: Develop into macrophages, which are involved in all types of immune response.



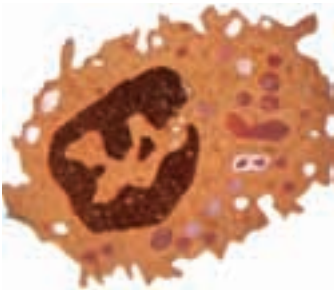
Lymphocytes: Recognize and eliminate virus-infected cells and cancer cells. Lymphocytes comprise about 40 percent of all white blood cells.

T-lymphocytes are produced in the bone marrow and mature in the thymus.

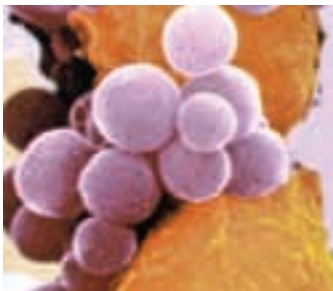
T-lymphocytes are divided into three groups:



T4-cells, also called CD4 cells or helper T-cells: Help other cells destroy infective organisms.



T8-cells, also called CD8 cells or suppressor T-cells: Suppress the activity of other lymphocytes to prevent the destruction of normal tissues.



Cytotoxic T-lymphocytes (CTLs), also called killer T-cells: Recognize and destroy abnormal or infected cells.

Sources of Malnutrition and Nutrient Deficiencies

Malnutrition is not always synonymous with the state of starvation seen in many places in the world. Most often, malnutrition is caused by an inadequate or imbalanced diet and unhealthy lifestyle common in the developing world, as well as among apparently well-nourished people living in western economies.

Another face of malnutrition is evidenced in people who suffer from diseases, such as cancer, and by patients who undergo various medical treatments or surgeries. In many cases, they develop micro-malnutrition related particularly to vitamins and other specific micronutrients. These deficiencies are asymptomatic and can go unnoticed for a long period of time. Unfortunately, disease therapies focus on pharmacology and proper nutrient supplementation is rarely addressed. Such malnutrition relating to micronutrients further weakens the functions of the body, making patients susceptible to various opportunistic infections and impairing their recovery.



In this situation, ignoring or not recognizing nutrient deficiencies as the source of the impairment of immune function has detrimental consequences and further facilitates immune deficiency problems.

What are the main causes of malnutrition or imbalanced nutrition that can compromise immune system function?



General low intake of food due to its short supply (famine) or excessive dieting (anorexia).



Various diseases, such as diabetes, cancer, and infections.



Physical and psychological trauma, which increases cellular requirements for some nutrients (e.g. vitamin C). In these situations, it is more likely that we do not eat or digest food properly and this has a negative impact on the body's immunity.



The use of pharmaceutical drugs (corticosteroids, estrogen, cholesterol-lowering drugs, chemotherapy agents) depletes the body of various vitamins, minerals, and micronutrients, lowering natural body resistance barriers and increasing vulnerability to infections.



Foreign bodies (vascular prostheses, catheters, implants) that mobilize immune responses on a long-term basis also put a strain on the body's nutritional resources, which, if not correctly replenished, has a negative impact on immunity.



Various environmental factors, pesticides, food chemicals, exposure to radiation and air/water pollution increase the requirements for antioxidants and burden the liver's detoxification system. Many toxins are damaging to the cells and, if the body is exposed for a long time to even small quantities of them, bone marrow cell production becomes impaired and body immunity decreases.

Nutrients Critical for the Immune System

In order to build an effective immune system and make our bodies resistant to various infections, it is important to recognize which vitamins and micronutrients are especially important for supporting immunity.

The table below lists the most common immune system dysfunctions brought on by specific nutrient deficiencies or general malnutrition.

