

Impulse Oscillometry in the Diagnosis of Chronic Obstructive Pulmonary Disease: A Literature Review

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ABSTRACT

Introduction: Chronic Obstructive Pulmonary Disease (COPD) is a progressive, poorly reversible obstructive disease affecting mainly the small airways. Spirometry is the current standard diagnostic test for COPD. Impulse Oscillometry (IOS) is the commonest forced oscillation technique (FOT) in use and it shows promise as a diagnostic tool in the diagnosis of COPD. This systematic review aims to review the diagnostic yield of IOS compared to standard spirometry in COPD patients.

Methods: PubMed, OVID, CINAHL, and Cochrane Library databases were searched with Mesh headings to locate studies linking IOS and Spirometry in the diagnosis of COPD. A systematic review is undertaken to assess the diagnostic yield of IOS in COPD.

Results: Four studies were identified that fulfilled the inclusion criteria. A total of 358 patients were included in the data to inform the diagnostic yield of IOS compared with spirometry where R5-R20 and X5 and AX correlated consistently with FEV1 in the diagnosis of COPD.

Conclusions: IOS is useful in the diagnosis of Chronic Obstructive Pulmonary Disease.

Keywords: Spirometry, Impulse Oscillometry, IOS, COPD, Chronic Obstructive Pulmonary Disease

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