

# Long-term use of vitamin E may cut COPD risk

Cornell University

Long-term, regular use of vitamin E in women 45 years of age and older may help decrease the risk of chronic obstructive pulmonary disease (COPD) by about 10 percent in both smokers and nonsmokers, according to a study conducted by researchers at Cornell University and Brigham and Women's Hospital.

"As lung disease develops, damage occurs to sensitive tissues through several proposed processes, including inflammation and damage from free radicals, and vitamin E may protect the lung against such damage," said first author Anne Hermetet Agler, Ph.D. '11, now a postdoctoral researcher at the University of Colorado in Denver. Patricia A. Cassano, associate professor of nutritional sciences, is the senior Cornell author of this study.

The study was published in the April issue of *Thorax* (Vol. 66: 4).

"The findings from our study suggest that increasing vitamin E prevents COPD," said Agler. "Previous research found that higher intake of vitamin E was associated with a lower risk of COPD, but the studies were not designed to answer the question of whether increasing vitamin E intake would prevent COPD. Using a large, randomized controlled trial to answer this question provided stronger evidence than previous studies."

Agler and colleagues reviewed data compiled by the Women's Health Study, a multiyear, long-term effort that collected data on 38,597 women age 45 or older that ended in 2004; the Women's Health Study focused on the effects of aspirin and vitamin E in the prevention of cardiovascular disease and cancer in the women studied. Study participants were randomized to receive either 600 mg of vitamin E or a placebo every other day during the course of the research.

Although fewer women taking vitamin E developed COPD, Agler noted the supplements appeared to have no effect on asthma, and women taking vitamin E supplements were diagnosed with asthma at about the same rate as women taking placebo pills. Importantly, Agler noted the decreased risk of COPD in women who were given vitamin E was the same for smokers as for nonsmokers.

Cassano said further research will explore the way vitamin E affects the lung tissue and how lung function changes over time, and will assess the effects of vitamin E supplements on lung disease in men.

"If results of this study are borne out by further research, vitamin E supplements may be useful in COPD prevention efforts," Agler noted. "However, since vitamin E supplements are known to have detrimental effects in some people, for example vitamin E supplementation increased risk of congestive heart failure in cardiovascular disease patients, broader recommendations would need to balance

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both benefits and risks."

More than 16 million Americans have COPD, also known as emphysema and chronic bronchitis, according to the National Lung Health Education Program. The symptoms of COPD include coughing that produces mucus, wheezing, shortness of breath, chest tightness and other symptoms; cigarette smoking is the leading cause, and, thus, smoking cessation is the primary prevention strategy.

According to the National Institutes of Health, COPD is the fourth leading cause of death in the United States, with more than 12 million people currently diagnosed with the disease.

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