

## 5 Unique Liposomal Vitamin C Health Benefits + Reviews

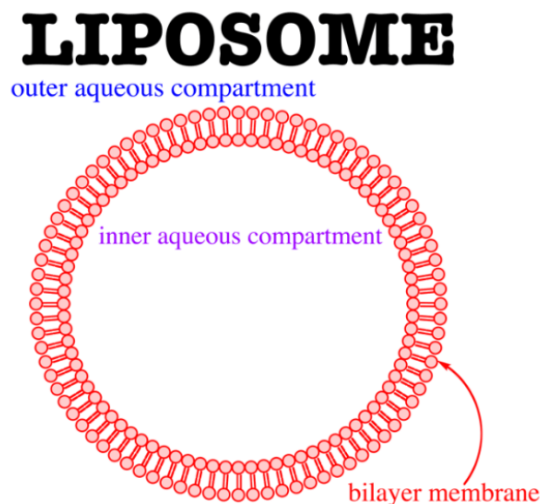
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**Liposomal vitamin C is a new formulation that may be more effective than the traditional tablets. The liposomal form carries some unique health benefits for preventing stroke, heart disease complications, sun damage, and cancer. Read on to learn what liposomes are and why vitamin C packaged into them is different from other more commonly encountered forms.**

### What is Liposomal Vitamin C?

Vitamin C (ascorbic acid) is crucial for health, although the body cannot make it — you need to obtain it from diet or supplements. Many people take vitamin C supplements to boost collagen production, immunity, antioxidants, and general wellness [R, R, R, R].

Liposomal vitamin C is a recent development that contains the same active ingredient as regular vitamin C supplements, but with a **superior delivery system**. In fact, one of the problems with regular vitamin C is that very small amounts get taken up by the body. With higher doses, the majority of vitamin C stays in the gut and is eventually eliminated [R].



**Liposomes are small spherical particles** with the outer layer made of fats similar to those in our cell membrane (phospholipids in the “bilayer membrane” on the image).

The inside of each small sphere (“inner aqueous compartment” in the image) is protected by this bilayer and **filled with water and Vitamin C**. This allows liposomal vitamin C to fuse directly with cells in the gut, which take up vitamin C more quickly and effectively [R].

## Liposomal Vitamin C vs. Conventional Vitamin C Absorption

**Liposomal vitamin C has better bioavailability**, which means that more of the consumed vitamin C is taken up into the body. For example, a vitamin C supplement with 50% bioavailability would give the user 50 mg of active ingredient per 100 mg consumed — meaning that the other 50 mg would never be used [R].

The bioavailability of conventional and liposomal vitamin C is compared to intravenous administration, which is close to 100%. One study in adult humans found that the amount of very high dose (4 g) liposomal vitamin C taken up is almost double that of traditional oral supplements [R].

### Components

The majority of liposomal vitamin C products have 3 components:

- Pure vitamin C
- The liposome
- Sterile water

All these ingredients are recognized by the United States Food and Drug Administration as safe and non-toxic. The exact composition may vary between manufacturers, but most contain **only these ingredients** [R].

New liposomes are being developed with other natural compounds, such as medium chain fatty acids (MCFAs). MCFAs help stabilize the vitamin C, enabling a longer half-life [R].

Conventional vitamin C tablets and powders, on the other hand, can contain numerous additional ingredients that help during the tablet-making process, such as those that increase the tablet mass (hypromellose), lubricants (magnesium stearate), flavors, stabilizers, and silica. The safety and health effects of these compounds are still largely unknown.

### Mechanism of Action

Liposomal vitamin C absorbed in the gut when taken orally, or through the skin if applied as a cream/ointment. Vitamin C aids in **collagen formation and tissue repair**. Once absorbed, it is broken down in cells and converted into **hydroxyproline**, which is used by the body to make collagen and connective tissues [R, R, R].

**Vitamin C also acts as an antioxidant** in human cells by neutralizing harmful compounds. It protects the cells (by reducing oxidative stress) and is responsible for a host of health benefits, boosting metabolism and nutrient absorption, as well as **helping the body create neurotransmitters** [R, R].

It seems incredible that a small molecule like Vitamin C can play so many roles in the body. It's involved in breaking down tyrosine and carbohydrates, making folic acid, lipids and proteins, energy production, immunity, and fighting off infections. Check out our article about the overall benefits of vitamin C [here](#), or see the full list of binding targets [here](#).

