

# The **Vitamin C** Connection

Getting well and  
staying well with  
**Vitamin C**

Scientific research that connects  
vitamin C to the prevention and  
treatment of colds, cancer, glaucoma,  
periodontal disease, pain, fatigue,  
allergy, rashes, susceptibility to heat  
and cold, vulnerability to stress...  
and more

Dr. Emanuel Cheraskin, Dr. W. Marshall Ringsdorf, Jr.,  
and Dr. Emily L. Sisley

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**The  
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The information on Vitamin C contained in this book has been compiled from a variety of sources and is subject to differences of opinion and interpretation. This book is not intended as a source of medical advice, and any questions on individual use of Vitamin C, general or specific, should be addressed to the reader's physician.

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# Introduction

What this country needs is a good five-cent pill!—some “magic,” easy-to-swallow little pellet that can slow aging, minimize heart disease, aid recovery from dozens of infectious and degenerative ailments, and inoculate us against countless health problems that stem from emotional stress and environmental pollutants.

## THE GOOD NEWS

Happily, such a thing exists—in pill form, as supplemental powders, and, of course, in a number of foods. We’ll discuss these foods, and what you can do to combat the bad effects of processing, transporting, packaging, and cooking. But for the most part much of what you will read in this book has to do with supplemental sources of the “magic” substance—usually as capsules or tablets.

We are speaking of vitamin C. Except when a differentiation is scientifically necessary, we will use the terms *ascorbic acid* and *ascorbate* interchangeably with *vitamin C*.

## What Vitamin C Can Do

*It does more than ward off the common cold.* Vitamin C enhances many immune mechanisms and protects against the flu, bronchitis, respiratory problems, and other virus infections.

*It safeguards hearts.* Vitamin C plays a vital role in the entire heart and vascular system, including the arteries, veins, and

smaller capillaries. It combats capillary permeability and fragility; it inhibits the clumping of blood; it lowers fat and cholesterol levels; it improves circulation and reduces cardiovascular abnormalities.

*It saves sight.* Vitamin C lowers the risk of developing increased pressure within the eyeball (glaucoma), a principal cause of blindness.

*It helps you keep your "bite."* By inhibiting tartar formation, vitamin C prevents periodontal damage—that is, gum, socket, and jawbone problems that are far more serious than cavities.

*It reverses some forms of infertility.* As reported in several studies, childless couples became parents-to-be with the aid of ascorbic-acid supplementation.

*It is a dieting aid.* Vitamin C cuts the craving for sweets and helps control a wayward appetite.

*It is a natural anesthetic.* Vitamin C can kill many kinds of pain, including low-back pain. It decreases the severity of post-operative pain and shortens recovery time.

*It promotes wound healing.* Among its many biochemical reactions, vitamin C has been shown to promote the healing of wounds, ranging from small nicks to bad cuts.

*It "does something" about the weather.* The discomfort experienced by rapid fluctuations in temperature—as well as prolonged extremes of hot or cold—can be reduced by taking vitamin C. Vitamin C also relieves prickly heat and other rashes suffered during hot spells.

*It is a natural laxative.* Taken after meals, vitamin C ends constipation. It can also shrivel hemorrhoids.

*It is a detoxifier.* By ridding the body of accumulations of heavy metals (such as lead, cadmium, and nickel) and pollutants found in our air, food, and water, vitamin C acts as a useful environmental protector.

*It helps people "come clean."* Vitamin C is nature's "drug fighter." It helps people withdraw from various drugs—ranging from prescribed mood changers to addictive substances such as heroin. It does this by enhancing metabolism of the drug and muting both toxicity and side effects. It can also reverse bad side effects from drugs that are necessary to some individuals'



existence (for example, L-dopa in people with Parkinson's disease).

*It whips "fatigue."* Sufferers of so-called iron-poor blood enjoy renewed energy when they fortify with vitamin C along with their iron supplement. It's also great for fighting jet lag.

*It reduces insulin requirements in diabetics.* In less severe cases, vitamin C may even enable diabetics to control their ailment by diet alone.

*It counteracts food allergies.* The antihistaminic action of vitamin C can enable people to tolerate foods they otherwise could not eat.

*It cures certain skin diseases.* Many industrial workers run the hazard of contracting various rashes and other skin disorders induced by toxic fumes or the handling of certain chemicals. Vitamin C's effectiveness against skin problems has been demonstrated.

