another five combined trials there appeared to be slight ameliora- 

tion of symptoms, which was not statistically significant. 10, 13, 15, 14, 26

Only in the remaining five trials did the authors report a reduction in the duration of colds that was significant. There is thus a little more evidence for a small therapeutic effect of ascorbic acid, but it is not clear which symptom it relieves or how.

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18. Tebrock HE, Armano JL, Ossining NY, Johnson JH. Usefulness of beta- 

To the Editor: Dr. Levine's review sits on the fence in the matter of ascorbic acid and common colds. He cites four references, only two of which are primary sources. 1, 2 A search of the literature reveals at least 27 controlled trials of ascorbic acid for colds. 1-27 The majority (22 trials) tested for prevention and also for any ameliorating effect of maintenance doses. A therapeutic effect was tested for in only five trials.27,28

It is by now fairly clear that for preventing common colds, vita- 

min C has no worthwhile effect. There was no significant advantage over placebo in 15 trials, 1,3-16 all but 1 double-blind.16 These were performed in a total of 9169 subjects in various settings in six coun-
tries. By contrast, seven trials22-27 in a total of 3209 subjects reported some beneficial effect, but one trial was small25 and not well designed26; in another27 a preventive effect was observed only in girls, not boys.26 The authors of another three trials thought the preventive effect unimpressive.2,22,26 Two went on to repeat trials with ascorbic acid and obtained negative results.1,17 The only striking reduction in the number of colds was reported by Ritzel.17 More ink has been used in the criticism of this trial25,26 than in the original description. The subjects took ascorbic acid for only one or two weeks. This is not long enough for a trial of prevention; saturation of tissues with ascorbate takes several days.

As for a therapeutic effect, all five randomized double-blind trials designed to test this, without a combined trial for prophylaxis, had negative results.17,21 Most of the trials that tested for a prophylactic effect also looked for amelioration of the duration or severity of colds in subjects given maintenance doses of vitamin C (in three trials23,24,25 the subjects took extra tablets if symptoms appeared). In eight of these combined trials there was no reduction in duration or severity with ascorbic acid as compared with placebo.1,3,4,9,11,14,25 In another five combined trials there appeared to be slight ameliora-