

Antigen Infused Dialyzable
Bovine Colostrum/Whey Extract

**The
Ultimate
Nutrient**

Clinically Proven Benefit for Anyone Suffering

Weakened Immune Function

Irritable Bowel Syndrome

Chronic Fatigue Syndrome

Candida Albicans

Arthritis & Rheumatism

Infection

Hepatitis C

Colds and Flu

Sinusitis

HIV/AIDS

Heart Disease

Lupus

Cancer

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Dr. Jesse A. Stoff is a graduate of New York Medical College and later completed the distinguished fellowship in homeopathic medicine at the Royal London Homeopathic Hospital. He is the Medical Director of IntegraMed in Tucson, Arizona where he has a large successful clinical practice. In addition to his clinical practice, he serves as the Medical Director of the Stoff Institute for Medical Research, a not-for-profit corporation dedicated to research and development of new therapeutic strategies for treating viro-immunological diseases. He is also a consultant for the Cancer Treatment Centers of America and serves as President of Immune Consultants.

Dr. Stoff specializes in the treatment of people with all stages of illness. In the course of his work he has developed treatment protocols that include antigenically infused dialyzable bovine colostrum/whey extract and nutritional supplements.

Dr. Stoff is a nationally known author, lecturer and clinical researcher in viro-immunology and is well known for his work as co-author of the best selling book, CHRONIC FATIGUE SYNDROME - THE HIDDEN EPIDEMIC. His lecture series includes such topics as "The Use of Natural Immunomodulators for Immune Reconstitution" and "The Differential Diagnosis and Treatment of Chronic Fatigue Syndrome and The Effects of Stress on the Immune System." Dr. Stoff is frequently interviewed by radio and television talk show hosts and recently hosted a series of live radio call-in talk shows called "Be Well", at a Tucson, Arizona CBS affiliate station. He is also featured in the book AN ALTERNATIVE MEDICINE DEFINITIVE GUIDE TO CANCER in Chapter 21 and his new book, THE PROSTATE CANCER MIRACLE, will be released in 2000.

Dr. Stoff specializes in the treatment of people with severe and chronic illness. Through his dedicated efforts, research and clinical practice, he has successfully helped over 90% of his patients with Chronic Fatigue Syndrome. In the course of his work he has developed a program of nutritional supplementation designed to support and normalize the functioning of the body's immune system damaged by stress and/or disease.

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Introduction

All of us are buried in choices about how to eat, what to eat, when to eat, how to supplement, when to supplement, which supplements should we choose, etc. • We are constantly searching for the “silver bullet” to save us from the ravages of aging and disease, and we all like to think we are doing everything we can to avoid compromising the quality or length of our lives.

Often, we are diagnosed with a serious or grave illness before we even stop to think about our health. We assume in youth that we are invincible and can handle whatever comes along. We expose ourselves to unbelievable amounts of emotional and physical stress, ignoring the destructive effects that this stress will have on our minds, bodies and spirits.

Until now, as you will learn in this booklet, nothing could tie the effective utilization of food and nutrients together. No matter how much we spend on supplements or medicine, there is no real improvement in the health of the world. In fact, the health of the world is declining rapidly as human beings seemingly spiral toward extinction. The reasons for this decline in a modern or advancing society are numerous and well known to some degree to all of us.

With antigen infused dialyzable bovine colostrum/whey extract, it is now possible to “turn-on” your immune system in a way never before possible. Once “turned-on” you’ll begin to enjoy the benefits of better immune function that has been denied to virtually all of us as a consequence of modern society. Currently we are unable to enjoy many of the promises offered but not delivered by other supplements, good exercise, clean air, clean water, whole foods and reduced stress.

We need a basic approach for the body to regain its ability to function to its fuller potential. With the ability of the immune system to function more normally even in the face of the stresses that we face daily we have the hope of a brighter future. The introduction of antigen infused dialyzable bovine colostrum/whey extract is one of those events that surface from time to time in our evolutionary quest that can alter the course of human events in a positive and dramatic fashion.

The Ultimate Nutrient?

When considering antigen infused dialyzable bovine colostrum/whey extract and reviewing its capabilities, the dreams of a "silver bullet" resurface as they have so many times in the past. There is a great difference in this case, however. The "silver bullet" we dream about stands on its own, as the ultimate way to renew or refresh our bodies and minds. This is both true and untrue for antigen infused dialyzable bovine colostrum/whey extract.

Antigen infused dialyzable bovine colostrum/whey extract, as you learn herein, is a "trigger". A trigger that "turns-on" and directs your immune system so everything else you do to support your health will actually be of some benefit. By offering this ability, antigen infused dialyzable bovine colostrum/whey extract is the "Ultimate Nutrient".

Statistically there is little evidence that dietary supplementation, the use of prescription medications, surgery, chiropractic, etc. have any significant or lasting benefit in reversing the trend of declining health of our society caused by a compromised immune system. As you will learn, almost everyone (98% of the US population) has compromised immune function.