## Health Benefits of Liposomal Vitamin C

### 1) Liposomal Vitamin C Prevents Stroke and Heart Attack Complications

Stroke, heart attack, and other serious health complications can arise when the supply of oxygen is blocked. After the initial shock and damage, such as in stroke and heart attack, doctors will try to **revive the tissue with new blood (reperfusion)**. However, the abrupt flow of new oxygen can further damage the injured tissues, termed "ischemia-reperfusion injury". Since the damage is partially caused by lack of antioxidants (oxidative damage), it can be prevented with **high doses of antioxidants like vitamin C**.

In these cases, vitamin C is given intravenously (IV). Since liposomal vitamin C is absorbed in a similar rate to intravenous vitamin C, it is being investigated as a treatment to prevent injury while restoring the damaged tissues. This would allow for faster and better recovery [\[R\]](#).

In one study of 11 middle-aged overweight participants (with high baseline oxidative stress) underwent a simulation of reperfusion injury on their arm. Liposomal vitamin C was nearly as effective as the gold standard, IV administration, in **preventing tissue damage** [\[R\]](#).

In another study on this type of injury in rats, **liposomes with both vitamin C and E** prevented damage in brain tissue [\[R\]](#).

### 2) Liposomal Vitamin C Helps with Skin Pigmentation

Melasma is a common skin disease that causes **dark pigments to build up** and form **brown patches**, usually on the face. Vitamin C is a known treatment for melasma as a cream or wash. It is absorbed better using a technique called iontophoresis, where a **painless full-face mask conducts a small electrical current** to help transport vitamin C across the skin barrier [\[R\]](#).

In a study of 35 mostly female patients (1 male) with melasma, liposomal vitamin C full-face masks (iontophoresis) improved skin pigmentation by 73%. Since the treatment was only applied over 2 months, the effect is best maintained long-term if combined with sun avoidance and mandelic/malic acid skin care products [\[R\]](#).

In a study of 14 women with melasma (SB), liposomal vitamin C iontophoresis proved to be **both safe and effective**. Vitamin C was given as **nanosomes**, which are the same as liposomes, but even smaller spheres [R].

Pectin can also be used in liposomes to increase the amount of vitamin C that the skin absorbs [R].

### 3) Liposomal Vitamin C Prevents UV Damage

**Ultraviolet (UV) radiation damage** is caused when harmful, reactive oxygen species, are formed in the skin tissue. Excessive UV exposure can lead to many skin conditions, including melanoma and other skin cancers. Vitamin C, due to its antioxidant properties, can **reduce and prevent the damage when applied to the skin** [R, R].

In animals exposed to long-term UV damage, a **combination of antioxidants**(vitamin C, vitamin A, and vitamin E) packed into tiny liposomes (nanosomes) protected against skin damage. It also reduced skin cancer markers and may be beneficial for cancer prevention [R].

Liposomal vitamin C is more stable and can pass the skin barrier better than regular vitamin C. This makes antioxidant liposomes ideal for protecting the skin from UV radiation. Liposomal antioxidants (as nanosomes), including vitamin C, protected skin cells exposed to UVA damage [R, R, R].

### 4) Liposomal Vitamin C May Help Fight Cancer

High doses of vitamin C are used to combat cancer in combination with traditional chemotherapy. Vitamin C lacks evidence to be used as the sole cancer treatment, according to an analysis (SR) of over 30 human trials. However, it has a **good safety profile, may improve symptoms and the quality of life in cancer patients** [R].

Liposomal vitamin C, due to its high bioavailability, may be a great alternative to IV administration. Liposomes are less of a hassle for patients and painless. In one study in mice with cancer, liposomal vitamin C was even better at fighting cancer than traditional vitamin C [R, R].

Vitamin C bound to a fatty acid (palmitoyl ascorbate) in tiny liposomes **killed cancers in cells** much better than free vitamin C [R].

### 5) Liposomal Vitamin C Helps Combat Tropical Parasites

Visceral leishmaniasis (VL) is a severe, **potentially fatal tropical disease caused by parasites**. In infected mice, liposomes with vitamin C and another drug (antimonial) were effective at killing the parasites. The drug is needed to kill the parasite, but **Vitamin C reduces its toxic effects** [R].

