

## Vitamin C

The age-old adage of an apple a day keeps the doctor away is a testament to the importance of fruits and vegetables in our daily diet. What is it about the infamous apple keeps our immune systems running strong? One of the key nutrients is vitamin C.

Vitamin C is an essential (meaning our body can't make it so we have to get it from our diet), water-soluble nutrient that must be regularly replenished. It's found in abundance in citrus fruits, rose hips, black currants, cranberries, melons, mangoes, strawberries, kiwi, tomatoes, asparagus, cruciferous vegetables, and peppers. Its importance first came to prominence when a condition described as "scurvy" was discovered in sailors. Scurvy is unlikely to occur in modern-day however other possible signs of a vitamin C deficiency include fatigue, easy bruising, bleeding gums and poor wound healing. Those at greatest risk for deficiency include diabetics, smokers, and athletes.

Vitamin C has been associated with the following health benefits:

- Prevention of the common cold
- Antioxidant
- Enhanced iron absorption: important to prevent iron-deficiency anemia.
- Wound and burn healing
- Decreased blood levels of histamine: important for allergy and hay fever prevention and treatment.
- Necessary for the synthesis of collagen.
- Possible anti-cancer benefits
- Possible detoxifying actions (especially from lead)
- Asthma
- Cataract prevention
- Glaucoma
- Gingivitis
- Reduces LDL-cholesterol oxidation

## Vitamin C and the Common Cold

Perhaps most well known is vitamin C's ability to prevent the common cold, particularly in those individuals supplementing with a daily vitamin C tablet. In three clinical trials of persons under acute physical stress, vitamin C supplementation resulted in a 50% reduction in common cold incidence.

However what's best studied is vitamin C's ability to *prevent* not *treat* a cold. Best results have been obtained with 2 grams per day, resulting in a 26% average decrease of cold symptoms. The most recent study was a five year clinical trial in Japan comparing either 5 mg or 500 mg per day in 244 adults. The results found that the "high dose" group had a significant reduction in the frequency of getting colds but there was no reduction in the severity or duration once a person had a cold.

### Are Vitamin C Supplements Safe?

Because vitamin C is a water-soluble vitamin at the low-end of the dosage range there are no known side-effects, above several grams per day, diarrhea becomes common in a dose dependent fashion especially with ascorbic acid based supplements. To reach higher dosing of vitamin C without reaching bowel tolerance look for sodium ascorbate form with a more neutral pH. Other concerns about the risk of kidney stones with vitamin C have large been dispelled by recent research.

Try to focus on vitamin C consumption from a rainbow of fruits and vegetables to help keep the doctor away.

*Karlene Karst RD makes sure her family takes 1000 mg of vitamin C per day.*

### References

Sasazuki S, Sasaki S, Tsubono et al. Effect of vitamin C on common cold: randomized controlled trial. *European J Clin Nutr* 2006;60:9-17