



# Can the scoring of the walking estimated limitation calculated by history (WELCH) questionnaire be simultaneously simplified and improved?

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Résumé en anglais	<p>BACKGROUND: The WELCH questionnaire includes 4 items (A, B, C and D) and estimates the maximal walking time (MWT) on treadmill in patients with claudication. Its scoring was empirically defined. We aimed to test various methods for scoring to estimate whether the scoring of the WELCH could be improved or simplified. PATIENTS AND METHODS: In 423 patients, we tested 8 methods (from H1 to H8) of weighing D or calculating alpha, beta and gamma in the equation <math>MWT = (\alpha A + \beta B + \gamma C) D</math>. RESULTS: While the WELCH Pearson r was 0.639 and area under ROC curve for the ability to walk 5 minutes on treadmill was 0.795 for the reference empirical method, tested hypotheses resulted in values ranging 0.566 to 0.661 for the Pearson r values and 0.750 to 0.809 for the areas under ROC curve respectively. CONCLUSIONS: None of the tested methods simultaneously improved the correlation to MWT, remained simple enough to be scored by mental calculation and ranged between intuitive minimal and maximal values. The original empirical scoring seems a good compromise between accuracy and simplicity.</p>
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