# The Health Benefits of Liposomal Vitamin C

Vitamin C is one of the most widely recognized and used anti-oxidants in the world.  This anti-oxidant plays a critical role in helping the immune system, joints, and arteries heal and function properly.  Liposomal vitamin C is a technological breakthrough in nutrient assimilation and offers incredible health benefits.

Much of our physiology is based on the movement of electrons from one compound to another.  Unstable molecules that are missing an electron are called free radicals and they are catabolic to the body.  These free radicals are formed in a cycle called oxidative stress that creates damage and instability in cells, tissues, and organs in the body.  Vitamin C is an anti-oxidant that acts to donate an electron to neutralize free radicals and restore peace and harmony to the body.

## The Health Benefits of Vitamin C

Vitamin C plays an important role in the health and function of the immune cells.  White blood cells depend upon vitamin C in order to survive and withstand the attack of pathogens and free radicals.  Vitamin C also plays an important role as an antihistamine and reduces inflammatory conditions associated with colds, fevers, flu’s, and allergies.

Vitamin C also plays an important role in the production of collagen which is the major constituent in ligaments, bones, discs, tendons, and skin.  High dose vitamin C has been shown to improve the healing process of burns, cuts, wounds, sprains/strains, and broken bones.  It is also extremely important for the health of the eyes and many experts believe that as little as 1,000 mg of liposomal vitamin C daily may

stop cataracts all together.

## Vitamin C and Cancer

Environmental toxins damage cells and intracellular organelles leading to altered cellular metabolism and genetic mutations. Vitamin C has powerful antioxidant properties that protect against the oxidative stress against the cell. High doses of vitamin C are even more important when large cancerous growths already exist within the body. Oral vitamin C does not directly attack cancer, but it helps to keep the immune system strong and empowers it to destroy the cancer.

IV dosage of vitamin C acts as a pro-oxidant that forms hydrogen peroxide and acts as a chemotherapy type of agent that destroys cancer cell formation. Liposomal vitamin C acts to prevent the oxidative stress that alters intracellular organelles and genetic mutations. It also acts to prevent the chronic inflammation that allows mutant cells to develop into fast growing cancerous tumors. This should never be used alone as a cancer therapy but as an adjunct in conjunction with a full-fledged natural or traditional medical protocol.

## Vitamin C and Heart Disease

Vitamin C helps to protect the arterial walls throughout the body. The blood vessels that are most important and under the most stress are the coronary arteries that feed the heart muscle. Vitamin C helps reduce infections and other forms of oxidative stress that affect these blood vessels. It also prevents the oxidation of cholesterol in the bloodstream.

Vitamin C also improves lung function and overall oxygenation within the body. Asthmatics tend to have a higher need for vitamin C and doses of 2000 mg per day lessen the body’s production of histamine and lung associated inflammation.

Vitamin C also improves blood sugar stability which is

particularly important for individuals with heart disease and diabetes. When blood sugar is elevated and not properly monitored in the body, the sugar molecules bind to proteins in the body and form advanced glycolytic end products (AGE's). These AGE's create rampant amounts of tissue damaging oxidative stress in the body. Dosages of 1,000-3,000 mg per day drives down AGE formation and improves circulation and tissue oxygenation.

## Best Delivery System for Vitamin C

Much of our biological chemistry is based around water and fat solubility. Just as water and oil do not mix, there are challenges involved with bringing a water soluble nutrient into a fat soluble matrix such as the cell membranes. This incompatibility leads to lower rates of nutrient uptake and utilization within the cell.

Vitamin C is a water soluble vitamin and it doesn't interact particularly efficiently with the cell membrane wall, which is made up of fatty acids. Estimates are that oral vitamin C intake has a 20% absorption rate into the bloodstream with the other 80% accumulating in the colon. Oral vitamin C intake is also associated with unpleasant digestive complaints such as cramping and diarrhea because it draws water into the colon.

## What are Liposomes

Liposomes are tiny "nano-size" fat soluble vehicles for carrying nutrients to the body's cells. Dr Alec Banham, a hematologist at the Babraham Institute in Cambridge, UK, discovered the liposomal technology. "Lipo" is Greek for fat while "soma" means body. These are a double layer of fatty materials which is similar to the phospholipid bilayer of the cell membranes in the body.

Liposomal vitamin C is packaged like a bodily cell so it passes through the digestive barrier and delivers the nutrient

directly to the bloodstream.  This has a much higher absorption rate with over 90% of the cells being bathed in vitamin C.  This is even vastly superior to IV vitamin C ,which is an expensive but effective procedure that is done quite often in hospitals and alternative health clinics.

## The Correct Liposomes

Liposomal size plays an important role in its ability to hold the greatest volume of vitamin C.  The correct size should be between 100 to 400 nanometers in size.  They should be quality tested at a FDA regulated facility to ensure safety and quality.

