

Early Detection of COPD: A Study in Freiburg Investigates a New Treatment

Coughing, phlegm, and shortness of breath can be early signs of chronic obstructive pulmonary disease, or COPD for short. In COPD, the airways are permanently narrowed, making it harder for those affected to breathe. The most significant risk factor is long-term smoking. The CHRONOS study conducted by the Department of Pneumology at the Medical Center – University of Freiburg provides the first evidence that treatment-relevant changes in the lungs can already be detected before a standard pulmonary function test confirms the airway narrowing typical of COPD. The results also suggest that inhaled treatment could be effective for some patients as early as this stage. The study was published in late June in the *American Journal of Respiratory and Critical Care Medicine*.*

“Our findings could change our understanding of the early stage of COPD. Until now, diagnosis has usually begun when a standard pulmonary function test reveals airway narrowing. We now see that pathological changes can be measurable even earlier—and that targeted treatment may already be possible at this stage,” says Prof. Dr. Daiana Stolz, Medical Director of the Department of Pneumology at the Medical Center – University of Freiburg.

Symptoms Despite Normal Standard Lung Function Tests

The CHRONOS study included 73 people who had been exposed to tobacco smoke over a long period of time and experienced symptoms such as coughing, sputum production, or shortness of breath. The study also included 74 healthy control participants. In participants with long-term exposure to tobacco smoke and corresponding symptoms, the researchers used a sensitive respiratory measurement to detect functional abnormalities in the small airways deep within the lungs. These finely branched airways transport air to the areas of the lungs where oxygen is absorbed into the blood. The measurement shows how evenly the inhaled air is distributed throughout the lungs. This makes it possible to detect changes that might otherwise remain undetected by standard lung function tests.

Against this backdrop, the research team investigated whether a so-called inhaled triple therapy could be effective as early as this stage. The treatment combines three active ingredients: an anti-inflammatory agent and two agents that dilate the airways. After twelve weeks, both lung function measurements and symptoms improved in the treated participants.

“Our results suggest that we should pay closer attention to early changes in the lungs. However, they do not yet show that all patients with symptoms and normal results on a standard lung function test will benefit from treatment. Larger studies are now needed to determine for whom therapy may be beneficial even before a conventional COPD diagnosis,” says Stolz.

Publication:

Anna Salina et. al., Inhaled triple therapy in symptomatic individuals who currently smoke cigarettes with preserved FEV1/FVC ratio: the CHRONOS clinical trial, *American Journal of Respiratory and Critical Care Medicine*, Volume 212, Issue 9, September 2026, Pages 2091–2095, DOI: 10.1093/ajrccm/aamag312

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Further information