Type of Immune Impairment	Critical Factor Causing Impairment			
	Food Intake	Vitamin Deficiency	Mineral Deficiency	Other Causes
Decreased resistance to infections	Malnutrition	Vitamin A Vitamin C Vitamin D	Zinc Copper Iron Selenium	Trauma Cancer Other diseases
Low T-cell production	Malnutrition	Vitamin C Vitamin B6 Vitamin A Folic Acid	Iron Copper Zinc	
Abnormal function of monocytes and macrophages		Vitamin A Vitamin C Vitamin D	Zinc Iodine	
Abnormal function of neutrophils and leukocytes	Malnutrition	Vitamin B6 Vitamin B12 Folic Acid Vitamin C Vitamin E	Iron	
Impairment of thymus-mediated immunity	Malnutrition	Vitamin C	Zinc Copper	
Poor or depressed response to new antigens	General malnutrition	Vitamin A Vitamins B2 and B3 Vitamin B6 Panthothenic Acid Biotin Folic Acid Vitamin D	Zinc	Trauma Cancer
Deterioration of lymphoid tissues	Malnutrition	Vitamin B6 Vitamin A Vitamins B2 and B3 Panthothenic Acid	Zinc Copper Iron	Trauma Cancer Other diseases

Benefits of Nutrient Synergy for the Immune System Compared to Individual Nutrients

The recognition of nutrient deficiencies as the cause of pellagra, beri beri, scurvy and rickets did not come easily. Despite evidence of the nutritional origin of these conditions, the medical approach attributed germs as their cause. Therefore, the search for cures continued for decades, rejecting the fact that the answer could be found in vitamin-rich food. In the case of pellagra, the medical establishment resisted accepting the nutritional cause of this disease for over 180 years before finally admitting that a germ did not cause it. This resistance in accepting micronutrient deficiency in various immune dysfunctions continues today.

