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Use of Single Breath Counting Technique for Pulmonary Assesment: A Literature Review

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ABSTRACT

Vital Capacity (VC) is typically measured to evaluate pulmonary function using devices like a spirometer or ventilometer, although the general public may not always have access to these tests due to their high cost, portability issues, and need for qualified personnel. To aid in the pathophysiology understanding of lung illnesses, the Single Breath Counting Technique (SBCT) has emerged as a potential substitute for respiratory function tests.In order to take a measurement, patients are asked to inhale deeply and count as far as they can without taking another breath while speaking normally. A metronome set at two counts per second was used to time the counting. The objective of this review is to assess theuse single breath counting technique for assessment of VC when other options are not feasible. We commenced by exploring the databases including PubMed/ Medline, Google Scholar and Scopus to uncover full text publications authored in English. A total of 12 articles were retrieved after extensive data search, which were evaluated and only 5 articles met the inclusion criteria and were reviewed. Male and female adults (aged 18-59 years) were included. SBC is a reasonable alternative to peak expiratory flow rate and can be used effectively. Further investigation in an emergency department setting is warranted. SBC measurement is found to be similar to spirometry and ventilometry and can be used as an adjunct. The findings may be administered in assessing pulmonary function, VC to diagnose diseases, track disease progression difference in range of motion in dominant and non-dominant sides of body.

Keywords: Peak Expiratory Flow, Respiratory Function Test, Spirometery, Vital Capacity.