An "Ultimate Nutrient" should amplify the effects of the good things you do for yourself, and protect you from the immune suppressive factors that work against you everyday. Antigen infused dialyzable bovine colostrum/whey extract is the only nutrient clinically proven to accomplish these results. In fact, it is the only nutrient ever identified to accomplish this remarkable task.

Antigen infused dialyzable bovine colostrum/whey extract...the "Ultimate Nutrient".

Triggers and Fuels

Through extensive clinical study a new nutrient relationship has been documented. Several thousand people with compromised immune function have been studied over the past few years, with consistent, predictable results.

Approximately half the population of the United States now takes dietary supplements on a regular basis. Each of these supplements is supported by significant research indicating its importance to supporting everyday life through nutrition. But when we look at health statistics we see a steady decline in the health of America and this raises several questions:

- With so many people taking supplements, why is the incidence of disease rising?

- Why are we constantly adding new supplements to the list to improve on the last version, and still not getting any results as a society?
- Why are the great scientific strategies for treating illness failing to stem the tide of more and more disease?

The answer to these questions and many similar questions has emerged. All food and dietary supplements have some value. The problem is not the supplements. The problem is that we do not have adequate immune function to utilize the nutrients, or “fuels”, we provide to our bodies.

To re-establish proper immune function a person has two options:

1. Retreat from civilization and try to establish a life with perfect food, rest, exercise, emotional stability, companionship, and no stress.
2. Use antigen infused dialyzable bovine colostrum/whey extract to “turn-on” and direct your immune system, and thereby gain the benefit of the things that you are doing which are good for you, and minimize the effects of the things you are doing that are not good for you.

In summary, the answer to our problems rests in recognizing that food and dietary supplements are “fuels”. Many are very good fuels. We have lost the ability to use the fuels, and we continue to lose more and more of that ability every day. We need a “trigger” to make the fuels useful.

Antigen infused dialyzable bovine colostrum/whey extract is the only known biological trigger as yet identified. In fact, the concept is so new that only now is the material being presented to immunologists around the world. As you will learn in this booklet, antigen infused dialyzable bovine colostrum/whey extract has only appeared as the result of numerous serendipitous events. The urgency of its mass utilization cannot be overemphasized.

“Triggers” and “Fuels”...the key to understanding and benefiting from diet and dietary supplementation.

The Spreading Effect

Antigen infused dialyzable bovine colostrum/whey extract causes another measurable immune system change that I have observed and often discuss in my lectures. I have labeled this change “The Spreading Effect”, which leads to improved NK cell function. Antigen infused dialyzable bovine colostrum/whey extract contains numerous immune system factors that are all very valuable. The presence of specific transfer factors, cytokines, defensins, and other immunological co-factors as assembled within antigen infused dialyzable bovine colostrum/whey extract brings a broad and meaningful influence to the immune system, which contributes to improved immune function and raise can help NK cell function.

No other supplement of any kind causes this effect. I have concluded that the broad antigenic stimulation utilized in producing antigen infused dialyzable bovine colostrum/whey extract must be responsible since this capability does not appear in other bovine colostrum or extracts from bovine colostrum or whey. Since 1983 I have tried virtually every product of this kind, in a clinical environment, with very well controlled conditions. Antigen infused dialyzable bovine colostrum/whey extract is totally unique in this regard.

The benefits of the spreading effect are very significant. Immune activity that influences virtually every facet of daily life is decidedly affected by antigen infused dialyzable bovine colostrum/whey extract. Regardless of the immune problem or area of weakness in immune function, benefit accrues. This also means that even a person that is not yet experiencing illness will benefit from strengthened immune function using antigen infused dialyzable bovine colostrum/whey extract. I want to point out once again that antigen infused dialyzable bovine colostrum/whey extract needs to be used in conjunction with good nutrition (food and/or supplements) to provide the “fuel” source to support the immune system.

In a time of great stress and a complicated society, supplementing one’s diet to support immune function may be critical. Everyone will benefit from the far reaching effects provided by antigen infused dialyzable bovine colostrum/whey extract to the immune system.

The Natural Killer Cells

In recent years the immunological community has begun to recognize and study special cells that are a part of our immune system called Natural Killer (NK) cells. These cells contain a large array of armaments that make them our foremost protection against the daily bombardment of viruses and cancer cells that reach our bodies. I sometimes spend an entire day discussing these cells in seminars.

In my studies I have become aware of the severe deficiency that exists in our NK cell reserves. Studies indicate that at one time we carried high levels of NK cell activity. Current measurements indicate we are at about 10-20% of those levels today. The implications of this fact are staggering. If we have no significant protection against cancer and viruses, we will not survive as a species. On our present course, extinction is a certainty, although evolution would hopefully step-in and create people with either high NK cell activity or a new system of living.

In the meantime, the pressures of a highly productive society are taking their toll on us individually. The NK cell measurement is, as I said earlier, very important.

I have proven through extensive clinical study that antigen infused dialyzable bovine colostrum/whey extract, when used in conjunction with other nutrients, will produce huge increases in NK cell function. Better yet, antigen infused dialyzable bovine

colostrum/whey extract supports this change without risk of over stimulating or otherwise confusing immune function. Antigen infused dialyzable bovine colostrum/whey extract is a very effective immune modulator. It regulates and does not stimulate the immune system. It only does what is needed, nothing more and nothing less.

