GLUTATHIONE-

THE MIRACLE MOLECULE

Recent statistics have good news for us. Centenarians are the fastest growing age group in America. What's the secret to a long and healthy life? And, what can you do right now to ensure you will one day take your place in the ranks of vibrant 100 year olds?

The answer can very well be found in the presence of a small but potent molecule made in every cell of your body called glutathione. While glutathione may not have the same notoriety as other more high profile nutrients such as vitamins C and E, it certainly is a miracle molecule.

Glutathione levels of 41 centenarians between the ages of 100-105 years old were compared with people between 60-79 years old. They found that the mean glutathione activity was significantly higher in centenarians than in the group of younger elderly subjects, and that centenarians with the best functional capacity tended to have the highest glutathione activity.

The study concluded that high glutathione levels are associated with increased survival. In a later study, glutathione levels were evaluated in 87 women in excellent physical and mental health ranging in age form 60-103. The scientist found that all women had very high blood glutathione levels. They followed these women for five years, and concluded "high blood glutathione concentrations….are characteristic of long-lived women.

The life-Extending Master Antioxidant

Glutathione (GSH) is a tripeptide molecule composed of three amino acids: glutamic acid, cysteine and glycine. It is one of the main non-protein antioxidants that exists within each cell, and has been referred to as the body's "master antioxidant." It rules the body's cells and is abundant in cytoplasm, nuclei and the mitochondria.

Although discovered in 1888, the initial research on glutathione deficiency was conducted in the 1920's and the 1930's and concentrated on the eye, particularly the lens. It is well known that macular degeneration is related to low levels of glutathione. By the 1980's, researchers realized that glutathione was a major player in all aspects of good health and disease prevention.

Without adequate glutathione levels, each cell would eventually disintegrate from massive free radicals damage, your body would have little resistance to metabolic waste products, and your liver would be severely compromised from the eventual accumulation of toxins. Our cells would also be defenseless against the many bacteria, viruses and many of the carcinogens that pose a health threat.

For the past three decades, researchers have been investigating the role of antioxidants for the maintenance of good health as well as for the prevention and treatment of oxidative stress-induced diseases.

While the better known antioxidants such as vitamin A, vitamin E and selenium must be obtained from the diet. Glutathione, however, is considered the master antioxidant because all other antioxidants depend upon the presence of glutathione to function properly. For example, it is essential in

regenerating oxidized forms of vitamins C and E by re-circulating them back into antioxidant function. Normally once these antioxidant vitamins scavenge free radicals, they can become oxidized themselves and attack the healthy cells. This is known as peroxidation. Glutathione easily restores them to their reduced form so they can resume the fee radical scavenging activity again.

When the glutathione systems are functioning effectively, the use of antioxidants maximizes their effectiveness in the treatment and prevention of degenerative diseases associated with oxidative stress. This includes arthritis, cancer, cardiovascular diseases, diabetes and macular degeneration.

Glutathione performs important jobs in the body which includes protecting cells against the destructive effects of free radicals; detoxifying external substances such as drugs, environmental pollutants and carcinogens; maintaining cell membrane stability; regulating protein and DNA biosynthesis and cell growth; enhancing immunologic function through its influence on lymphocytes; prostaglandin synthesis; and amino acid transport.

Since it is involved in so many critical functions, glutathione impacts all level of the body's physiological functioning. It is believed that glutathione has the potential to treat and prevent hundreds of diseases. When you consider the role glutathione plays in the basic wellness of cells, the primary living building blocks in our body, you can appreciate why maintaining glutathione levels is critical for optimal well-being.

Essential Support of Immunity and Detoxification
In addition to its role as a powerful antioxidant, glutathione also serves as an immune system enhancer and a detoxifier.

As an immune system enhancer, glutathione is needed for the proper functioning, and in particular the creation and maintenance, of T cells lymphocytes, the body's front line defense against infection.

Glutathione plays a central role in the proper function of the white blood cells. Dr. Gustavo Bounous, a leading Canadian glutathione expert, researcher and author, says, "The limiting factor in the proper activity of our lymphocytes (the white blood cells) is the availability of glutathione. The healthy growth and activity of the white blood cells depends upon high levels of intracellular glutathione."

In people with immune deficiency, glutathione levels fall well below the normal levels in blood and immune cells. Restoring glutathione levels to those found in healthy people has benefited immune deficient patients. Studies have suggested that an increase in the glutathione level in the body can help patients with HIV (AIDS) to improve their survival.

In a toxic world, survival literally depends on the body's ability to adequately detoxify the tens of thousands of chemicals that are inhaled, ingested, and absorbed into the body. Glutathione also comes to our rescue as a major detoxifier. The level of glutathione in the liver is critically linked to the liver's capacity to detoxify. This means the higher the glutathione content, the greater the liver's capacity to detoxify harmful chemicals. Glutathione is able to bind to organic toxins, as well as heavy metals, solvents and pesticides, and transform them into a form that can be excreted in urine or bile.

Glutathione's Role in Cancer Prevention
Columbia University School of Public Health, estimated that 95% of cancer is caused by diet and environmental toxicity. It is evident that in order to prevent cancer, it is imperative to protect the body from this onslaught of toxins.

Dr. Dean Jones Ph.D., professor of biochemistry, Director of Nutritional Health Sciences at Emory University and a recognized expert on glutathione states, "The role of glutathione that has probably received the most attention in the past 50 years is the function of glutathione as an anti-carcinogen. Glutathione is used to counter reactive chemicals that would otherwise cause mutations in the DNA and cause cancer. A little over 50 years ago it was recognized that many chemicals we are exposed to are activated in the body to reactive chemicals, the most central way the body gets rid of these is by reacting these with glutathione. Glutathione is the most anticarcinogenic chemical we have in our body.

Most people do not inherit "cancer genes" rather; they have a genetic weakness in their detoxification system. Glutathione is an extremely important part of the detoxification system, and thus of our defenses against cancer.

The Miracle Molecule
Over 80,000 published studies have shown the glutathione has a profound effect on a multitude of health challenges. As a powerful free radical scavenger, immune enhancer and detoxifier, glutathione has shown to be effective in the following conditions; autism, cardiovascular disease, autoimmune diseases, asthma, diabetes, lung disease, Parkinson's disease, gastrointestinal inflammation and Crohn's disease, hepatitis, chronic fatigue syndrome, neuro-degenerative diseases such as MS (multiple sclerosis), ALS (Lou Gehrig's Disease), Alzheimer's and Parkinson's and degenerative eye conditions such as cataracts an macular degeneration.

Medical science is still ascertaining all the critical roles played by glutathione in disease resistance and general good health. Clinical evidence links low glutathione levels to the most common illnesses of our time as well as newly emerging diseases.

Staying healthy as well as recovering one's health requires maintaining high levels of glutathione. The older we get the more our levels of glutathione decline, especially after the age of 45. Therefore, shoring up your glutathione reserves is crucial.

Who needs to increase glutathione levels? If you have been diagnosed with a chronic illness, are in pain, have autism, are under stress, have digestive problems, have a weakened immune system, eat a lot of processed foods, engage in strenuous exercise, are overweight and feel fatigued, glutathione will be a real boost to your wellbeing.

And if you are committed to staying healthy and energetic, then a successful anti-aging program necessitates maintaining high glutathione levels.