Assessment of the Minimum Clinically Important Difference in the Timed Up and Go Test After Surgery for Lumbar Degenerative Disc Disease

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BACKGROUND
The Timed Up and Go Test (TUG Test) has previously been described as a reliable tool to evaluate objective functional impairment in patients with degenerative disc disease.

OBJECTIVE
The aim of this study was to assess the minimum clinically important difference (MCID) of the TUG Test.

METHODS
The TUG Test (measured in seconds) was correlated with validated patient-reported outcome measures (PROs) of pain intensity (Visual Analog Scale for back and leg pain), functional impairment (Oswestry Disability Index, Roland Morris Disability Index), and health-related quality of life measures (Short Form-12 and EuroQol 5D). Three established methods were used to establish anchor-based MCID values using responders of the following PROs (Visual Analog Scale back and leg pain, Oswestry Disability Index, Roland Morris Disability Index, EuroQol 5D index, and Short Form-12 Physical Component Summary) as anchors: (1) average change, (2) minimum detectable change, and (3) change difference approach.

RESULTS
One hundred patients with a mean ± SD age of 56.2 ± 16.1 years, 57 (57%) male, 45 patients undergoing microdiscectomy, 35 undergoing lumbar decompression, and 20 undergoing fusion surgery were studied. The 3 MCID computation methods revealed a range of MCID values according to the PRO used from 0.9 s (Oswestry Disability Index based on the change difference approach) to 6.0 s (EuroQol 5D index based on the minimum detectable change approach), with a mean MCID of 3.4 s for all measured PROs.

CONCLUSION
The MCID for the TUG Test time is highly variable depending on the computation technique used. The average TUG Test MCID was 3.4 s using all 3
methods and all anchors.

ABBREVIATIONS
D3, day 3DDD, degenerative disc diseaseEQ5D, EuroQol 5DFU, follow-upHRQoL, health-related quality of lifeMCID, minimum clinically important differenceODI, Oswestry Disability IndexOFI, objective functional impairmentPCS, Physical Component SummaryPRO, patient-reported outcome measureRMDI, Roland-Morris Disability IndexSF-12, Short Form 12TUG Test, Time Up and Go TestVAS, Visual Analog Scale.

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