Where does antigen infused dialyzable bovine colostrum/whey extract come from?

Antigen infused dialyzable bovine colostrum/whey extract can only be produced under the most unique circumstances. All of these factors came together before the material began to be clinically available around 1995.

In the late 1940's and early 1950's university professors and biochemists began to explore the observable benefits of bovine colostrum. By the early 1970's, bovine colostrum was being touted as a replacement strategy for antibiotics. However, the apparent effectiveness and simplicity of manufacturing antibiotics led to the exclusion of further consideration of bovine colostrum. Our medical and scientific leadership was so confident that we were on the right track that they predicted that disease would be wiped-out before the end of the century.

Those professors and biochemists that believed otherwise fought very hard in the 1970's and 1980's to keep alternate technologies available. Based on everything I have read about this matter, it is a miracle that this technology... now present in antigen infused dialyzable bovine colostrum/whey extract... survived.

Though many were aware in the 1970's, all of us have recently become informed that antibiotics are a huge failure. We now have organisms that live on antibiotics and diseases we cannot control. Antibiotics are immune suppressive, turning-off the only defense system we have to protect our health. In fact, most pharmaceutical products are immune suppressive.

The technology to produce antigen infused dialyzable bovine colostrum/whey extract became available in the mid 1990's as did the laboratory tests needed to study its effects. I was fortunate enough to have the opportunity to utilize both at the time of their original availability. Thousands of my patients have benefited from this technology and in the years to come millions and millions of others will similarly benefit.

Unlike ordinary colostrum or whey products, antigen infused dialyzable bovine colostrum/whey extract is an engineered extract that requires very controlled conditions in order to obtain the desired product.

Several key factors have to be in place to manufacture antigen infused dialyzable bovine colostrum/whey extract.

1. A privately managed dairy herd of organically raised cows.
2. A managed breeding program.
3. An effective strategy for antigenic stimulation. Only a process known as infusion has been demonstrated effective in nearly 50 years of study.
4. The ability to recover sufficient quantities of the immunological factors necessary to cause all these marvelous changes to take place.
5. A huge commitment to the importance of this technology.

The presence of all of these factors and the numerous details involved in each step is vital for the attainment of this natural balance through science, resulting in consistency and efficacy. Antigen infused dialyzable bovine colostrum/whey extract is no accident. It is the fruit of fifty years of research.

What About Side Effects?

In treating thousands of patients with antigen infused dialyzable bovine colostrum/whey extract I have noted no side effects. In fact, I would never expect any side effects to occur with an immune modulator. By its very nature, safety is assured. This is a food product, not a drug.

Some people will experience symptoms I call "healing effects". They are generally moderate cold-like, detox symptoms that most people recognize as appropriate. There is seldom any adverse reaction after a few days even if there is a healing effect after commencing use.

Clinical uses of antigen infused dialyzable bovine colostrum/whey extract.

Clinical conditions wherein antigen infused dialyzable bovine colostrum/whey extract has been helpful are as follows:

Weakened immune function

Weakened immune function can be clearly demonstrated through blood testing. Blood tests are the foundation of my diagnostic strategy. Using antigen infused dialyzable bovine colostrum/whey extract in conjunction with nutritional "fuels" I have been able to activate the immune systems of hundreds and hundreds of people. Most of them were probably beyond the help of conventional medicine. If antigen infused dialyzable bovine colostrum/whey extract activates NK Cell function in these people, their immune activity begins to improve quickly. As you will note in the studies, over 80% of all the patients I have treated have responded with improved immune function.

Irritable Bowel Syndrome

I believe IBS is one of the most misunderstood problems in medicine today. Highly common, this condition has many, many causes. However, two things are generally always factors:

1. The presence of an infection of some type.
2. Poor immune function.

Both of these factors are well served by supplementation centering on antigen infused dialyzable bovine colostrum/whey extract.

Chronic Fatigue Syndrome

There are few subjects I know more about than CFS. Consistently, I have great success bringing these patients back to normal levels of functioning by utilizing a program that centers on antigen infused dialyzable bovine colostrum/whey extract. In these patients it is critical to get the immune system going again, and only through improved NK Cell function has this been possible in clinical practice.

Candida Albicans

Much like IBS, several factors have contributed to the problems faced by an individual suffering from a chronic or acute Candida infestation. The only way to successfully control Candida over a long period is with good immune function. I have found that the easiest way to get good immune activity is to get NK Cell function rolling first. Antigen infused dialyzable bovine colostrum/whey extract has been critical in my ability to get my patients headed in the right direction in this regard as indicated in the studies.

Arthritis and Rheumatism

The roots of these diseases rest not in some spin of the wheel, or pre-destined outcome. In most cases a combination of factors that include injury, low-grade infection and inflammation trigger these common and highly difficult conditions. At the bottom of it all this difficulty lies compromised immune function and low NK Cell activity. Using antigen infused dialyzable bovine colostrum/whey extract to begin to rebuild the immune system has been a critical component to my success in treating these conditions.