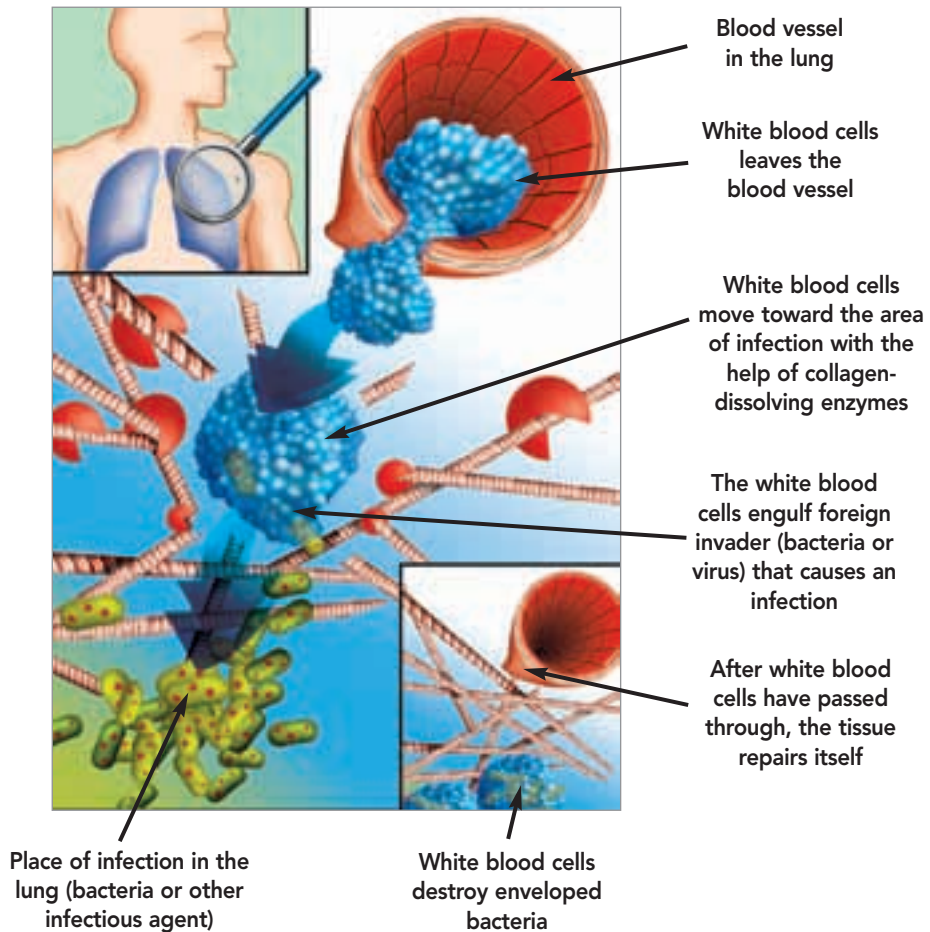


There is no doubt that a single nutrient does not ensure full health, and a complete spectrum of various micronutrients, such as vitamins, minerals, amino acids and trace elements, is needed to support the immune system to its full capacity. This is the direction in nutritional science promoted by Cellular Medicine. Cellular Medicine focuses on nutrient synergy as the most effective approach to optimizing cellular metabolism and restoring its balance, which is essential for health. Our research has shown that nutrient synergy is more effective than individual nutrients, or their random combination, in addressing specific physiological tasks. Therefore, the proper application of nutrient synergy is critical for improving the general immunity of the body and supporting its specific physiological tasks.

Nutrient synergy provides effective health solutions because it addresses two basic aspects of immunity and susceptibility to infectious diseases.

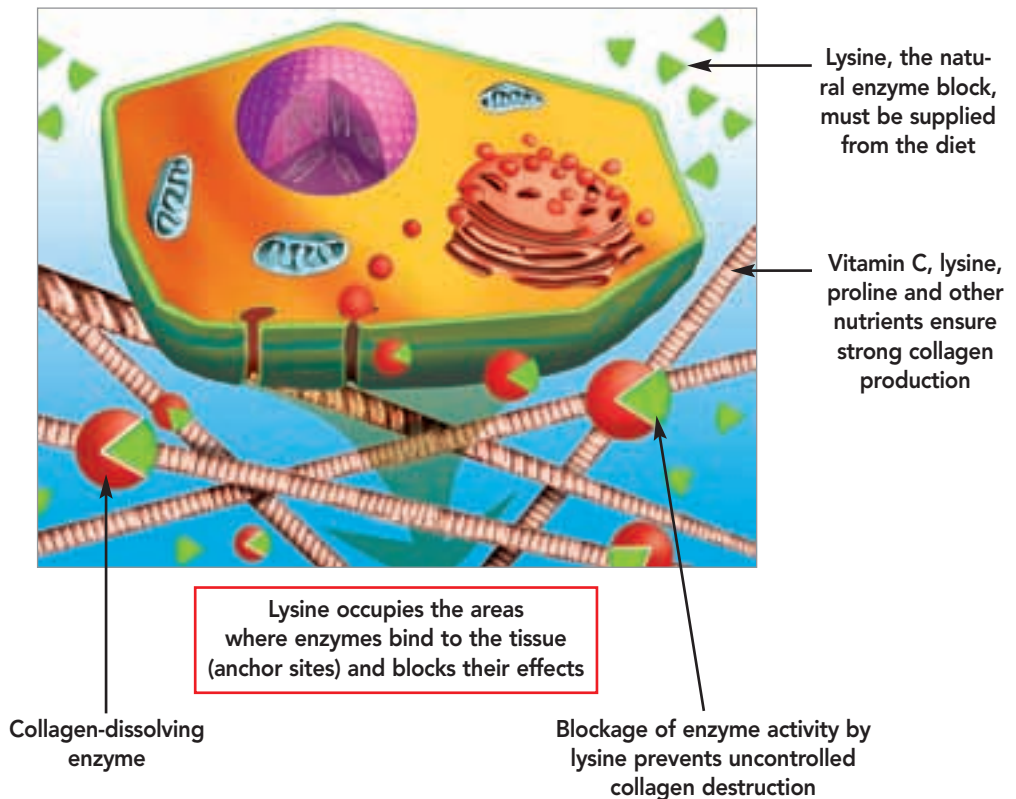
Nutrient Synergy:

1. Improves the synthesis and function of immune cells essential in preventing and eliminating infections. Nutrients used in the right combinations and proportions support optimum blood cell production in the bone marrow and lymphoid tissues. In addition, they can modulate immune system mediators critical for eliminating pathological agents and controlling tissue damage.



2. Stops infectious agents from spreading. This new understanding of the power of micronutrients was initiated by the work of Matthias Rath, M.D. more than 10 years ago, who defined therapeutic targets common in various pathological conditions, including cancer and infectious diseases. Similar to cancer cells, all infectious agents destroy connective tissue to spread in the body. Nutrients support two critical mechanisms involved in infections:

- Building strong collagen and connective tissue, which helps create a natural barrier that is difficult to penetrate by the invader. Critical nutrients in this process include vitamin C, lysine, proline, vitamin B6, copper and manganese.
- Stopping the activity of enzymes that all infectious agents use to destroy connective tissue and facilitate their spread. Nutrients essential for controlling this enzymatic activity include vitamin C, lysine, N-acetyl cysteine (NAC) and Epigallocatechin Gallate (EGCG).