The best carrier for liposomal vitamin C is phosphatidyl choline (PC) which helps to hold the liposomes together.  Ideal ranges should be between 250-500 mg of PC per dose in a liposomal vitamin C formula.  This PC should be derived from a non-GMO sunflower lecithin rather than a soy based lecithin.

## Case Study Shows Powerful Effects of Liposomal Vitamin C

New Zealand dairy farmer Alan Smith had a miraculous recovery from a coma induced by leukemia and severe double lung pneumonia.  Doctors were ready to pull the plug on him when the family begged them to try high dose IV vitamin C.  Alan began showing positive results after the doctors administered 50-100 grams of IV vitamin C.

Unfortunately, the doctors at the hospital who were relatively uneducated on vitamin C were concerned about any possible complications with the high dose IV vitamin C.  They dropped the dosage to 2g of vitamin C and Alan began to struggle for survival again.  His family began giving him 6 grams of oral liposomal vitamin C and within weeks he was significantly better and was discharged from the hospital.

## IV Vitamin C versus Liposomal Vitamin C

Some experts in the field of vitamin C such as Dr Thomas Levy, are saying that 6 grams of liposomal vitamin C is equivalent to 50 grams of intravenous vitamin C. Intravenous vitamin C elevates blood levels of vitamin C significantly higher, however, without the liposomal membrane this water soluble vitamin C is unable to efficiently penetrate the cell membrane.

Oral vitamin C acts as an antioxidant to reduce oxidative stress in the body. Intravenous vitamin C is a pro-oxidant drug that helps produce hydrogen peroxide which targets cancer cells while leaving normal cells unharmed. So it does have great benefits in advanced cancer patients.

The cell membrane blocks much of the vitamin C that is in the bloodstream from getting into the cell. The liposomal membrane is able to fuse with the same material and configuration that resides on cell walls. This results in a lower minimal necessary dosage and saves a tremendous amount of money and stress to the consumer.

Intravenous vitamin C treatments cost between $125 – $160 a session. Typical sessions last around two hours. A daily dosage of 6g of Liposomal vitamin C costs less than $5 per day and takes no time at all. It does not require a doctor or needles and is very easy and user friendly as we are all familiar with swallowing a pill.

## Liposomal Protocols

For an individual with no major symptoms or diagnosis that wants good general health

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| 1-2 grams is optimal | Take 1,000 mg | 1-2 x daily |

Extreme Athlete or Individual with Major Health Challenges:

4-6 grams is optimal Take 2,000 mg 2-3x daily

Extreme Disease – Late Stage Infection, Cancer, Heart Disease, etc.

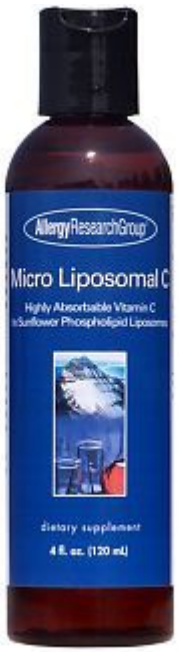
8-12 grams is optimal Take 4,000 mg 2-3 x daily

With liposomal vitamin C, I like to be aggressive so I would take the upper dosage and if you notice any complications (such as high or low blood pressure, dizziness, nausea, cramping, diarrhea, etc.) try cutting down to the lower dosage and observe for any changes.

## Contraindications

One of the contraindications for vitamin C usage is a glucose-6-phosphate dehydrogenase (G6PD) deficiency. This is an inherited condition where the individual doesn't have the G6PD enzyme. G6PD helps the body to function normally and very high dose vitamin C infusions or very high dose liposomal vitamin D has a possibility of causing hemolytic anemia.

Other contraindications would include allergens to the liposomal compounds such as sunflower lecithin as discussed here. Individuals who are pregnant, young children, and anyone taking blood-thinning medications should use smaller dosages. It is always advisable to discuss vitamin C therapy with your doctor before beginning although most doctors have very little experience with this.




Those with iron overload should understand that vitamin C increases the absorption of iron into the body, especially in the heart where it can cause problems. Ferritin levels should

ideally be less than 80 and transferrin saturation should be less than 40%.  If you are above those levels, donating blood would be a great idea.  Also, wait 2-3 hours after taking the liposomal vitamin C before eating red meat or anything else that is high in iron if iron levels are high.

## Proper Protocol

A PET scan usually is a guidepost. If the PET is positive, the tumor usually responds to the vitamin C. If the PET is negative, but there is an active tumor present, vitamin C is less effective in most cases. Vitamin C therapy works best in the early stages of cancer when used in conjunction with chemotherapy or radiation. It is not intended as a stand-alone treatment or as a last effort treatment for patients in the late stages of cancer,

However, when considering the multitude of benefits associated with oral liposomal vitamin C supplementation and the costs associated with getting a PET scan, one may choose to just opt with the vitamin C supplementation.  At the very worst, it may not have much influence on the particular tumor but will enhance all other bodily systems.  The net effect will be well worth the time and financial investment in taking the liposomal vitamin C.

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