Infection

We are all constantly fighting various kinds of infection. Now that we clearly understand the danger of antibiotics in treating infection we need another option. A well functioning immune system will deal very effectively with infections of all kinds. However, when immune function goes bad our ability to handle infection goes at the same time. I have found nothing more effective at dealing with infection than supplements in combination with antigen infused dialyzable bovine colostrum/whey extract. Application of antigen infused dialyzable bovine colostrum/whey extract and a sterilizing agent directly to topical infections has been very effective for me, my patients and my children.

Hepatitis C

I recently had a transcription of a case history of one of my patients with Hepatitis C published in the monthly publication *Alternative Medicine*. I have good success treating this "incurable disease" using totally natural substances. A cornerstone in this process mentioned in the article is antigen infused dialyzable bovine colostrum/whey extract. This disease can be treated, and I am hopeful that the protocols I have developed will reach the mainstream of medical practice very soon.

Colds and Flu

See infection.

Sinusitis

Here is an affliction that many people suffer from their entire life. This is a condition that benefits greatly from better immune function. The use of antigen infused dialyzable bovine colostrum/whey extract is absolutely critical to these patients, and strategies to apply antigen infused dialyzable bovine colostrum/whey extract directly to the membranes have been very successful in my practice. Again, this is another form of infection at the low-grade level, causing us to think of the problem as something other than that which it is really is.

HIV/AIDS

Antigen infused dialyzable bovine colostrum/whey extract will not cure or directly treat these conditions, but we are all well aware of the compromised immune function of these individuals. Activating the back door of the immune system and turning-on NK Cell function using antigen infused dialyzable bovine colostrum/whey extract can only be beneficial in dealing with the myriad of immune system challenges presented by these conditions.

Heart Disease

Only recently has medical science begun to see what immunologists have discussed for a very long time. There is a link between infectious disease and heart disease. There is no vehicle that can help us with infectious disease more effectively than our immune systems. Strong immune function can only be fostered by good health. Antigen infused dialyzable bovine colostrum/whey extract has been shown consistently to support good immune system activity and particularly to support NK Cell function. In the future we will learn more about the relationship of infectious disease to heart disease and I am convinced that the immune system will be a key factor.

Lupus

Lupus is a very troubling disease featuring a malfunction of the immune system. Antigen infused dialyzable bovine colostrum/whey extract is an immune modulator. Accordingly, Lupus patients can benefit from its use very significantly. Generally Lupus patients are afraid to use their immune systems to solve their problems because they have been educated to believe that the failure of their immune function is because their immune systems are over active. They would like to slow that activity

down. Actually, Lupus patients need to have their immune function modulated. Antigen infused dialyzable bovine colostrum/whey extract is very effective in accomplishing this task and I have had good success treating Lupus patients in this manner.

Cancer

A large percentage of my practice involves cancer patients. They all have low NK Cell function. As NK Cells are the primary defense system our bodies use to protect us from cancer, this is not a good situation. I have had considerable success in treating cancer patients using natural strategies. Please note the number of remissions in the clinical studies. Since a cancer patient has poor immune function, getting it going again is often very difficult. I have found that using antigen infused dialyzable bovine colostrum/whey extract I can often restart their NK Cell function, gain general benefit from what I call the "Spreading" effect and then help them use their own immune systems to combat the invading cancer. I am very excited about my success in reactivating the immune system and confident that as time goes by I will find more and more effective ways to treat patients with cancer. However, using antigen infused dialyzable bovine colostrum/whey extract will always be a fundamental part of my strategy.

Antigen infused dialyzable bovine colostrum/whey extract and aging

As yet there has been no quantitative data collected on the benefits antigen infused dialyzable bovine colostrum/whey extract presents in the timeless question of aging. In the constant human search for the fountain of youth we have looked everywhere but within ourselves. We may well have overlooked the source of the power to control or manage aging.

Most of us will die as result of disease. Nothing will age us faster and destroy the quality of our lives faster than disease. With those thoughts in mind, nothing could be done to reduce aging that would be more significant than improving immune system activity, especially improving the activity of the NK Cells.

So when the question of aging and antigen infused dialyzable bovine colostrum/whey extract arises from a patient, I have to respond with a very positive "yes". Antigen infused dialyzable bovine colostrum/whey extract is a good way to hedge against the effects of aging through the support of the immune system and the benefits derived therefrom.

Antigen infused dialyzable bovine colostrum/whey extract and Depression

Research relative to NK Cell function is producing more and more information about the relationship of depression and low NK Cell activity. Which is the cause and which

is the effect? I suspect that depression is often associated with the deterioration of the immune system. The brain is sending a very loud message about the condition of the immune system and we recognize that feeling as depression.

Much like a common cold is the immune system's way of cleansing itself and building new supplies for the future, depression may well be a message of far greater importance than a cold. I always recommend that all my patients use antigen infused dialyzable bovine colostrum/whey extract daily. For those suffering from depression with no other symptoms, the daily use of antigen infused dialyzable bovine colostrum/whey extract would always seem very appropriate as an adjunctive therapy.