Various Pathogens and Infectious Agents Target the Gastrointestinal Tract, Impairing the Nutritional Status of the Body

The following examples illustrate how various pathogens impair the nutritional status of the body by affecting the gastrointestinal tract:

Pathogen	Gastrointestinal Tract	Nutrient Losses/Deficiencies
Viruses		
Herpes Simplex (HSV)	Lesions in oral cavity, esophagus, rectum	Constipation, impaired food intake, impaired elimination of toxins
HIV	Affects gastric lining and small bowel	Diarrhea, oral ulcers, malabsorption of nutrients, decreased levels of gastric acid
Bacteria		
Salmonella	Large intestine	Diarrhea, abdominal pain, fever, malabsorption, impaired food intake
Protozoa		
Cryptosporidium	Entire GI tract, especially small intestine and biliary tract	Watery diarrhea, nausea, vomiting, lactose intolerance, malabsorption, inflamed pancreas, loss of electrolytes
Fungi		
Candida	Oral cavity and esophagus	Decreased salivation, burning, nausea, upper GI bleeding
Histoplasma	Bone marrow, liver, spleen, ulcers in oral cavity	Weight loss, impaired nutrient metabolism, impaired immunity



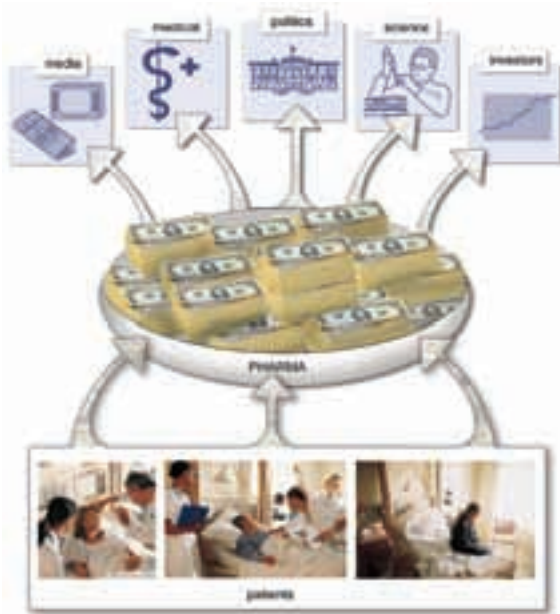
We Need to Protect Our Right to Natural Health

Today, the only options offered to millions of patients worldwide who suffer from immune deficiencies and infectious diseases are pharmacological approaches. In many parts of the world, this option is not even possible because these countries' strangled economies are unable to pay for patented medicines. As a result, malaria is still a major cause of death even though its treatments are known and available.

We are now facing the first consequence of market-driven approaches to our health problems. Over the last decades, the marketing pressure to sell more antibiotics, even for diseases not benefiting from these drugs, has led to the development of an increasing number of bacterial strains resistant to this treatment. Many infections previously under control have now become life-threatening problems.

In the developing world, the primary health-related problems are widespread malnourishment, micronutrient deficiencies, and sanitation. However, instead of directing funds to cope with these major problems, the governments of these countries are under pressure by pharmacological multinationals to import their drugs. This deepens the financial problems of these countries without improving the health of their populations. Aggressive drug promotion ignores the fact that these pharmacological drugs have not been tested on malnourished patients. As a result of malnourishment, drug metabolism is affected and new detrimental side effects can surface. In addition, these drugs induce various gastrointestinal problems, including diarrhea and wasting, which are symptoms already caused by malnutrition and, consequently, further weaken the immune system. Unfortunately, this information does not reach the public. Further still, the fact that drug side effects and nutrient losses generated by disease further impair immunity is generally ignored.





The pharma business controls all major branches of society.

prevention and therapy of various health problems. In many countries, traditional medicines based on the use of local herbs are ridiculed and openly fought.

