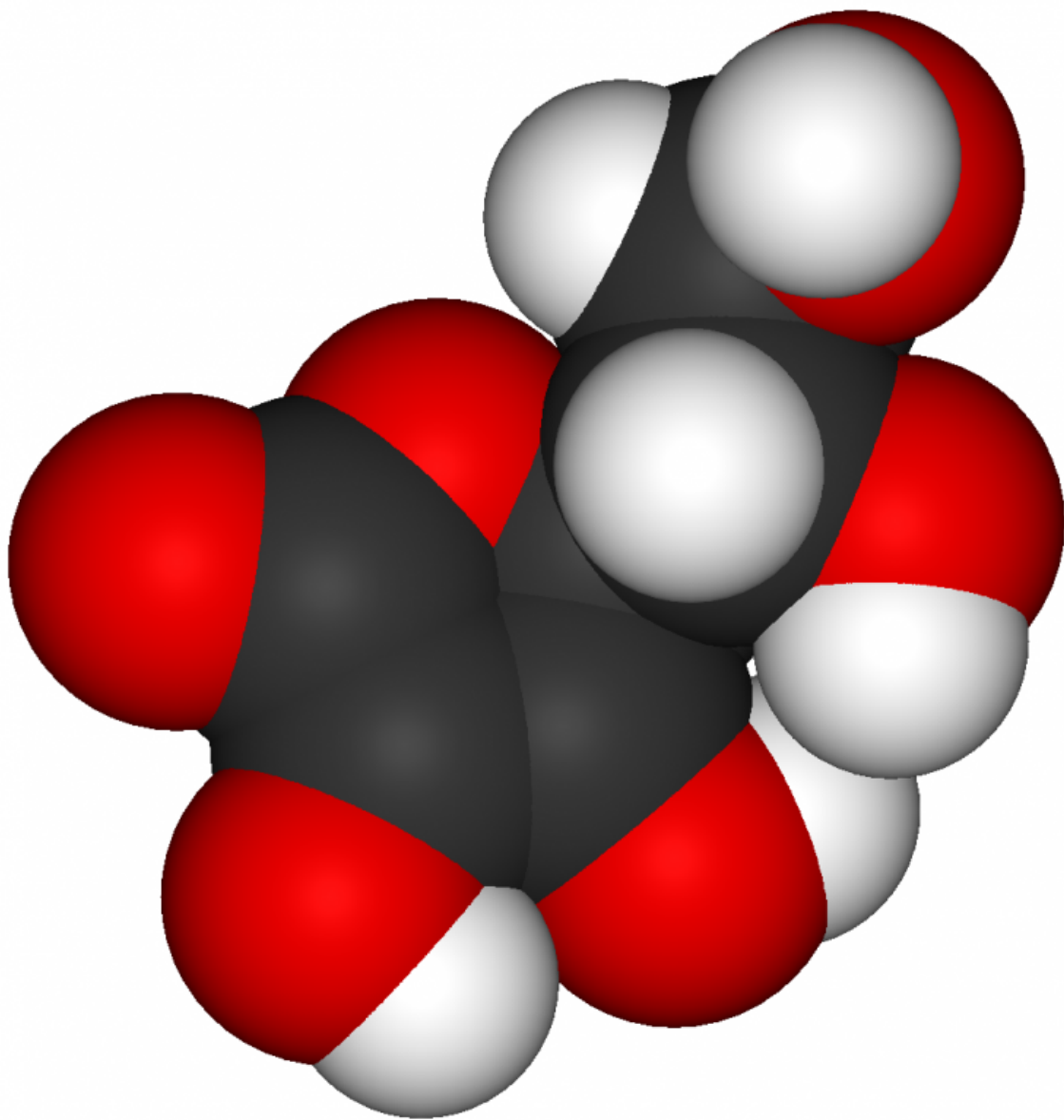


Larger doses of vitamin C may lead to a greater reduction in common cold duration

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Model of a vitamin C molecule. Black is carbon, red is oxygen, and white is hydrogen. Credit: Public Domain

The relationship between vitamin C dosage and its effects on the duration of the common cold symptoms may extend to 6-8 grams per day.

Dozens of animal studies using different animal species have found that [vitamin C](#) significantly prevents and alleviates infections caused by diverse bacteria, viruses, and protozoa. Given the universal nature of the [effect](#) of vitamin C against various infections in different animal species, it also seems evident that vitamin C influences the susceptibility to, and the severity of infections in humans. However, the practical importance of vitamin C in human infections is not known.

The common cold is the most extensively studied infection regarding the effects of vitamin C. The majority of controlled [trials](#) have used a modest dosage of only 1 g per day of vitamin C. The pooled effect of all published studies has shown a statistically highly significant difference between the vitamin C and placebo groups, which indicates a genuine biological effect. However, the optimal doses and the maximal effects of vitamin C on the common cold are unknown. The trials that used doses higher than 1 g per day usually found greater effects than trials with exactly 1 g per day, which suggests a dose dependent effect.

Nevertheless, definitive conclusions cannot be made from such a comparison because of numerous confounding differences between the trials. The most valid examination of dose-response is therefore within a single trial that has randomly selected trial groups with different vitamin C doses, so that exposure to viruses is similar and the outcome definition is identical in the study groups.

Dr. Harri Hemilä from the University of Helsinki, Finland, analyzed the findings of two randomized trials each of which investigated the effects of two vitamin C doses on the duration of the common cold. The first trial administered 3 g/day vitamin C to two study groups, 6 g/day to a third group, and the fourth group was administered a placebo. Compared with the placebo group the 6 g/day dose shortened colds by 17%, twice as much as the 3 g/day doses did. The second trial administered 4 g/day and 8 g/day vitamin C, and placebo to different groups, but only on the first day of the cold. Compared with the [placebo group](#), the 8 g/day dose shortened colds by 19%, twice as much as the 4 g/day dose did. Both studies revealed a significant dose-response relationship between the vitamin C dosage and the duration of the common cold. The dose-response relationship in these two trials was also quite linear up to the levels of 6-8 g/day, thus it is possible that even higher doses may lead to still greater reductions in the duration of common cold. Dr. Hemilä notes that there have been proposals that vitamin C doses should be over 15 g/day for the best treatment of colds, but the highest doses that have so far been investigated in randomized trials have been much lower.

Dr. Hemilä concludes that "given the consistent effect of vitamin C on the duration of colds, and its safety and low cost, it would be worthwhile for individual common cold patients to test whether therapeutic 8 g/day vitamin C is beneficial for them. Self-dosing of vitamin C must be started as soon as possible after the onset of [common cold](#) symptoms to be most effective." Dr Hemilä also states that further therapeutic trials should be carried out to investigate the dose-response relation in the region of over 8 g/day of vitamin C.

More information: Harri Hemilä, Vitamin C and Infections, *Nutrients* (2017). [DOI: 10.3390/nu9040339](https://doi.org/10.3390/nu9040339)

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