

## Publication

Timed up-and-go performance is associated with objectively measured life space in patients 3 months after ischemic stroke: a cross-sectional observational study.

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**Author(s)** Rössler, Roland; Rommers, Nikki; Kim, Eun-Kyeong; Iendra, Laura; Sofios, Alexander; Giannouli, Eleftheria; Portegijs, Erja; Rantanen, Taina; Infanger, Denis; Bridenbaugh, Stephanie; Engelter, Stefan T; Schmidt-Trucksäss, Arno; Weibel, Robert; Peters, Nils; Hinrichs, Timo

**Author(s) at UniBasel** [Hinrichs, Timo](#) ;

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Stroke is a common cause of mobility limitation, including a reduction in life space. Life space is defined as the spatial extent in which a person moves within a specified period of time. We aimed to analyze patients' objective and self-reported life space and clinical stroke characteristics.; MOBITEC-Stroke is a prospective observational cohort study addressing poststroke mobility. This cross-sectional analysis refers to 3-month data. Life space was assessed by a portable tracking device (7 consecutive days) and by self-report (Life-Space Assessment; LSA). We analysed the timed up-and-go (TUG) test, stroke severity (National Institutes of Health Stroke Scale; NIHSS), and the level of functional outcome (modified Rankin Scale; mRS) in relation to participants' objective (distance- and area-related life-space parameters) and self-reported (LSA) life space by multivariable linear regression analyses, adjusted for age, sex, and residential area.; We included 41 patients, mean age 70.7 (SD 11.0) years, 29.3% female, NIHSS score 1.76 (SD 1.68). We found a positive relationship between TUG performance and maximum distance from home ( $p=0.006$ ), convex hull area (i.e. area enclosing all Global Navigation Satellite System [GNSS] fixes, represented as a polygon linking the outermost points;  $p=0.009$ ), perimeter of the convex hull area (i.e. total length of the boundary of the convex hull area;  $p=0.008$ ), as well as the standard ellipse area (i.e. the two-dimensional ellipse containing approximately 63% of GNSS points;  $p=0.023$ ), in multivariable regression analyses.; The TUG, an easily applicable bedside test, seems to be a useful indicator for patients' life space 3 months poststroke and may be a clinically useful measure to document the motor rehabilitative process.

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