## Side Effects

### 1) Liposomal Vitamin C May Increase Risk of Kidney Stones

Common dietary levels of vitamin C (75-100 mg per day) were not linked to kidney stones in one analysis (long-term prospective cohort). However, **very high doses of supplemental vitamin C (>2 g per day) were linked to kidney stones in men**. This may happen with liposomal vitamin C in even lower doses, as higher amounts are taken up by the body [R].

### 2) Liposomal Vitamin C May Increase Breast Cancer Risk

The relationship between vitamin C intake and breast cancer risk is controversial. **Vitamin C supplement use was associated with increased breast cancer risk in women after menopause** who already had vitamin C rich diets, according to a large survey (between 1995 and 2008) [R].

Increased breast cancer risk is probably related to **excessive intake of vitamin C**, and female users should consider limiting intake to normal dietary levels. This risk may be even higher with liposomal vitamin C since it's more easily absorbed.

## Limitations and Caveats

### 1) Liposomal Vitamin C May Not Be for Everyone

Not everyone absorbs nutrients and vitamins from food at the same rate. Essentially, **a study describing benefits in certain individuals may not apply to others**.

Individual differences are hard to account for in studies examining vitamin benefits. It's also still not commonplace to measure the exact antioxidant and vitamin content of food. Most studies concluded that **vitamin- and antioxidant-rich foods carry benefits over vitamin supplements**. However, more research is needed to understand the differences [R].

### 2) Liposomal Vitamin C May Not Be Better Than Traditional Supplements

Vitamin C levels reach a **plateau effect with oral vitamin C**. This means that **past a certain dosage, the vitamin levels cannot further increase**. The main benefit of liposomal vitamin C over traditional tablets is faster and better absorption. But **even oral liposomes may only be taken in by the body up to a certain dose**. Further studies are needed to determine what the maximal dose is [R].

## Drugs Interactions

### 1) Liposomal Vitamin C Has Anti-Amphetamine Effects

Vitamin C reduced the number of amphetamines (dextroamphetamine, benzphetamine, etc.) in rats. Those who use amphetamines for ADD/ADHD and related disorders should be wary of this interaction, as it may reduce the effects of their medications [R].

## 2) Copper Reduces Liposomal Vitamin C Effects

Vitamin C levels in the blood and its health effects are reduced in combination with copper. Copper also reverses the DNA-protective effect of vitamin C. This is because vitamin C, as an antioxidant, neutralizes metal ions [R, R].

## 3) Liposomal Vitamin C Increases Estrogens

Vitamin C can increase estrogen hormones (Estradiol, Estrone, Hexestrol, etc.). Users of estrogens (including **birth control pills**) should be mindful of this interaction. In one study, vitamin C stimulated estradiol production in cells. Clinical studies are lacking, though [R].

## Dosage

The National Institute of Health recommends a vitamin C dosage of **90 mg/day in adult men and 75mg/day in adult women with an upper limit of 2,000 mg/day**. These values account for both dietary and supplemental vitamin C. **Most liposomal vitamin C formulas contain 100-300 mg of vitamin C per dose**.

While high doses of vitamin C may be needed in some diseases and health conditions, most healthy individuals receive sufficient vitamin C from dietary sources alone. Liposomal vitamin C, due to its high absorption, is more suited to treating **specific maladies** rather than for daily supplementation [R].

## Genes Related to Liposomal Vitamin C

The gene responsible for absorbing vitamin C in the intestine (SVCT), has two copies in healthy individuals. In one study, mice without this gene absorbed much less vitamin C from their diet. **Liposomal vitamin C, however, is not reliant on this gene to enter cells and would be useful for individuals with non-functioning SVCT genes** [R].

## Liposomal Vitamin C Reviews

User experiences with liposomal vitamin C products online tend to be generally positive. One user, who was supplementing specifically to alleviate cold symptoms, notes that liposomal vitamin C is more effective and reliable than traditional tablets. Other users noticed a boost in their immune system after using liposomal vitamin C.

A danger with any supplement is fake or hoax products. There are many comments online discussing the legitimacy of certain brands and formulas of liposomal vitamin C. We recommend you do some research into the credibility of a supplement vendor before purchasing liposomal vitamin C to ensure you are getting the real product.

### **Buy Vitamin C (Liposomal) Supplement**

- [Amazon](#) or [iHerb](#)