*It keeps you "young" for a longer time.* With its antioxidant action at the cellular level, vitamin C slows the development of aging symptoms.

*It protects against fractures and bone disease.* Mostly because of its direct effect on collagen (we'll describe the process in this book), vitamin C has shown a remarkable capacity to help knit bone and to wage battle against such supposedly hopeless bone diseases as ankylosing spondylitis and osteogenesis imperfecta.

*It aids recovery from serious kidney diseases, decreases the discomfort of arthritis, improves the quality of life in multiple sclerosis victims, and combats many other disorders.* Going from more common ailments familiar to most people on to rather obscure genetic disorders, vitamin C has shown its powerful remedial or alleviating effects.

*It inoculates against psychic stress.* Anxiety drastically reduces the body's ascorbic-acid level. When good levels are restored, psychologic stability returns and one is protected against stress-related disorders.

*It enhances sexual performance.* By abetting the healthy functioning of the endocrine glands, vitamin C can improve your sex life.

*It neutralizes some carcinogens.* Cured meats and many other

food products are preserved with some potentially dangerous additives. Vitamin C blocks the reaction between nitrites and proteins, so that the cancer-implicated nitrosamines are not formed.

*It helps prevent and treat cancer.* Some authorities believe that cancer is basically a collagen disease that develops as a secondary effect of a deficiency of ascorbic acid in tissue. Ascorbic acid is known to be essential to the body's manufacture of interferon, and has been demonstrated to retard the spread of cancer cells and to control cell division.

### How Can It Do These Things?

Except for a few hints given above, we are leaving explanations and discussions for the rest of this book. You will read a lot about immune mechanisms, biochemical reactions, cell behavior, and other bodily processes that are directly and indirectly influenced by vitamin C. A few readers may find some of this information just a bit too scientific for their taste; they are free to skim such sections and concentrate on *what* C does rather than *how* it does it. But it's our feeling that the more educated people become about how their bodies work, the better off they'll be in judging the merits of various nostrums hawked to health-conscious consumers.

### How Can One Be Sure?

We have taken great pains to document each statement made under the heading "What Vitamin C Can Do." And that's only the beginning. Many other health problems, diseases, disorders, wounds, and ailments are discussed.

The experimental and clinical data we describe are not the enthusiastic, wishful-thinking anecdotes of faddists. The studies we cite are serious, scientific investigations conducted by well-trained researchers and clinicians who have used methods and techniques calculated to yield findings that—of whatever nature!—are then reported in medical and other professional journals.

### How Can Questions Be Answered?

We have also sought to provide rational answers to some questions about vitamin C you've always wanted to ask when there was no one around to answer. Samples are:

Can I take too much?

How do I know if I'm getting too little?

Can I be allergic to vitamin C?

What happens if I stop taking vitamin C?

Are there any circumstances when I *should* stop taking vitamin C?

Can I get by on C alone?

### THE BAD NEWS

More often than not, all the good news about all the things that vitamin C can do gets drowned in a sea of confusion. The real truth gets held hostage while a philosophic tug-of-war rages between adherents of two extreme positions: those who claim vitamin C can do everything and those who claim it does nothing.

While this unfortunate slugging match takes place, a vast middle ground of solid scientific information is overlooked. So the average reader of newspaper and magazine accounts—no matter how health-conscious or consumer-oriented he or she might be—is simply unaware that a great mass of published scientific data substantiates C's unequalled role in helping people to get well or to stay well.

More bad news concerns the manner in which some authorities seem to exercise bias when they flex their muscles to do battle with C. In some quarters, positive findings about ascorbic acid are downgraded unless they stem from crossover, double-blind studies done over long-term periods and replicated in at least a dozen other research or clinical settings. (We'll explain these research-methodology terms later in the book.) On the other hand, purely anecdotal material written by doctors, or undergraduate laborato-

ry experiments that “knock” vitamin C, are heralded as major breakthroughs—and they frequently are the subject of juicy reports in newspapers and other media.

### **What Can Be Done About This Situation?**

You, yourself, can take an active part in clearing up the confusion about vitamin C. You can start by reading this book. In chapter after chapter you will find scientifically valid evidence that vitamin C does indeed act in all the ways we’ve just outlined—plus plenty more.

