

Physical activity decreases over time at all levels of COPD severity, leading to further decline

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Physical activity decreases substantially over time in patients with chronic obstructive pulmonary disease (COPD) at all levels of severity, according to a new study from researchers in Germany. This decline in physical activity is accompanied by a worsening of lung function and health status, and sustained physical inactivity is associated with progression of both exercise intolerance and muscle depletion.

"Physical inactivity is associated with morbidity and mortality in COPD, but the association between objectively measured physical activity and other disease components over time has not been well studied," said lead author Benjamin Waschki, MD, of the Pulmonary Research Institute at LungenClinic in Grosshansdorf, Germany. "In our [prospective cohort study](#), we evaluated the longitudinal association between changes in physical activity and disease progression in 137 patients with COPD and 26 patients with chronic bronchitis."

The findings were published online ahead of print publication in the American Thoracic Society's *American Journal of Respiratory and Critical Care Medicine*.

Independent of the severity of COPD at baseline, steps per day, total daily energy expenditure, and daily physical activity level (PAL) decreased by 393, 76 kcal, and 0.04 per year, respectively. This decline in PAL was significantly associated with an increase in airflow

obstruction (shown by a decline in FEV1) and an increase in total score on the St. George's Respiratory Questionnaire, which measures the impact of obstructive airway disease on overall health, daily life, and perceived well-being.

Independent of FEV1 measurements, sustained [physical inactivity](#) was associated with greater declines in 6-minute walk distance results and fat-free mass compared to some level of physical activity.

No significant relationship was observed between physical inactivity and systemic inflammation over time in the study cohort.

"Treatment guidelines call for regular [physical activity](#) for COPD patients at all levels of severity, and our study clearly supports this recommendation," said Dr. Waschki. "Regular exercise will improve their health and quality of life."

More information: *American Journal of Respiratory and Critical Care Medicine*, www.atsjournals.org/doi/abs/10.1164/rccm.201506-1008OC#.VXcOx89VhHw

Provided by American Thoracic Society

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