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*A new study is the first to suggest that vitamin D sufficiency in asthmatic children treated with inhaled corticosteroids is associated with improved lung function.*

## **POOR VITAMIN D STATUS NEGATIVELY AFFECTS LUNG FUNCTION IN ASTHMATIC CHILDREN**

**L**ow vitamin D levels have been shown to be associated with asthma and decreased airway responsiveness. Treatment with inhaled corticosteroids improves airway responsiveness and asthma control.

In a new study published in *American Journal of Respiratory and Critical Care Medicine*, researchers assessed the effect of vitamin D levels on pre-bronchodilator forced expiratory volume in 1 second (FEV1), bronchodilator response (BDR), and responsiveness to methacholine (PC20) in asthmatics treated with inhaled corticosteroids.

Participants included 1,024 children between 5 and 12 years of age that were part of the Childhood Asthma Management Program. The subjects were divided into vitamin D sufficiency (>30 ng/ml), insufficiency (20-30 ng/ml), and deficiency (<20 ng/ml) groups. Other factors included in the analysis included age, treatment, gender, BMI, race, history of emergency department visits, hospitalizations, and season that vitamin D specimen was drawn.

During the treatment period of 12 months, pre-bronchodilator FEV1 was increased by 330 ml in the vitamin D insufficiency group and 290 ml in the vitamin D sufficiency group when being treated with inhaled corticosteroids. Under the same treatment, the vitamin D deficiency group only saw a 140 ml increase in FEV1.

The results of this study are the first to show that in asthmatic children treated with inhaled corticosteroids, vitamin D deficiency is associated with poorer lung function than children with vitamin D insufficiency or sufficiency.

*Ann Chen Wu et al. The Effect of Vitamin D and Inhaled Corticosteroid Treatment on Lung Function in Children. Am. J. Respir. Crit. Care Med. July 12, 2012 rccm.201202-03510C.*