

## **Inflammation and Disease; Prevention Not Intervention**

### **The Secrets You Need to Know**

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Those who suffer regularly from pain, especially joint pain, are all too well aware of the discomfort brought on by chronic inflammation, a leading cause of which is oxidative stress. The effort made by millions of people to relieve such pain is making drug manufacturers quite wealthy. There is a better way. Medical research is showing that the road to good health is through the reduction of chronic inflammation and Total Nutraceutical Solutions is leading the way with a whole new approach for attacking chronic inflammation. ImmuSANO™ naturally assists in balancing cellular function and promotes a stronger immune system to ward off the damage caused by oxidative stress. GlucoSANO™ uses a holistic approach to assist in maintaining a more normal cellular metabolism and in stabilizing blood sugar levels. GROH™ is specially designed to nurture hair follicles, and nutritionally support nail beds. Combined, these products provide a nutrition-based whole food approach to overall immune system support and prevention of inflammatory- associated disorders.

Growing older may be inevitable but pain, illness and disease are not. It really is possible to slow the aging process, keep pain at bay and protect yourself against many of the world's most feared diseases. Total Nutraceutical's line of nutritional supplements provides a natural way to good health. And this prevention doesn't come in the form of modern medical science with its ever-increasing number of pharmaceuticals and drugs, with their associated side effects. The solution is far more simple – nutrition.

This solution, however, is not what the modern medical industry wants you to hear, but a growing body of research is providing clear evidence that proper nutrition really is the key to a long, healthy and pain-free life. This research indicates that the majority of health problems are the result of chronic inflammatory changes within tissues and organs. Understanding and preventing chronic inflammation, which contributes to joint pain but also heart disease, Alzheimer's disease, stroke, diabetes, arthritis and a variety of other ailments, may also be a key to preventing the development of cancer.

Chronic inflammation occurs when the body's healthy, balanced state is upset. All forms of life, and this means humans and animals, must maintain a balanced, healthy cellular environment to remain healthy and be diseases and illness free. When this delicate balance is disturbed, a situation called oxidative stress occurs. Oxidative stress can damage all components of the cell, including proteins, lipids and DNA. In humans, oxidative stress is involved in many diseases and conditions such as bowel inflammation (Crohn's disease), Parkinson's disease, arthritis, atherosclerosis/heart disease, Alzheimer's disease, even depression and aging. The risks of oxidative stress are known to most people, because manufacturers of synthetic nutritional supplements and drugs have run marketing campaigns expounding the dangers of oxidative stress and damaging free radicals. Many nutritional supplement companies would like you to believe that their products will protect you, because they have antioxidant properties that help counter damaging free radicals.

But don't be fooled. Single vitamin supplements alone are not effective and no matter how much manufacturers promote their supplements as natural, natural is one thing many are not. The only things that are natural are vitamins and nutrients obtained through whole foods. Mother Nature knows what she is doing. Vitamin C is in oranges for a reason and that reason is that vitamin C, like most vitamins, does not work alone. It's all the other nutrients, enzymes and support molecules in the orange working with vitamin C that make it effective. Extracting vitamins from foods or synthetically producing them in laboratories to be ingested as supplements is not a natural, nor an effective way, of providing our bodies with the nutrients they need to counter oxidative stress and help us remain disease free. Nature has led the way in guiding us to health for thousands of years and has provided the answer to us in the form of foods – the basic ingredients of life.

There is probably no more feared disease in the modern world than cancer and while many have come to believe that there is little they can do to prevent cancer, research indicates otherwise. A September 2008 article in *Pharmaceutical Research* went so far as to declare that cancer is a preventable disease. The key to prevention is how we live and what we eat. This study argued that as few as 5-10 percent of cancers are due to genetic defects and the rest are the result of lifestyle choices, such as smoking, environmental factors and such factors as stress, obesity and diet. What matters most to the average person regarding the study is that researchers presented evidence indicating that inflammation was central to the onslaught of cancer.

When most people think of inflammation, they think of inflammation of the joints and joint pain. This is the most obvious form of chronic inflammation, from which millions suffer, but just as serious is inflammation of organs and tissues – things that aren't necessarily felt or noticed until it's too late. Clearly, not all inflammation is bad. Inflammation is the body's way of healing an injury and attacking invaders, such as bacteria and viruses. In other words, inflammation is the body's response to a threat and without that response, injuries would not heal and we would not recover from many illnesses. However, in a normally-functioning immune system, once the threat has been dealt with, the immune system shuts down the inflammatory response. On the

other hand, when the immune system is out of balance chronic inflammation can result and that is the danger.

There is increasing evidence in medical research that inflammation of organs and tissues is at the heart of what triggers illness and disease and based on this, medical researchers are coming to the conclusion that controlling inflammation throughout the body is the key to preventing a multitude of conditions, including the effects of aging and even cancer.

This relationship leads to the question of how does one prevent inflammation in the body? The area that is most obvious to us as being inflamed is in joints and the massive number of drugs devoted to addressing the pain resulting from joint inflammation indicate just how serious a problem is joint inflammation. Because inflammation is linked to oxidative stress, the solution is to counter it with antioxidants. Hence, this is the reason for the dramatic rise of the nutritional supplement industry with its mass of anti-oxidant products.

Natural vitamins such as C and E are good antioxidants, but research undertaken by Total Nutraceutical Solutions and scientists at well-known universities has led to the discovery of a far more potent antioxidant nutrient. L-Ergothioneine (ERGO) is probably the most potent antioxidant known to date. Each ERGO unit, based on the well accepted ORAC test, is the equivalent of *7000 units* of water soluble vitamin E! Imagine a free-form antioxidant property *7000 times stronger than water soluble vitamin E*. A recent article from The Johns Hopkins School of Medicine suggests that ERGO may represent an important new vitamin with the capacity to protect cells. In the article, published in 2009 in *Cell Death and Differentiation*, authors Paul and Snyder noted that evidence from research indicates that cells lacking in ERGO are more susceptible to the negative impacts of oxidative stress.

