

# Vitamin E may increase or decrease the risk of pneumonia depending on smoking and exercise

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Depending on the level of smoking and leisure time exercise, vitamin E supplementation may decrease or increase, or may have no effect, on the risk of pneumonia, according to a study published in *Clinical Epidemiology*.

In laboratory studies, [vitamin E](#) has influenced the immune system. In several animal studies vitamin E protected against viral and bacterial infections. However, the importance of vitamin E on human infections is not known.

Dr. Harri Hemila and Professor Jaakko Kaprio, of the University of Helsinki, Finland, studied the effect of vitamin E on the risk of pneumonia in the large [randomized trial](#) (Alpha-Tocopherol Beta-Carotene Cancer Prevention Study) which was conducted in Finland between 1985-1993. There were 898 cases of pneumonia among 29,133 participants of the study.

Vitamin E had no overall effect on pneumonia risk. However, vitamin E decreased pneumonia risk by 69% among participants who had the least exposure to smoking and exercised during leisure time. In contrast, vitamin E increased pneumonia risk by 79% among those who had the highest exposure to smoking and did not exercise. Over half of the participants were outside of these two subgroups and vitamin E did not affect their risk of pneumonia. Thus, the beneficial and harmful effects

of vitamin E are restricted to fairly small parts of the population. The researchers concluded the role of vitamin E in susceptibility to [pneumonia](#) in physically active nonsmokers warrants further study.

Provided by University of Helsinki

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