

# CHANGE IN TIMED UP AND GO PERFORMANCE OVER TIME IN COMMUNITY-DWELLING OLDER MEN

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## AIMS

To assess which baseline factors related to patients' clinical profile are associated with incident decline in Timed Up and Go (TUG) performance over 3 years in community-dwelling older men.

## METHODS

- Longitudinal study of a population-based sample of 352 ambulatory older men.
- The study started in 1996 with follow-up visits annually until 2000.
- The **TUG test** was performed at each visit to assess subjects' physical performance. Mean annual change in performance time was calculated using linear regression analyses with data from 1997 until 2000.
- Physical performance was further evaluated with the **Chair rising test**. The best time of 2 measurements was used.
- Depression was assessed in 1997 using the **30-item Geriatric Depression Scale** [range 0 – 30, scores > 11 indicate depression].
- Cognitive status was evaluated through a **5-item recall performed 3 times** [range 0 – 15, higher scores indicate better cognitive status].
- Subjects were asked about their **history of falls in the past year** [binary variable].
- Functional status was assessed by 8 questions on activities of daily living in the **Rapid Disability Rating Scale-2 (RDRS-2)** [range 8 – 32, higher scores indicate more assistance needed].
- Subjects with low performance (TUG > 20s) or function (RDRS-2 > 16 / 32) at baseline and subjects who were deceased before 2000 were excluded from the analyses.

## RESULTS

Between 1997 and 2000, **195 well-functioning older men** had completed at least 2 visits according to the protocol.

Mean annual decline in TUG performance was  $0.12 \pm 0.92$  seconds.

**Table 1. Baseline TUG and annual decline in TUG according to baseline factors.**

Characteristic in 1997	Median (IQR) / N (%)	Factor	N (%)	Baseline TUG (sec), mean $\pm$ SD			Annual decline in TUG (sec / year), mean $\pm$ SD		
				Factor present	Factor absent	P	Factor present	Factor absent	P
Age (years)	75 (73 – 77)	$\geq 75$ years	105 (54%)	11.29 $\pm$ 2.39	10.26 $\pm$ 1.85	0.001	0.25 $\pm$ 1.05	-0.04 $\pm$ 0.71	0.022
TUG test (sec)	10.50 (9.11 – 12.30)	$\geq 10.50$ sec	97 (50%)	12.59 $\pm$ 1.58	9.05 $\pm$ 1.05	/	-0.05 $\pm$ 1.04	0.29 $\pm$ 0.75	0.008
Chair rising test (sec)	10.75 (9.39 – 12.33)	$\geq 10.75$ sec	97 (50%)	11.24 $\pm$ 2.04	10.42 $\pm$ 2.30	0.009	0.31 $\pm$ 1.06	-0.07 $\pm$ 0.71	0.004
Falls in the previous year	25 (13%)	Falls	25 (13%)	11.27 $\pm$ 2.19	10.73 $\pm$ 2.21	0.262	0.67 $\pm$ 0.98	0.03 $\pm$ 0.89	0.001
GDS score	4 (2 – 7)	Depression	22 (11%)	11.54 $\pm$ 2.61	10.72 $\pm$ 2.15	0.166	0.50 $\pm$ 0.89	0.07 $\pm$ 0.91	0.036
Cognitive score	13 (12 – 14)	Score < 13	70 (37%)	11.18 $\pm$ 2.06	10.61 $\pm$ 2.31	0.092	0.31 $\pm$ 1.09	0.01 $\pm$ 0.80	0.047

**Table 2. Multivariate linear regression model with annual decline in TUG performance as dependent variable.  $R^2 = 32.8$**

Characteristic in 1997	B	95% CI	P
Age (years)	0.07	0.04 – 0.10	< 0.001
TUG test (sec)	-0.20	-0.25 – -0.14	< 0.001
Chair rising test (sec)	0.07	0.03 – 0.12	0.001
Falls in the previous year	0.49	0.15 – 0.82	0.005
GDS score	0.44	0.09 – 0.79	0.015
Cognitive score	-0.33	-0.56 – -0.09	0.006

## CONCLUSIONS

Subjects with TUG decline have different profiles at baseline compared to subjects without decline.

Comprehensive Geriatric Assessment should particularly include history of falls, depression, cognitive function, and physical performance.