Other Possibilities

In any situation where there is excessive demand upon the human body, the immune system will perform at its maximum but when that demand is overwhelming, the immune system begins to falter. Continual stress in the form of environmental pollutants, emotional strain, poor diet, overwork, lack of rest and other physical and emotional insults places more demand on the immune system than it is able to handle. When this happens we see the body develop signs and symptoms, which indicate that we need stress relief and immune system support. As we all live in a society where we are continually bombarded with stressors it would be prudent to specifically support the immune system even if we do not have any signs and symptoms of malfunction. I recommend antigen infused dialyzable bovine colostrum/whey extract as the first step in supporting the immune system. Secondly, I recommend that we look at our lifestyle and reduce or eliminate as many of these stressors as is possible. When you continue to place excessive demands upon the body there will be a time when it catches up with you and you join the other tens of millions of people as a health statistic compiled by the Center for Disease Control. Daily consumption of antigen infused dialyzable bovine colostrum/whey extract is a good place to start for taking care of your immune system.

Clinical Protocols

Effective understanding of the clinical studies that exist for antigen infused dialyzable bovine colostrum/whey extract may require a clear understanding of the nature of clinical study.

Clinical studies are a very valuable tool in validating the effectiveness of a formulation. Many people are unfamiliar with the character and credibility of clinical trials, including many health care professionals. Clinical studies differ from the more familiar "double blind" study in two significant ways.

Double blind studies are generally reserved for drug testing and not applied to dietary supplements. Only a portion of the study group receives the real treatment.

Clinical studies are concerned with obtaining a satisfactory outcome for all of the participants. With my patients, in addition to the ethical issues, withholding a treatment protocol or treatment component may have an adverse effect on the patient's survival.

The following information regarding clinical studies with specific medical references should be helpful in providing an understanding of the nature and significance of clinical studies.

Excerpts from:

Research: The Validation of Clinical Practice, Otto D. Payton, Ph.D.

"The first is to emphasize the importance of clinical research in validating clinical practice. In occupational and physical therapy all research roads eventually lead to the central question: What difference does it make to the patient?"

Research Methods in Clinical Oncology, Brigid G. Leventhal, MD, Robert E. Wittes, MD

"All physicians should understand the nature of the clinical trial, not only those who participate in them but also those who must interpret the work of others and make decisions about current best therapy for their patient. If one does not understand how a clinical trial should be conducted, then one cannot really evaluate the results of a trial conducted by someone else"

"Controlled clinical trials are necessary to detect small advances in treatment, but even with dramatic advances a controlled clinical trial is usually the best way to prove definitively that a particular treatment represents improvement."

"Medical school curricula give little emphasis to the teaching of clinical trials methodology."

Designing Clinical Research, An Epidemiologic Approach, Stephen B. Hulley, MD, MPH, Steven R. Cummings, MD

"In cohort studies, subjects are followed over a period of time in order to describe the incidence of natural history of a condition and to analyze predictors (risk factors) for various outcomes. Prospective cohort studies can provide strong evidence for cause-and-effect relationships because the predictor is measured before the outcome occurs; this establishes the sequence of events and helps control potential bias in measurement of predictor variables. When a disease is rapidly progressive or has common outcomes, the prospective cohort design is an especially efficient design."

Clinical Epidemiology, The Architecture of Clinical Research, Alvan R. Feinstein, MD

An Outline of Cause-Effect Evaluations – "The model can also be used for outlining the structure of forward-directed studies, in which the people under observation are followed as a cohort from baseline state through imposition of maneuvers to the occurrence of outcomes. This type of cohort research is called a clinical trial when the maneuvers are imposed with an experimental plan or an observational cohort when the maneuvers are imposed under ordinary circumstances, being self-selected by the recipients, chosen by clinical judgments of practicing physicians, or occurring as natural phenomena."

All of my clinical studies are based upon established clinical research protocols. I believe that the moral duty of a physician is to provide each patient with the best available treatment, giving each one personal, compassionate care and a scientifically sound and individually valid treatment protocol.

Compiled clinical information has been presented for antigen infused dialyzable bovine colostrum/whey extract in several studies in the past three years. The patients in these compilations are from my own medical practice and represent a diverse group of diseases in varying states of progression. Comments relative to the various presenting conditions for which I discerned the need for antigen infused dialyzable bovine colostrum/whey extract are as follows.

THE USE OF DIALYZABLE BOVINE COLOSTRUM/WHEY EXTRACT FOR NATURAL KILLER CELL STIMULATION IN CHRONIC ILLNESS

by
JESSE A. STOFF, MD

The immune system is the marvelous array of deftly interacting cells that defend our body against invaders arise from a few precursor cells that first appear at about 9 weeks after conception. From that point on, the cells of the immune system go through a continuously repeated cycle of growth and development and become fully competent at around 6 months of age after our birth. The parent cells of our immune system are referred to as stem cells. These are the cells upon which the immune system depends to both reproduce itself and gives rise to the many specialized lineage's that spring from it; the B cells, macrophages, natural killer cells, helper T cells, etc. The cells of the immune system are not isolated in a single body space or arranged in the form of a single organ. Instead, the majority of them exist as potentially mobile entities unattached to other cells. This characteristic is crucial to their function.

