

Two tests in combination can provide better asthma diagnosis

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It was previously thought that the two test methods signalled the same type of asthma. But a new study, led by researchers at Uppsala University, Sweden, shows that the methods actually signal two different inflammatory processes. With the tests used in combination, the chances are probably greater for the patient to receive just the right treatment. The study is being published in the October issue of *Journal of Allergy and Clinical Immunology*.

Measurement of the concentration of exhaled nitric oxide (FeNO) is today a routine clinical method for determining the degree of steroid-sensitive inflammation in the airways in asthma. For many years a count of eosinophil granulocytes in the blood has also been used to support a diagnosis of asthma.

These two methods were previously thought to signal the same inflammation process in asthma. In the new study, researchers investigated the importance of these two clinically used inflammation markers with the help of information from a large American population-based database (National Health and Nutrition Examination Survey) where 12,408 individuals aged 6–80 were included.

The scientists were able to determine that the association between FeNO and blood eosinophils was very weak. Instead, they observed that simultaneously elevated levels of the two markers, in a synergistic way, but independently of each other, increased the likelihood of individuals reporting, for example, [asthma symptoms](#) or [asthma attacks](#) in the last

year.

The results supported the researchers' hypothesis that the two markers represent two different inflammation processes.

"We therefore propose that both of these measurements be carried out in combination in order to better understand the inflammation in [asthma patients](#). They thus constitute a better platform for selecting the proper treatment for these patients," says Kjell Alving, professor at the Department of Children's and Women's Health, Uppsala University.

More information: Malinovschi et al., Exhaled nitric oxide levels and blood eosinophil counts independently associate with wheeze and asthma events in National Health and Nutrition Examination Survey subjects, *Journal of Allergy and Clinical Immunology*. DOI: [10.1016/j.jaci.2013.06.007](https://doi.org/10.1016/j.jaci.2013.06.007)

Provided by Uppsala University

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