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ERS/ATS technical standard on interpretive strategies for routine lung function tests

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Data from pulmonary function tests must be complemented with clinical expertise and consideration of the inherent biological variability and uncertainty of the test result to ensure appropriate interpretation of an individual's lung function measurements https://bit.ly/3ecIuFc

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Abstract

Background Appropriate interpretation of pulmonary function tests (PFTs) involves the classification of observed values as within/outside the normal range based on a reference population of healthy individuals, integrating knowledge of physiological determinants of test results into functional classifications and integrating patterns with other clinical data to estimate prognosis. In 2005, the American Thoracic Society (ATS) and European Respiratory Society (ERS) jointly adopted technical standards for the interpretation of PFTs. We aimed to update the 2005 recommendations and incorporate evidence from recent literature to establish new standards for PFT interpretation.

Methods This technical standards document was developed by an international joint Task Force, appointed by the ERS/ATS with multidisciplinary expertise in conducting and interpreting PFTs and developing international standards. A comprehensive literature review was conducted and published evidence was reviewed.

Results Recommendations for the choice of reference equations and limits of normal of the healthy population to identify individuals with unusually low or high results are discussed. Interpretation strategies for bronchodilator responsiveness testing, limits of natural changes over time and severity are also updated. Interpretation of measurements made by spirometry, lung volumes and gas transfer are described as they relate to underlying pathophysiology with updated classification protocols of common impairments.

Conclusions Interpretation of PFTs must be complemented with clinical expertise and consideration of the inherent biological variability of the test and the uncertainty of the test result to ensure appropriate interpretation of an individual's lung function measurements.