Every minute of everyday, war is waged within our body. Usually, we never even notice the battles within us. We sleep securely at night trusting the invisible vigilantes of our immune system.

The science and practice of immunology is traced back to 1721 to Lady Mary Wortley Montagu. She introduced England to a Turkish process of inoculation with unmodified smallpox virus in an attempt to stem the ravages of the normal course of the disease. Her techniques were quite crude and as many as her patients died as survived but those that survived were immune to the disease forever more. Over the decades and centuries scores of doctors and researchers honed the art of immunology into a more and more refined science. Many of the wonderful blood tests that we have today and information that we now know about immunology was unknown to us a scant 2 decades ago. Information on the science of immunology doubles at the rate of approximately every 5 to 6 years. So we must remember that the wonderful ways that we have today to support and direct the immune system to help protect us and fight off illnesses is a mere foreshadow of things to come in the (near) future.

There are 4 critical phases to the immunological response and they can be influenced by lifestyle issues and some nutraceuticals. During phase one, the offending invader is identified and recognized as being foreign to our body and then quickly consumed by hungry roving macrophages. You can think of macrophages as little "PAC men" that are found in all of the tissues in our body and circulating around in our blood stream looking for their next free lunch. They seize upon this foreign agent, engulf it, eat it and release a series of cytokines that then trigger the 2nd phase of the immunological reaction. These biochemical substances then activate the helper T cells, which have the job of coordinating the counterattack on a body-wide scale. The T cells then begin to multiply and release other cytokines that further stimulate more T cells, B cells, and natural killer cells. As the number of B cells increase, the helper T cells signal them to begin producing antibodies, thus, bringing us to the 3rd stage of the immunological response. At this time the antibodies are circulating around in our blood stream and are attaching to the foreign virus or bacteria causing them to be more quickly engulfed by macrophages or killed by natural killer cells. The 4th phase of the immunological response occurs when the circulating antibodies no longer have a target and the suppressor T cells call a truce to the immunological reaction bringing about a new balance, or homeostasis, in our system. Special cells of the immune system remember what had transpired so that if again attacked by the same organism our body could respond much faster. These cells also release special little molecules called transfer factor to help keep the pump primed, so to speak. Thus, what may have been a 10-day bout from our first exposure to that particular virus, in the future may be a cold that lasts no more than 24-72 hours.

Lifestyle issues that will effect the functioning of our immune system include; the exposure to toxins i.e. heavy metals, petrochemicals, radiation, and the like, as well as diet and nutritional deficiencies that can rob the immune system of the biochemical foundation that it relies upon in order to function normally. Another major lifestyle issue relative to immune function is that of stress.

Immune-modulation is the next step in supporting immune function. This can include a number of different substances, depending upon the situation, including: transfer factor, Astragalus, Echinacea, Siberian, Ginseng, Arabinogalactan, Viscum extracts, vitamin C, iodine, lactoferrin, certain amino acids, neurotransmitter hormones and the prohormone DHEA. In this group of patients I was interested in monitoring a generic NK cell response using transfer factor along with the herb Astragalus which is known to accelerate and support immunological reactions. The transfer factor product is produced from cows that have been specially immunologically stimulated. This process does not hurt the cow in fact it stimulates its immune system for its own protection, thus, these cows are actually healthier! When the cow has a calf the first flow of milk, the colostrum, is collected and the transfer factor molecules are extracted (dialyzed) from it. Since none of the milk proteins remain, these products are safe even for people with a dairy allergy. The purified transfer factor (TF) can then be given to people to passively stimulate their NK cells' function (alert-activity status) thus protecting them, at least to some extent, from illness.

In my practice I almost exclusively work with people with severe and chronic diseases, diseases that are known to have abnormally low levels of NK cell function associated with them. NK cells were discovered in the mid 1970's and constitute up to 15% of the total lymphocyte population in normal healthy subjects. They are capable of killing a broad range of tumor and virus infected cells. Depressed NK cell activity and depressed NK cell populations are associated with the development and rapid progression of cancer, hepatitis, AIDS, Chronic Fatigue Syndrome, various immunodeficiency syndromes, and certain autoimmune diseases. NK cells appear to present the first line of defense against metastatic spread of tumors. In numerous studies, low NK cell populations were correlated with greater and more rapid spread of tumors with shorter host longevity and with greater morbidity. These studies also demonstrated that correction of the NK population restored resistance. NK cell activity is correlated with disease status in patients with hematologic malignancy such as leukemias and lymphomas as well. In some studies, on patients with leukemia, a sudden and maintained decrease in NK cell activity was reported nearly always to proceed relapse even if the patient had been in complete remission for some time. This also correlated with a general drop in the percentage of lymphocytes as measured in a standard CBC. NK cell function is a well-regulated activity subject to both inhibitory and excitatory control.

