



Cutoff points for the 1-RM test and their association with mortality in COPD

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European Respiratory Journal 2019 54: PA1206; DOI: 10.1183/13993003.congress-2019.PA1206

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Abstract

Introduction: There is no available cutoff for the 1-repetition maximum (1RM) test of knee extensor muscles associated with prognosis in patients with chronic obstructive pulmonary disease (COPD).

Aims: To determine 1RM cutoffs for the knee extensors and to verify their association with mortality in COPD.

Methods: In a preliminary analysis of a multicenter study, 170 patients performed the 1RM test of knee extensors (52%♂; 66±8yrs; FEV1 46±15%pred). Cutoffs for 1RM and 1RM/Body Weight ratio (1RM/BW) were identified by ROC curve analysis in a subgroup of patients (n=114; 68 from Brazil; 46 from Portugal). They were classified as either normal (≥80%pred) or low (<80%pred) strength by their maximum voluntary isometric contraction of knee extensors. Vital status was retrospectively ascertained for four years in the remaining sample (n=56).

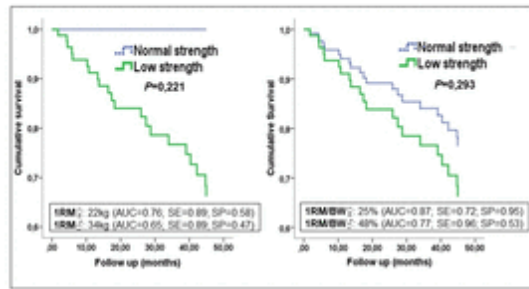
Results: The best discriminative cutoffs (1RM♀: 22kg; 1RM♂: 34kg; 1RM/BW♀: 25%; 1RM/BW♂: 48%) were tested in Kaplan-Meier analysis (Figure 1). Respectively, 40% and 41% of patients classified as 'low strength' according to 1RM and 1RM/BW cut-offs died in 4 years, in comparison to 0% and 20% in those with normal strength (P>0.05). Cox regression adjusted for confounders was not statistically significant.

Conclusion: New gender-based knee extensors 1RM cutoffs adjusted or not for body weight were provided,

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Footnotes

Cite this article as: European Respiratory Journal 2019; 54: Suppl. 63, PA1206.

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