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| **PEF Repeatability Criteria for Spirometry – Relative or Absolute?** |
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| **Introduction/Aim:** The 2019 joint American Thoracic Society and European Respiratory Society (ATS/ERS) Standardisation of Spirometry guidelines do not specify a recommendation for PEF repeatability. PEF is an important indicator of patient effort. Earlier repeatability recommendations from Quanjer et al. suggest a variation of < 10% in spirometry PEF or 0.67L/s when PEF is used for monitoring. The aim of this study was to determine if adding PEF repeatability criteria (< 0.67 L/s or <10% of maximum) to existing ATS/ERS guidelines reduced patient ability to meet repeatability criteria, increased the number of trials performed in a test session or altered the reported FEV1.**Method:** We retrospectively reviewed patients >18 years with a PEF of < 6.7L/s who performed acceptable and repeatable pre-bronchodilator spirometry (ATS/ERS, 2019) at the Royal Adelaide Hospital from January 2022 to October 2023. Random stratified sampling identified 100 patients who met the inclusion criteria (n=50 PEF < 3 L/s, n=50 PEF > 3 L/s and < 6.7 L/s). The number of patients meeting repeatability criteria, the number of trials required to reach repeatability criteria, and reported FEV1 were recorded.**Results:** In patients with a PEF > 3L/s, adding 0.67L/s and 10% PEF repeatability criteria resulted in 98% and 82% achieving 3 repeatable trials respectively. In those with a PEF < 3 L/s, 92%, and 52% respectively, could meet repeatability criteria. In those who could achieve 3 repeatable trials, the number of manoeuvres required did not change between groups. There was no significant difference in reported FEV1 when adding PEF repeatability criteria to the ATS/ERS spirometry guidelines.**Conclusion:** Patients with low PEF (<3L/s) were more likely to achieve 3 repeatable spirometry trials using absolute (0.67L/s) as opposed to relative (10%) variability criteria with no significant impact on the number of trials performed or the reported FEV1. **Key Words:** Spirometry, repeatability, PEF, FEV1**Nomination for New Investigator Award** No**Grant Support:** N/A |