The public pressure on governments to provide more drugs to address urgent health needs is being orchestrated with the blessing of pharma interests. Many governments entangled in pharma interests support legislation, such as Codex, which aims to restrict availability to natural health and place limits on access to specific information about the effectiveness of vitamins and other essential micronutrients.

At the same time, pressure by pharma interests to maintain these potential drug markets has led to the suppression of other non-patentable approaches to these diseases.

The importance of public health and disease prevention, especially in relation to natural health, traditional medicines, and nutrition-based approaches that include micronutrient supplementation, is being ridiculed as non-scientific and, hence, ineffective.

Consequently, information about scientific advances in natural health is being withheld from physicians and the public. As a result, many health professionals and patients are unaware of the benefits of nutrients in the



The situation is alarming on a worldwide scale, and it cannot continue any longer. The right to natural health is a basic human right, and it must not be taken away from the people of any country.

Today, millions of patients and their physicians have a common goal in demanding basic education and access to natural health to help them prevent, manage, and treat many diseases, including infections.



Call to the People and Governments of the World:

Stop AIDS Genocide By the Drug Cartel!

Harlan Roth, M.D.

Micronutrients Alone Can Promote the Defense Against AIDS

South Africa Leads Global Health Liberation from the Drug Cartel

Support South Africa in Its Struggle to Save Millions of Lives!

More Information: www.doearth-foundation.org.za

NO AMNESTY FOR MAKERS OF DEADLY DRUGS

Protect Your Health Act Now!

Largely unbeknownst to the American people, there is a war going on that has claimed victims in 1 and threatened every human life. It is a war being waged in the interests of the multibillion-dollar pharmaceutical industry, which is an investment business both upon the continuation and expansion of global disease.

Your health and the health of every person in America is threatened in several ways:

- The "Business with Disease" as the basis of the pharmaceutical industry.** The pharmaceutical industry because that has monopolized the largest fraud in human history: a pretense health, but in 1 disease. This fraud scheme is a costly national health pharmaceutical drug or designed to benefit those intended to cure or condition disease. As a direct result of the multibillion-dollar fraud health pharmaceutical industry, almost 1 million of our other chronic diseases (in the country) have caused more than 100,000 deaths in 2004.
- The national of dangerous side effects caused by pharmaceutical drugs.** The dangerous side effects are not the exception - they are the rule. Due to their addictive nature, many pharmaceuticals causing drug abuse and other serious side effects. According to the American Medical Association, more than 100,000 deaths are caused by pharmaceutical drugs and more than 200,000 of them die as a result of drug abuse.
- Exploitation that promotes the expansion of the deadly "Business with Disease."** The drug industry, along with its marketing, public and advertising campaigns, including that from the U.S. Congress on health consequences of the pharmaceutical fraud business have been instrumental in the expansion of the drug industry. The overall goal of the pharmaceutical industry is to increase the profits of the drug industry and medical devices from health care. The consequence of the proposed medical liability health care reform is to further benefit through by direct payments against drug companies.
- Withholding misleading information about the health benefits of vitamins and natural therapies of "with disease" based on scientific evidence.** In the expansion of chronic and acute health care, the pharmaceutical industry has been instrumental in the expansion of the drug industry. The overall goal of the pharmaceutical industry is to increase the profits of the drug industry and medical devices from health care. The consequence of the proposed medical liability health care reform is to further benefit through by direct payments against drug companies.
- Suppressing effective natural health therapies by law.** Effective, safe, and non-patentable natural health therapies are being suppressed and eventually eradicating them. The elimination of any disease therapy against a multibillion-dollar drug market for the pharmaceutical industry. Thus the pharmaceutical industry has been instrumental in the expansion of the drug industry. The overall goal of the pharmaceutical industry is to increase the profits of the drug industry and medical devices from health care. The consequence of the proposed medical liability health care reform is to further benefit through by direct payments against drug companies.



be heard by signing the following Petition:

I, United States of America, recognize our historic responsibility to act now and protect our most fundamental human rights and life.

