

ESTERIFIED VITAMIN C

The *World's* Most Popular Supplement Takes On A *Who/e* New Form

Vitamin C - Past to Present

Vitamin C has a long and colorful history. Before it was known by its current name, its importance was realized by people of many cultures. In the 1750's, Dr. James Lind demonstrated the importance of citrus fruit in preventing scurvy among sailors and led to the nickname "limeys" for British mariners. Perhaps less well-known is that the name "ascorbic acid" comes from similar roots, "antiscorbutic", being the technical term for antiscorbutic.

The fact that we have to take vitamin C at all seems to be a sort of biological accident, probably a genetic mutation, which happened hundreds of thousands of years ago. Virtually all animals can produce ascorbate from glucose in their liver through a step-wise biochemical chain of reactions, each mediated by a specific enzyme. In humans, the last enzyme in the series is missing, and it is the loss of this unit that accounts for the vast majority of people in the world being short of acceptable amounts of vitamin C for optimal health and longevity. Some scientists estimate that without the genetic defect, the human adult would manufacture 10,000 to 20,000 milligrams of ascorbate daily and three to five times that amount during stress.

While vitamin C is plentiful throughout the plant kingdom, in light of the fact that most people are deficient in it is evidence that few people consume a well-balanced diet. Those who wish to supplement their daily intake now have a new option — esterified vitamin C.

Vitamin C - A Necessary Nutrient

Almost anyone can recite at least two or three good reasons to take vitamin C, and new discoveries are regularly announced. Its virtues have been extolled for decades and supplements from a few milligrams to megadoses have been advocated for everything from the common cold to cancer. The clinical reports supporting the diverse claims of this healthful substance are growing at an astounding rate. Below are just a few of the more recent studies conducted on vitamin C.

Because the eye contains a very high concentration of vitamin C, studies were conducted to explore the possible link between cataract development and vitamin C deficiency. In a study involving 108 cataract patients, Dr. A. Ringvold and his colleagues found that the majority of the patients lacked adequate levels of vitamin C.

A study conducted at the University of Chile in Santiago demonstrated that by adding approximately 100 milligrams of vitamin C to the diet of 364 infants, their absorption of iron doubled.

The "British Journal of Clinical Practice" ran an editorial written by Dr. I. Haslock, who observed elderly patients with joint diseases also often suffered, from vitamin C deficiency. Vitamin C deficiency frequently leads to excess blood in the joints, which in turn leads to many forms of arthritis.

In a number of separate studies that included adults of all ages, smokers and nonsmokers, and males and females, researchers found that daily supplementation of vitamin C effectively lowered serum cholesterol by an average of 15 % over an average of 2 to 12 months.

Others studies on vitamin C have concluded that daily supplementation significantly boosts the immune system, helps prevent and fight various forms of cancer, and effectively diminishes the incidence of periodontal disease.

Advantages of Esterified C

Recently a new and different kind of vitamin C was discovered, called ester C. The excitement over this discovery is that it offers all the benefits of the current forms of vitamin C, plus a few others of its own

Ester is a chemists word to describe a particular chemical bonding configuration **Esterified** vitamin C means that several ascorbic acid molecules have been linked together in a certain way to form one large molecule.

The advantages of the esterified form go far beyond simply bonding several ascorbic acid molecules together. While it is true that there are significant advantages in that alone, there are

others. **Non-ester** forms of vitamin C are quickly eliminated from the body. Supplements of vitamin C are quickly absorbed through the intestinal tract. Afterwards, excess quantities are rapidly eliminated, mostly through urination and a small amount through perspiration. Studies show that approximately 73 percent of ascorbic acid ingested is removed from the body in less than 24 hours. In contrast, only 5 percent of the ester form was eliminated during the same period. The rest was constantly being utilized for a variety of functions.

Many people who consume large doses of vitamin C complain about the uncomfortable effects of its acidity. Ascorbic acid at pH 2.4 is, in fact, quite a potent acid. Even buffered forms of vitamin C don't always alleviate the problem. Esterified C, on the other hand, is pH neutral - neither acidic nor alkaline. Hence, it is the most agreeable form, particularly for those with sensitive digestive systems. And, because of the unique method that goes into creating **esterified** C, no chemicals are present which can lead to the production of unpleasant stomach gas.

The importance of calcium has long been established in bone building and bone maintenance. It is believed that long-term calcium shortages are responsible for the fact that, among post-menopausal **women**, one in four is **afflicted with osteoporosis**. Interestingly, vitamin C improves calcium absorption. In order to be properly absorbed, calcium must first be linked with an organic acid (such as ascorbic acid). It appears that this is the reason for the effectiveness of this duo. Therefore, there are compounded advantages to using a form of vitamin C in which the ascorbic acid is **already** naturally bonded (chelated) to calcium, as is the case of **esterified** C. In using calcium-bonded vitamin C, you maximize the benefits of both nutrients and, at the same time, improve the absorption of calcium.

Esterified C is receiving world-wide recognition for its remarkable properties, and medical authorities are calling it the new "wonder vitamin". Ž