

ADHERENCE TO ACCEPTABILITY AND REPRODUCIBILITY CRITERIA FOR SPIROMETRY IN COMPLEX LUNG FUNCTION LABORATORIES

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Much focus has been placed on the ability of primary care facilities to achieve valid spirometry results of late. It is unclear, however, what the level of adherence to acceptability and reproducibility criteria is in complex lung function laboratories as there is little validity data available. The aim of our study was to 1) determine the adherence of complex lung function laboratories to the American Thoracic Society's 1994 acceptability and reproducibility criteria for spirometry (ATS criteria) and 2) observe the affect of feedback of results on adherence. Method: Retrospective data was audited from two complex lung function laboratories attached to major public hospitals (H1 and H2) over the same time period. One hundred consecutive spirometry tests, displayed as both flow-volume and volume-time curves, were assessed for adherence to ATS criteria. Feedback was given by discussion of results, along with revision of criteria, at H1 and another one hundred consecutive results assessed one month later (RH1). Results: 59% (H1) and 55% (H2) of tests achieved ATS criteria. Following discussion of results, 80% of tests met ATS criteria at H1. Of all the tests however, 97%, 91% and 98% (H1, H2, RH1 respectively) were reproducible. Conclusion: This study illustrates that although complex lung function laboratories are achieving reproducibility in spirometry, there are deficiencies in the determination of acceptable efforts. Feedback of results improved the adherence to ATS criteria. It is therefore vital that auditing and education, to maintain adherence to acceptability and reproducibility criteria in spirometry, are actively pursued as part of quality assurance programs in complex lung function laboratories.

Key Words: Spirometry, test quality, ATS criteria.