

Common yet Controversial Vitamin C

by Channing Dallstream

Pirates were smart enough to figure out they regularly needed vitamin C to prevent their teeth falling out, pale skin, very fat legs and to keep from getting a case of “the trots.” For the same reasons British naval officers included crates of limes in their provisions to prevent this vitamin C deficiency that presents as scurvy, (yes, this is where the nickname “limey” comes from!) In the new world of pharmaceutical giants, vitamin studies receive a pittance of the research funding unless companies think the vitamin can be patented. As we navigate through the common sense and research waters, few will debate the positive effects “the master antioxidant” has on immunity and health even if we do not understand exactly how vitamin C works.



Vitamin C, or ascorbic acid, may be more familiar to the general public than any other nutrient. More than 40% of older adults take supplemental C and 80% of registered dietitians take more than 250 mg daily even though the FDA recommends 60 mg a day.¹ Consumers routinely purchase C-fortified cereals and juices. As a water soluble vitamin, C is fragile and time and temperature affect its potency. Foods naturally high in C like broccoli and tomatoes can lose their effectiveness through improper storage or cooking. Processed fruits and veggies may lose up to 70% of this immune vitamin through boiling, freezing and canning. The best produce choices are in-season fruits and vegetables from local growers. So the next time you are in your favorite supermarket, take a moment to question the nutritional value of that guava from Brazil. When was it picked and how did it get there?

More controversy abounds from a group that studies the effects of nutrients on health. Orthomolecular nutrition, pioneered by two-time Nobel Prize winner Linus Pauling in the late 1960s, “emphasizes the use of supplemental vitamins, minerals, and other accessory factors in amounts that are higher than those recommended by the government-sponsored ‘dietary allowances.’”² It is Pauling’s research in the benefits of ‘mega-dosing’ vitamin C to fight cancer and arthritis that receives the most criticism. Physicians are trained to prescribe specific medications to treat specific illness; little if any time is spent learning about ‘wellness.’ In fact the place you go when sick may make the problem worse.

Scurvy, the condition recognized by pirates hundreds of years ago, is on the rise again, this time in elderly patients subject to long-term hospital stays. “Food intake may be very low in elderly hospitalized patients with as much as one patient out of five reported to eat less than 50% of their estimated energy needs.” Difficulty chewing, swallowing or other disabilities make existing micronutrient deficiency worse. Many typical C-deficiency symptoms can be masked; weakness, anorexia, weight loss, bruising and leg ulcers. An elderly patient’s low serum ascorbic acid level symptoms disappear after the correction of vitamin C deficiency.³



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Vitamin C

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This micronutrient deficiency is not confined to the elderly. Very recent studies depict school-aged children from industrialized countries as showing signs of scurvy, due in part to picky eating habits but also poor food quality. "Overall, there is increasing evidence that deficiency of vitamin C and zinc adversely affects the physical and mental growth of children and can impair their immune defen(s)es."⁴ If vitamin C fortified foods are considered readily available and the FDA's 60 mg a day is accepted as enough, how can this be happening?

One well known C proponent, Frederick Klenner succinctly points out, "Vitamin C strengthens the body's immune system, neutralizes free radicals, and, in very high doses, kills viruses."⁵ Dr. Lester Packer, researcher at UC-Berkeley offers further explanation: 1) vitamin C recycles vitamin E, which is a proven immune enhancing agent; 2) C suppresses viral genes such as rhinovirus (colds) and reduces incidence of bronchitis, tonsillitis in school children given supplements as opposed to those who were not; and 3) C strengthens connective tissue – vitamin C may help to build a protective barrier between viruses and cells that keep viruses out.⁶

Most studies conclude that vitamin C has an important role in the immune system though some attempt to disprove vitamin C's specific benefits. "With regard to the therapy of the common cold, the application of vitamin C alone is without clinical effects."⁷ Research on improving the immune system usually mentions vitamin C as part of a group effort. Vitamins A, C, E and zinc enhance the skin

How Much to Take?

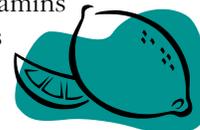
Per Linus Pauling

Maintenance	500-3000 mg daily
Colds, Flu	500 mg every 2 hours up to bowel tolerance
Stress, Illness	3000 mg daily up to bowel tolerance

*For optimum GI results: Take C in divided doses 2-3 times a day. Increase daily amount slowly. Bowel tolerance is when stools are soft but not "runny". Buffered C is pH balanced and easier on the tummy.

barrier function, the largest organ of immunity. A, B6, B12, C, D, E and folic acid together support the protective activities of the immune cells. "Supplementation can support the body's natural defense system by enhancing all levels of immunity."⁸ Although C may not be the captain it is an important member of the immunity crew.

How vitamin C exerts its impact may remain debatable. However, present day researchers continue to rock the boat with studies that demonstrate how vitamins present in food and supplements positively affect our overall immunity and subsequently our health.



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