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# The role of diaphragm thickness and mobility in chronic obstructive pulmonary disease classification and exacerbations

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Dear Editor,

We read with great interest the article by Elmastaş Akkuş et al.<sup>[1]</sup> titled, 'The role of diaphragm thickness and mobility in chronic obstructive pulmonary disease classification and exacerbations', which investigates the role of diaphragm thickness and mobility in the classification of chronic obstructive pulmonary disease (COPD) and the prediction of exacerbations using ultrasonography. The authors are congratulated for addressing diaphragmatic dysfunction, an important yet often underrecognized component of COPD pathophysiology, and for highlighting diaphragmatic excursion as a clinically relevant functional marker.

The demonstrated association between diaphragmatic excursion, GOLD classification, and exacerbation frequency is clinically meaningful and consistent with prior evidence showing that diaphragm

mobility influences exercise tolerance, dyspnea, and ventilatory impairment in individuals with COPD.<sup>[2]</sup> These findings further support the growing role of diaphragm ultrasonography as a practical bedside tool for functional evaluation and clinical stratification, in agreement with established literature on respiratory and peripheral muscle dysfunction in COPD.<sup>[3]</sup>

In contrast, the lack of a significant relationship between diaphragm thickness and disease severity differs from previous mechanistic studies reporting diaphragm muscle fiber dysfunction and structural remodeling in COPD.<sup>[4,5]</sup> This discrepancy suggests that functional indices such as diaphragmatic excursion may be more sensitive than static structural measures. It also highlights the importance of standardized ultrasonographic protocols and of including the diaphragm thickening fraction to improve interstudy comparability and clinical interpretation.

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The findings of this study support diaphragmatic excursion as a clinically relevant marker in COPD and indicate the need for future longitudinal validation studies.

### Conflicts of Interest

The author have no conflicts of interest to declare.

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### Peer-review

Internally peer-reviewed.

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