Charts of 107 patients who presented with chronic diseases which were known to include low NK cell function were studied to determine their NK cell function response after being treated with a complimentary medical regimen of therapy. This regimen included antigen infused dialyzable bovine colostrum/ whey extract, which is a special dialyzable bovine colostrum/ whey extract, as well as other elements of the Holistic Medical Paradigm. The patients all self-selected this medical approach and most came with specific expectations having read *Chronic Fatigue Syndrome: The Hidden Epidemic* (1) or *The Definitive Guide to Cancer Therapy* (2).

The use of other nutritional support factors in conjunction with the colostrum/whey extract was important for patient recovery. However, I want to point out two significant factors in relation to that fact. Firstly, most of the patients were advanced in their conditions and often had tried other approaches for their health recovery before I saw them in my clinic. Secondly, I found that using the colostrum/whey extract was critical to their recovery. Without that component in their holistic regimen many of the patients simply would not have recovered. The recovery rate for these patients is very high.

I have also observed that people who were not severely compromised responded well to daily intake of the colostrum/whey extract in combination with other nutrients without a sophisticated nutritional program. Even though adequate nutritional support is always important it was noted that the extract of colostrum/whey with a limited combination of immune system support nutrients are very powerful and valuable.

With any health problem it is much more prudent and efficient to prevent disease by maintaining a high level of immune function. Research has shown that low NK cell activity is present in nearly all illness. I personally take the colostrum/whey extract with various NK Cell fuel sources daily as a prevention strategy as I know that this regimen will help keep my NK cell activity at high normal thereby dramatically increasing the ability of my immune system to keep me healthy.

The Use of Dialyzable Bovine Colostrum Extract in Conjunction with a Holistic Treatment Model for Natural Killer Cell Stimulation in Chronic Illness

Exhibit A – Patient Outcome Discussion

Patient Number	Patient Age	Condition	Months Treated	Initial NK Level	Last NK Level	Comments On Outcome
1	48	CFS, Psoriasis	20	21	780	Back to work, skin improving
2	50	Colon Polyps	26	1	174	Cured
3	48	Adenocarcinoma	22	1	1030	Remission
4	77	Prostate Cancer	21	7	657	Remission
5	49	Hep C	27	3	390	Remission
6	36	CFS	22	12	380	Back to work
7	39	CFS, EBV, Staph	27	8	365	Healthy
8	62	Prostate Cancer	22	3	90	Remission
9	66	Carcinoma	10	4	830	Remission
10	57	Carcinoma	11	9	415	Remission
11	42	Ovarian Cancer	15	23	148	Remission
12	78	Prostate Cancer	3	3	419	Remission

13	50	AIDS	36	1	330	Opportunistic infections ceased
14	61	CFS	25	0	204	Largely resolved
15	62	Colon Cancer	17	45	466	Stabilized
16	43	Severe Allergies	30	22	315	Resolved
17	56	CFS	23	20	225	Resolved
18	44	CFS & others	24	1	273	Resolved
19	56	CFS	16	26	399	Resolved
20	48	CFS	14	4	172	Resolved
21	41	Bladder Cancer	13	2	148	Resolved
22	76	Prostate Cancer	19	3	92	Remission
23	50	HSV-II	18	6	282	Remission
24	47	CFS, colon polyps	20	3	189	Much improved
25	49	CFS	23	1	266	Steadily improving
26	46	Ductal Carcinoma	13	11	179	Remission
27	60	CMV	38	4	297	Cured
28	72	Lymphocytic Leukemia	24	1	89	Stablized and improving
29	36	CFIDS, HHV-6	59	18	315	Resolved
30	37	Autoimmune Disfunction	29	1	623	Normal
31	41	Myelodysplasia	9	8	349	Normalized
32	82	Lymphoma (Non Hodgkin)	16	26	634	Stable and regressing
33	58	Lymphocytic Leukemia	39	0	730	Stable and dormant
34	38	Chronic infection	31	4	368	Normalized
35	36	Colitis, Allergy	36	38	550	Normalized
36	55	B-cell Leukemia	14	5	210	Stable and improving
37	66	Colitis	16	17	125	Much improved.
38	65	Prostate Cancer	13	21	367	Stable, good prognosis
39	33	EBV	29	1	295	Full remission
40	41	Thyroiditis	20	2	230	Much improved and improving
41	53	CFS	17	16	345	Improving rapidly
42	53	Myelodysplasia	10	5	249	Improving rapidly
43	64	Prostate Cancer	19	14	845	Asymtomatic
44	65	CFIDS, Allergies	23	14	398	Back to work.