ERGO is a unique, naturally occurring antioxidant that has intrigued both scientists and doctors since its discovery in 1909. This essential nutrient is needed for human energy metabolism and to protect cells in the body from oxidative stress and damage. The \$64 million question is why is it that ERGO is a key to proper bodily function yet humans cannot manufacture and produce this nutrient? Some of the most important cells in the body, such as red blood cells (carry oxygen) and white blood cells (immune system) have their own ERGO Transporter.

Amazingly, ERGO is one of the most overlooked essential nutrients for people. Most people, and doctors, are unaware of its importance and yet, nature has provided humans with a specific transporter for ERGO. That is, research by Dr. Dirk Gründemann at the University of Cologne, Cologne, Germany, found that humans, and other animals as well, have a unique transporter designed to deliver ERGO to the body's cells. ERGO's preferential localization, plus its unique specific transport system, within certain important cells, such as the red blood cell, makes it unique among naturally occurring antioxidants. This essential nutrient apparently protects the mitochondria (cellular power plants), hemoglobin and associated oxygen within the red blood

cell and stimulates energy production within this cell. Evidence also strongly suggests that it plays a role in the regulation of energy requirements of most cells within the body.

If humans cannot produce the vitally important ERGO, then how do we get it? The greatest source is from one of the oldest whole food sources known – the mushroom. Mushrooms contain some of the most powerful anti-oxidative properties known in any food product, have strong anti-viral properties, excellent anti-inflammatory active ingredients and have proven anti-tumor elements. Evolution strives for perfection and in this sense so does the mushroom, which has evolved a unique complex enzymatic system that contains thousands of bioactive nutrients, proteins and antioxidants and important beta-glucans, which research has shown help to modulate the immune system. Obtaining these bioactive nutrients, vitamins and antioxidants through a whole food, such as the mushroom, is far more effective than through single vitamin supplements or through synthetic or extracted antioxidant supplements. Drugs and pharmaceuticals are used as agents of intervention to alleviate symptoms and mask problems. These agents do not prevent. Only nutrition through whole foods has the natural capacity to prevent disease.

Total Nutraceutical Solutions realized that mushrooms, with their contained L-Ergothioneine with its potent anti-inflammatory actions could represent a new organic approach to the prevention and alleviation of inflammation associated with many diseases such as joint disease, bowel disease, heart disease, Alzheimer's disease and even early aging. The result was the production of natural, proprietary formulas, such as ImmuSANO™ and GlucoSANO™ to assist people in the alleviation of inflammation and to nutritionally support the body to maintain normal cellular and organ function. Moreover, the vegetable-based, whole food components used are products of nature and are not synthetic. These natural ingredients in our products include L-Ergothioneine and organic selenium compounds – important nutrients that, as already stated, research shows are required by the body, even though the body cannot make them. The body must receive them through proper nutrition.

What I can tell you is that I have been taking the ingredients in ImmuSANO™ and GlucoSANO™ for the past two years, since we began studying these food sources, and I feel great! I have more energy, more focus, increased mental acuity, smoother skin and better joint flexibility with almost absent back pain for my age and a dramatic increase in nail and hair growth.

How can adding nutritional whole foods, such as those contained within the TNS products, give these results, considering the fact that I routinely attempt to eat well, get at least six to seven hours of sleep a day, exercise and try to maintain a healthy mental outlook? The answer is that I, and many others, are lacking in nutrients that are only supplied by certain whole foods that are

not regularly consumed in my daily diet. Adding these key nutrients to the diet fill an important gap in an otherwise healthy lifestyle.

The other key ingredient in our nutritional supplements is vitamin D2. Synthetic vitamin D3 is created in factories as an industrial by-product of animal harvesting. It has no synergists, no enzymes nor minerals. Would you trust your health to a commercially-produced synthetic industrial by-product? I think not! TNS dietary supplements contain only natural, organic Vitamin D2 from natural vegetable based sources that have been consumed for thousands of years. From the Egyptians, at the time of the pyramids, to indigenous Brazilian rainforest tribes, these natural, mushroom-based food sources have been known as magical cure-alls. The products contain both natural Vitamin D2, called ErgoCalciferol, L-Ergothioneine, and many natural nutrients that have no side effects, unlike many synthetic drugs. And even better yet, published research articles state that Vitamin D deficiency is associated with many conditions, such as diabetes, heart disease, and various cancers, including colon, breast and skin. There is even some evidence suggesting that this vitamin may even prevent depression.

We, at Total Nutraceutical Solutions, are on a mission to inform and educate people about how a nutritional lifestyle change can help prevent disease and lead to a healthier and more productive life. We cannot stop the relentless movement of time and our biologic aging clock. We can, however, do everything in our power to maintain normal cell and bodily functions as we get older. There is no question but that humans have the capacity in their bodily programs to live longer lives than they presently do and even with more normal bodily functions.

My words are only words and it is up to everyone who seeks to feel better to try these natural whole food products. It won't take long before you know if better nutrition is improving your life. Within 30 days, you will easily be able to determine how much better you feel and will know what impact, if any, these products are having on your daily life. One cannot hypothesize, one must "drive the car," and the same is with life! Take our natural, whole food products for a test drive and feel the difference for yourself.

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To learn more about nutritional supplements produced by Total Nutraceutical Solutions call 866-998-7173 or visit us online at [www.mushroomsolutions.com](http://www.mushroomsolutions.com).