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Technical standards for respiratory oscillometry

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With increasing clinical and research use of oscillometric measurements of respiratory system resistance and reactance, an update to the 2003 technical standards has been developed by an ERS task force of international experts http://bit.ly/2XBJ7PF

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ABSTRACT Oscillometry (also known as the forced oscillation technique) measures the mechanical properties of the respiratory system (upper and intrathoracic airways, lung tissue and chest wall) during quiet tidal breathing, by the application of an oscillating pressure signal (input or forcing signal), most commonly at the mouth. With increased clinical and research use, it is critical that all technical details of the hardware design, signal processing and analyses, and testing protocols are transparent and clearly reported to allow standardisation, comparison and replication of clinical and research studies. Because of this need, an update of the 2003 European Respiratory Society (ERS) technical standards document was produced by an ERS task force of experts who are active in clinical oscillometry research.

The aim of the task force was to provide technical recommendations regarding oscillometry measurement including hardware, software, testing protocols and quality control.

The main changes in this update, compared with the 2003 ERS task force document are 1) new quality control procedures which reflect use of "within-breath" analysis, and methods of handling artefacts; 2) recommendation to disclose signal processing, quality control, artefact handling and breathing protocols (*e.g.* number and duration of acquisitions) in reports and publications to allow comparability and replication between devices and laboratories; 3) a summary review of new data to support threshold values for bronchodilator and bronchial challenge tests; and 4) updated list of predicted impedance values in adults and children.