It’s our firm belief that an educated public will provide a clear answer to health professionals who, for whatever reason, persist in maintaining that vitamin C is either valueless or of dubious worth. More scientific-minded readers may wish to consult some of the original reports we cite. In any event, documentation is here to tell everybody—health-care personnel and the public at large—what C can do, and how it does it. We also include descriptions of some studies that regard C in a less-than-enthusiastic way.

Vitamin C’s connections to health and illness are myriad. We believe that, in organizing all the material as we’ve done here, this book will serve to clear up the confusion that’s existed at least since Linus Pauling’s book was released. We hope also that *The Vitamin C Connection* will open doors to even further research aimed toward showing how ascorbic acid can contribute to healthier living and longer lives.

# 1

## Why C?

Positions. Lights. Action!

An anesthetized woman's vital signs are monitored as the surgeon's blade deftly cuts into the patient's distended abdomen.

Their eyebrows arching quizzically in marked contrast to the somber confines of surgical masks, operating-room personnel stare in wonderment.

There, right inside the woman's belly—surely the cameraman will use a zoom lens!—lies a large pool of unclotted blood.

An observer murmurs, "But the working diagnosis was endometriosis."

A young orderly asks, "What's endometriosis?"

The assistant explains, "Well, the lining of the uterus is called the endometrium. Sometimes a pathologic condition sets in and endometrial tissue grows outside the uterus—out in areas of the pelvic cavity."

This conversational aside for the benefit of the TV audience does not distract the surgical team. They had suspected an ovarian cyst. Now the pool of blood makes them think more in terms of what doctors like to call "heroic measures."

They decide to remove *both* ovaries, as well as the uterus and—for good measure—the appendix.

Fade to the next few months after discharge. The woman—let's call her Anne—continues to suffer terrific abdominal pain along with repeated bouts of abdominal bloating, belching, and indigestion.

Good scenario for a medically oriented soap opera? Perhaps. But the tragic fact is that this material did not come from a TV

script. It comes from an actual case study that merited a full report in *The Journal of the American Medical Association*.

In August, four months after her first operation in April, Anne was readmitted. This time physicians theorized a bowel obstruction. During surgery, they located and straightened a small twist in the woman's lower intestine. Once again they encountered several areas within the pelvic cavity that were oozing blood. They cauterized visible "bleeders" and drained off accumulated blood.

But it didn't work. A year later, in September, our hapless patient returned—once again seeking relief from abdominal distention and cramping pains. When her abdominal wall was sliced, surgeons extracted 3000 ml of blood. That amounts to 3 liters: the better part of a gallon of liquid! In addition, her liver was blanketed with a series of blood- and fluid-filled cysts. Surgeons drained the cysts and hoped for the best.

If you can imagine the doctors' frustration, imagine Anne's—not to mention the increasing probability that her best friends were wondering if it was all "mental"!

In two short months, she showed up again with her familiar complaints: a swollen belly and chronic pains. After a diagnostic puncture revealed a new mass of fresh blood, the fluid was drained surgically.

Now, if this were a TV script, the Holiday Season would be marred by our unfortunate heroine's troubles and the continued concern of her loved ones, who huddle about a wilted and drooping tree that symbolizes the doctors' fears that this might be Anne's last Christmas. For it is only in January that the whole hospital routine resumes.

After drainage, tests showed countless blood tumors. Transfusions were ordered and Anne was transferred to a large university medical center. Here they found that the spleen was riddled with tiny blood cysts. They removed the organ.

Since no one had quite determined the *cause* of all this recurring bleeding, hematologists (blood specialists) were called in. When tests failed to uncover any abnormality, cancer was suspected. Fitting a TV scenario, it was thought to be a well-hidden, impossible-to-locate cancer.

In May, the symptoms returned. This time the pancreas fell under the dark veil of suspicion.

In yet one more year Anne came back again, presenting her by-now-long-term clinical picture. On June 12th, 4500 ml—that is, way over one gallon—of blood was drained from her abdomen. Biopsy showed widespread hemorrhaging, with many blood-filled cysts and a lot of clotting throughout the affected area.

The specialists ran out of answers. But, as Gertrude Stein might have put it: “What is the question?”

In March of the following year, a hospital physician thought to ask it: “What do you eat?”

Anne’s answer solved the four-year-old medical mystery. Her diet was totally devoid of fresh fruits and vegetables. Ascorbic acid in her plasma? Near 0. All the operations, all the drainage, all the tests and other medical procedures had been unnecessary. Our long-suffering, diagnosis-eluding, real-life TV heroine was suffering from *scurvy*.

