

Keeping it simple: Can resting heart rate and hand grip strength predict future pulmonary health problems?

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Two studies will be presented during the CHEST Annual Meeting 2016 in Los Angeles that illustrate how something as simple as a patient's resting heart rate or handgrip strength can predict future pulmonary health problems.

One study from the Universiti Teknologi MARA, Malaysia, concluded that patients with COPD and a higher resting heart rate following an exacerbation in the hospital were at higher risk for subsequent exacerbations. Patients who had a [resting heart rate](#) > 80/minute 3 months after the first exacerbation had significantly higher rates of recurrent exacerbations for up to 9 months of follow-up.

"Attention to the resting [heart rate](#) after an exacerbation in the hospital may allow clinicians to determine if further intervention should be considered for patients at a higher risk of readmission," said Ahmad Ismail, lead researcher.

The second study from the University of Michigan Health System assessed the relationship between the hand grip strength of smokers with measurements of muscle mass, pulmonary function tests, chest CT scan results and the likelihood of COPD exacerbations. Among 441 smokers with and without COPD, grip strength was associated with general [muscle mass](#) but not with the severity of airflow obstruction or presence of emphysema. Increased grip strength was also associated with fewer

exacerbations.

"Many studies show that hand grip strength is a strong predictor of adverse health events in the elderly, but this has not been studied in patients at risk for COPD," said Carlos Martinez, the lead investigator.

"We also know that [muscle weakness](#) is associated with exercise limitation and the COPD exacerbations. This study shows that hand [grip strength](#), a simple measure, may be a useful marker of muscle weakness in groups at risk of COPD."

Further results for both studies will be shared at CHEST Annual Meeting 2016. The Universiti Teknologi MARA study will be on display at the Los Angeles Convention Center Exhibit Hall Wednesday, October 26, from 1:30 p.m. - 2 p.m., poster 674. University Health System, will present at the Los Angeles Convention Center Room 410, on Sunday, October 23 at 2:45 p.m. The study abstracts can be viewed on the website of the journal *CHEST*.

Provided by American College of Chest Physicians

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