45	30	Basal Cell Carcinoma	29	51	140	Resolved & remission post surgery
46	53	Breast Cancer	22	105	845	Disease free post surgical
47	76	Lung Cancer	9	25	88	Stabilized and resolving
48	55	Colon Cancer	12	40	72	Obstruction resolved and asymptomatic
49	59	CFS	5	11	21	Returned to active life
50	58	Breast Cancer	8	11	31	Recovering well.
51	65	Prostate Cancer	1	2	38	Full remission
52	56	CFS	11	20	127	Returned to active life
53	62	Colon Cancer	1	45	219	Resolved after incomplete surgery
54	48	CFS	6	12	101	"A new woman"
55	47	Cervical Cancer	4	1	46	Cancer, Herpes & genital warts in remission
56	49	Colon Cancer	8	3	49	Remission
57	51	CFS	19	21	780	Returned to active life
58	36	CFS, Lupus	16	7	28	Remission, back to graduate school
59	40	CFS	13	42	185	Recovered
60	48	Ovarian Cancer	12	79	399	Resolved
61	40	CFS	13	17	56	Returned to active life
62	43	Bladder Cancer	15	2	164	Remission
63	67	Prostate Cancer	2	5	103	Remission
64	66	Prostate Cancer	11	14	608	Remission, back to active life
65	50	Parotid Cancer	5	29	142	Remission, back to active life
66	79	Prostate Cancer	20	7	499	Remission
67	54	Breast Cancer	9	47	436	Remission
68	64	CFS	3	0	69	"Spunky again"
69	56	CFS	13	2	41	Full recovery
70	49	Lupus	9	8	38	Remission
71	63	Leukemia	5	117	376	Improving significantly
72	47	Breast Cancer	5	33	689	Avoided surgery, back to normal life
73	70	COPD, CFS	15	1	73	CFS resolved, back to spry grandma.
74	53	Breast Cancer, Thyroiditis	10	132	255	Thyroid corrected, cancer remission
75	50	EBV	8	15	28	Doing well, feels alive again
76	44	Ovarian Cancer	3	23	70	Remission

77	39	EBV, Lupus	7	19	66	EBV remission, Lupus has disappeared
78	52	Prostate Cancer	2	5	39	Full remission
79	84	Lymphoma	4	26	69	Full recovery
80	49	Appendix Adenocarcinoma	10	18	56	Full remission
81	50	CFS	3	4	44	Back to her old self
82	77	Cancer	8	82	348	Remission
83	55	CFS	5	18	50	Resolved, returned to career
84	21	EBV, Severe Herpes Stomatitis	14	5	32	Resolved
85	49	Leukemia	0.5	2	11	Remission
86	57	CFS	8	13	40	Really well, full remission
87	52	CFS	5	2	22	Improving steadily
88	66	Renal Carcinoma	7	3	11	Remission
89	55	Lupus	13	1	15	Doing well, slowly resolving
90	78	Prostate Cancer	6	3	19	Heavy chemo slowed healing, now in remission
91	40	CFS	15	100	169	Full recovery
92	48	Breast Cancer	4	3	38	Remission
93	31	CFS	1.5	12	86	Full remission
94	65	Prostate Cancer	1.5	18	287	Full remission
95	17	Acute Mono	2	0	79	Full recovery very fast
96	46	Ovarian Cancer	1.5	15	118	Full remission
97	38	Breast Cancer	2	3	218	No sign of disease
98	53	Lung Cancer	2.5	9	198	Improving significantly
99	68	Colon Cancer	2	36	246	Fully recovered
100	47	Cervical Cancer	2	20	182	Remission
101	31	CFS	2.5	7	68	Remission in four months
102	29	CFS	2.5	14	92	After 8 years illness, four months 90% of old self
103	62	Lymphoma	1	27	68	Tumor decreasing
104	73	Myeloma	2.5	4	148	Fully recovered
105	26	CFS	2	30	87	Full remission
106	43	Breast Cancer	1.5	17	289	Improving very nicely
107	58	Myelofibrosis	2	1	79	Making great progress

How much antigen infused dialyzable bovine colostrum/whey extract to take?

For daily maintenance of an otherwise healthy person at least 100 milligrams of antigen infused dialyzable bovine colostrum/whey extract should be taken in conjunction with the best immune system "fuels" available.

For people with compromised immune function or those experiencing the presence of disease, I recommend 600-800 milligrams per day. In the clinical environment I have found that more is better, though I generally do not subscribe to this theory relative to supplements.

Children are often the victims of compromised immune function, and the effects can be very significant when spread over a lifetime. We tend to ignore the state of their immune function, opting to give them more and more prescription medications as time goes by. They are not immune to the stresses all of us face in modern society and their immune function is affected significantly. Accordingly, I think antigen infused dialyzable bovine colostrum/whey extract should be made available to children from birth. I suggest that children up to the age of 12 receive 25 to 50 milligrams per day as a minimum and by age 12 they can move to 100 milligrams per day as a minimum.

Final Notes

There have been many times in history where we would have been well served by altering course and heading in a new direction. The use of immune modulation strategies in maintaining health and healing will require a large shift in our vision of patients, doctors, and medicine but the payback appears to be huge.

Picture a world where healing occurs from within, not from without. A world where illness is viewed as a pathway to good health. Picture a world where immune suppressing drugs and therapies are only used in the most unusual cases, or perhaps not used at all. To reach such a world we will need effective immune modulation through nutrition and supplementation.

Antigen infused dialyzable bovine colostrum/whey extract opens the door to making the vision of a significantly healthier and happier world a reality. Its potential impact on world health is very impressive and compelling.

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