0.57 ($p < 0.001$), in COPD and CHF, respectively. Mean change in ICE_{VO2pk} was 28 (-14 to 69) ml·min^{-1}, ES 0.09 ($p = 0.19$) and 50 (-15 to 120) ml·min^{-1}, ES 0.16 ($p = 0.12$). There was no difference in responsiveness, between COPD and CHF, for the ISWT and ICE_{VO2pk}, $p = 0.44$ and $p = 0.67$, respectively.

Conclusions Both the ISWT and ICE are similarly repeatable in patients with COPD and CHF. A 60 m change in ISWT distance and 260mls in ICE_{VO2pk} represents, with 95% certainty, a true change within an individual. ICE_{VO2pk} wassimilarly unresponsive to PR in both conditions.

REFERENCES

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P40 SYSTEMATIC REVIEW OF THE REPEATABILITY, REPRODUCIBILITY, SENSITIVITY AND COMPARABILITY OF KEY EXERCISE CAPACITY TESTS USED IN CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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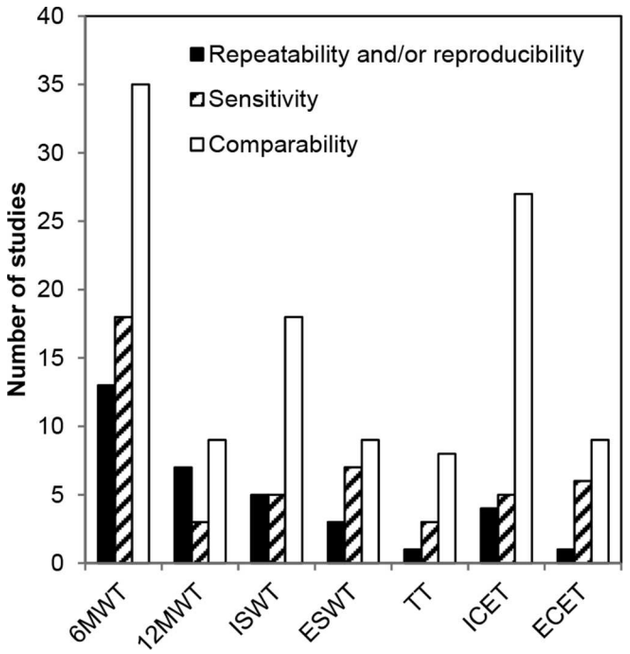
Introduction and Objectives Various exercise tests are used as endpoints to evaluate the functional status of patients with COPD. While individual studies have compared different tests, a systematic assessment of this data has not been performed. We therefore aimed to review the repeatability (variation in tests performed on the same day), reproducibility (variation in tests performed on different days), sensitivity and comparability between and within exercise tests in adult patients with COPD.

Methods A systematic review of Embase, MEDLINE® and the Cochrane Library identified primary manuscripts in English reporting relevant data on the following exercise tests: six- and twelve-minute walk tests (6MWTs and 12MWTs), incremental and endurance shuttle walk tests (ISWTs and ESWTs), treadmill test (TT), and incremental and endurance cycle ergometer tests (ICETs and ECETs). Comparability within exercise tests was assessed by examining studies that compared different protocols of the same test type.

Results We identified 90 relevant studies (Figure 1). The majority of studies exploring repeatability and/or reproducibility examined the 6MWT, 12MWT and ISWT; no studies examined repeatability in treadmill and cycle tests. Only four studies reported the intra-class correlation coefficient (ICC); two examined repeatability and reproducibility of the 6MWT (ICCs = 0.94 and 0.88, respectively), and a further two reported reproducibility of the ECET and endurance TT (ICCs = 0.85 and 0.84, respectively). These data indicate good repeatability/reproducibility, but other studies contradict these findings. Prior familiarisation consistently improved repeatability and reproducibility of tests. Most relevant studies reported that exercise tests were sensitive to interventions, but the magnitude of response varied between test types and depended on the intervention and outcome assessed. Protocol variations, such as in track layout or supplemental oxygen use, affected performance in the majority of studies identified. Studies with pair-wise comparisons between walk tests, cycle tests, and walk and cycle tests reported inconsistent comparability between test types.

Conclusion This review found varied repeatability, reproducibility and sensitivity of exercise tests often resulting from inconsistencies in protocol administration (e.g. variations in protocols used, outcomes analysed, or protocol familiarisation). Such within- and between-test variations make comparisons difficult, even between studies ostensibly reporting the same test.



Abstract P40 Figure 1. Breakdown of the relevant studies. Numbers of studies that contain data examining the repeatability, reproducibility, sensitivity and comparability (within and between different tests) for the different exercise tests. As some studies fall into more than one category, the combined number of studies in this figure exceeds 90.

P41 PULMONARY REHABILITATION (PR) ENDURANCE SHUTTLE WALK TEST DISTANCES: DIFFERENCES BETWEEN INTERSTITAL LUNG DISEASE (ILD) AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)

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Background There is evidence to suggest that Pulmonary Rehabilitation (PR) is beneficial for patients with chronic lung diseases other than COPD (AACP/AACVPR guidelines 2007, ILD consultation document 2013). However, there is little evidence to suggest that PR provides exercise tolerance benefits comparable to COPD patients who participate in the same PR programmes.

Aim To determine whether walking distance improvements differ significantly between ILD and COPD patients following PR.

Method Retrospective data of PR Endurance Shuttle Walk Test distances (ESWTD) pre- to post-PR were analysed and compared between 55 Interstitial Lung Disease (ILD) and 440 COPD patients from February 2005 to December 2012. Patients participated in a PR programme run by the same clinical team. Independent sample two-tailed t-tests were performed on data for pre-PR ESWTD, post-PR ESWTD and ESWTD change.

Results There were no significant differences between group ESWTD prior to PR (t = -0.049, p = 0.961), following PR (t = -0.227, p = 0.820) or change in ESWTD (t = -0.228, p = 0.820).

Abstract P41 Table 1.

	No.	Mean (SD) Pre PR (m)	Mean (SD) Post PR (m)	Mean (SD) Change (m)
COPD	440	365 (339)	804 (605)	440 (530)
ILD	55	363 (309)	785 (502)	422 (443)