I am urging my political representatives and the U.S. government to:

1. **act to bring companies by holding the drug companies to a public account where health has been harmed and to the related by pharmaceutical drugs. Do not allow "Medical Liability Reform" or any other legislation to become a "Trojan Horse" special interests.**

2. **act to natural health information and therapies as guaranteed by the Dietary Supplement Health and Education Act, both and implement process and safe natural therapies and traditional medicines as the basis of an effective and affordable care in America.**

3. **to the Constitution to protect our health and our life!**

Name: _____ Address: _____ Signature: _____

I have been furnished by the Dr. Harlan Roth Foundation, a non-profit organization dedicated to educate about science-based health approaches. We urge individuals and organizations, patients, self-help groups, natural health practitioners, corporations and others to support the Purpose stated in the Petition to the address above. We invite other organizations to co-signature of this Petition with the aim of forming a broad coalition to achieve the above goals.

For information on this Petition, please contact us at our website: www.doearth-foundation.org
 Dr. Harlan Roth Foundation • P.O. Box 4218, Santa Clara, CA 95056 • Fax: 408-547-5046



Dr. Rath and his organizations are at the forefront of the battle for natural health freedom.

About the Authors



Dr. Matthias Rath

Matthias Rath, M.D.

Dr. Matthias Rath has devoted his life to conducting research in natural health approaches and applying his discoveries for the benefit of human health. Dr. Rath worked in close collaboration with the late two-time Nobel Laureate Dr. Linus Pauling, and has published several papers on the use of nutrients in various chronic conditions, particularly in the control of cancer and atherosclerosis.

Dr. Rath founded the Dr. Rath Research Institute to conduct and promote research in natural health that leads to the development of nutrient-based therapies for common chronic conditions.



Aleksandra Niedzwiecki, Ph.D.

Aleksandra Niedzwiecki, Ph.D.

Dr. Rath's dedicated research team is led by Aleksandra Niedzwiecki, Ph.D., a biochemist who has worked directly with two Nobel Laureates and who formerly served as the director of cardiovascular research at the Linus Pauling Institute (USA).

The Dr. Rath Research Institute team has presented its work at numerous scientific and clinical conferences and published its scientific findings in peer-reviewed journals.

Scientific progress in Cellular Medicine has opened up new directions in the research and therapy of many diseases.

More information can be found at www.drrathresearch.org.

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Matthias Rath, M.D., the successor of the late two-time Nobel Laureate Dr. Linus Pauling, has led breakthroughs in the natural control of cancer, cardiovascular disease, and other chronic health conditions.

Additional Cellular Health research is documented in the following publications:

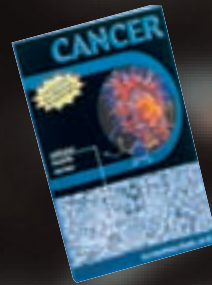
The Cellular Health series authored by Matthias Rath, M.D.:

- *Cancer*
- *Why Animals Don't Get Heart Attacks...But People Do!*
- *Ten Years That Changed Medicine Forever*

Scientific Publications:

- *Progress in Cellular Medicine: Cellular Medicine Success in Osteosarcoma (Bone Cancer)*
- *The Victory Over Cancer Is at Hand*
- *Irregular Heartbeat: Results of a Randomized, Double-Blind Placebo-Controlled Study*
- *Clinical Nutrients in Cancer Therapy: A Scientific Review and Perspective*

Scientific abstracts and research papers are available at www.drrathresearch.org.



Cancer

Like heart disease, Dr. Rath believes that cancer will be eventually eradicated as a result of cellular nutrition. *Cancer* chronicles his findings.

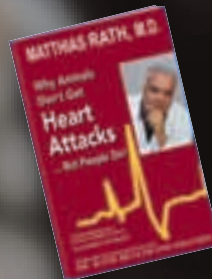
ISBN # 0-9679546-1-4



Clinical Nutrients in Cancer Therapy: A Scientific Review and Perspective

A scientific review of recent studies that confirm the efficacy of nutrients in cancer.

RSAP #11139



Why Animals Don't Get Heart Attacks...But People Do!

Dr. Rath pioneered research that connected heart disease to vitamin deficiency. *Why Animals* details the scientific breakthrough that explains why cholesterol is not the cause of heart disease.

ISBN # 0-9679546-1-4



Ten Years That Changed Medicine Forever

Follow the saga of Dr. Rath, whose quest for the truth took him across two continents and continues today.

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