Anne was placed on a simple regimen of 1000 mg of vitamin C each day, and she returned to a normal, disease-free state—albeit missing some organs.

## FROM SHIPBOARD TO BREAKFAST TABLE

How could Anne be subjected to so many medical blunders?

Scurvy was conquered such a long time ago modern doctors expect to confront it only in textbooks. There it’s described as an ancient, dreaded, debilitating disease that occurs after prolonged vitamin C deficiency. The disease carries with it anemia, a marked kind of lethargic weakness, and spongelike gums. Worse, there’s severe internal hemorrhaging that can be especially bad where fibrous tissues connect tendons and ligaments to bone joints.

In olden days it was a very common affliction among sailors who rounded a world just found to be round. Their diet was heavy on salted meat and next-to-nothing on fresh vegetables and fruits—especially citrus fruits. Many of the victims never made it beyond where the “flat” world had been thought to end. They were buried at sea. When Vasco da Gama passed the Cape of Good Hope in 1498, he had lost 100 of his crew of 160. In 1593,

the English admiral Sir Richard Hawkins reported that scurvy took the lives of 10,000 men under his command.

In the middle to late 1700s seafarers learned the cure—and the prevention. They didn't know it was vitamin C—nor did physicians, until the substance was finally identified in 1911. But both groups accepted the seemingly strange idea that oranges, lemons, and limes (did you ever wonder about the origin of the slang word for British sailors, “limey”?) could rid whole populations from the curse of a long, painful death from scurvy.

So scurvy seemingly disappeared into the deep, dark past. And, although one might think that the highly-credentialed doctors who treated Anne ought to have recognized her problem for what it was, they did not.

This is not surprising. *Why* is it not surprising?

Many of today's doctors, much like their ancestral predecessors, are illiterate when it comes to nutrition. One survey showed that the average physician's secretary knows as much about healthy eating as her boss, except if she's on a diet. Then she knows *more!*

From their first days as medical students, doctors are usually not trained to regard malnutrition as a primary, or even contributing, cause of disease. Nutritional neglect is ignored as traditional medical-school curricula become increasingly geared toward specialization. Would-be physicians are taught to recognize one part of the body at a time, then one set of symptoms at a time, then one mode of therapy at a time. The *whole person* tends to get lost. Then, to top it off, complaints that “ought” to be recognized within the context of the whole person are frequently shunted off to the even more mysterious realm of what's considered to be psychosomatic ailments. Finally, traditional medical training relegates nutrition to about the same limbo as sunlight and fresh air, when it comes to factors directly related to health and illness.

Yet what of Anne herself? Was she blameless? Why would a middle-class, educated woman living in California—where citrus fruits and fresh vegetables are virtually in one's backyard year round—deliberately avoid eating all dependable sources of vitamin C?

In the final analysis, there is only one person responsible for your health and well-being: *you*.



## A FRESH LOOK AT AN OLD CONCEPT

We'd like to see people assume more responsibility for their own bodies. It's hardly a new concept. It's redolent of wisdom preached by the ancients. Long before germs were dubbed the vexing villains that make us ill, when people got sick they assumed they had done something wrong. Health and disease were regarded as a sort of metaphysical justice meted out by the gods. When people behaved properly, they stayed well; when they broke rules, they were struck down.

As we'll detail in the last chapter of this book, vitamin C is not the sole answer to healthy living.

All the scientific knowledge painfully gained since the ancient behavior-illness connection does not negate the basic fact that each individual is substantially in command of his or her own medical fate. We know that health and disease result from an interplay between the environment and our own ability to cope with it. Whether people resist or fall to disease reflects in very large measure how carefully (or neglectfully) they have maintained their own bodies.

Many writers have addressed themselves to this "self-responsibility" theme, but none more eloquently than the late Dr. Jacques M. May. He wrote: "It is as though I had on a table three dolls, one of glass, another of celluloid, and a third of steel, and I choose to hit the three dolls with a hammer, using equal strength. The first doll would break, the second would scar, and the third would emit a pleasant sound."

Similarly, in an unfavorable environmental situation, the person who neglects his or her own physical condition will shatter like the glass doll. The individual who fortifies his constitution will, like the steel doll, shrug off the hammer blows of everyday stress and "sound good" doing so.

### The Focus on Vitamin C

This principle of taking responsibility for fortifying one's body against the jolts of a threatening everyday environment has recently taken hold in the form of an American "fitness boom."