

**Additional File 1.** Between-group differences and regression analyses with removal of those requiring physical assistance and/or gait aids (n=57)

	Non-fallers (n=43) Mean±SD	Fallers (n=14) Mean±SD	Between- group <sup>a</sup> P-value	25 <sup>th</sup> – 75 <sup>th</sup> quartiles	Regression adjusted for country and prior falls		Regression adjusted for country, prior falls and 6mWT	
					IQR-OR	P-value	IQR-OR (95% CI)	P-value
<b>Gait variables</b>								
6mWT-comfortable, m/s (n=42:14)	0.93±0.28	0.75±0.24	0.077	0.69-1.04	2.30 (0.86-6.13) <sup>b</sup>	0.096	N/A	N/A
Kinect-fast walk, m/s (n=41:14)	1.10±0.27	0.91±0.30	0.066	0.87-1.27	2.53 (0.90-7.12) <sup>b</sup>	0.080	N/A	N/A
Stride length, m (n=41:14)	1.13±0.19	0.99±0.23	<b>0.039*</b>	0.99-1.24	1.97 (0.87-4.42) <sup>b</sup>	0.102	1.13 (0.33-3.93) <sup>b</sup>	0.842
Cadence, steps/min (n=41:14)	116.62±15.56	107.32±21.65	0.127	106.05-125.88	1.72 (0.80-3.70) <sup>b</sup>	0.163	1.16 (0.44-3.04) <sup>b</sup>	0.760
Step width, m (n=41:14)	0.14±0.04	0.14±0.04	0.954	0.11-0.16	1.28 (0.46-3.58) <sup>b</sup>	0.633	1.65 (0.55-5.01) <sup>b</sup>	0.372
Step length asymmetry, ratio (n=41:14) <sup>c</sup>	1.10±0.10	1.09±0.07	0.728	1.05-1.12	1.08 (0.54-2.16) <sup>b</sup>	0.823	1.80 (0.67- <i>U</i> ) <sup>b</sup>	0.246
Gait speed variability, m/s (n=41:14) <sup>c</sup>	0.19±0.07	0.14±0.04	<b>0.034*</b>	0.12-0.19	2.57 (0.90-7.32) <sup>b</sup>	0.078	1.70 (0.47-6.21) <sup>b</sup>	0.419
ML pelvic displacement, cm (n=40:14)	6.60±1.13	5.26±1.13	<b>0.001*</b>	5.42-7.04	<b>9.35 (2.14-40.86)<sup>b</sup></b>	<b>0.003*</b>	<b>8.54 (1.92-37.98)<sup>b</sup></b>	<b>0.005*</b>
Vertical pelvic displacement, cm (n=40:14)	3.82±1.15	3.07±0.88	<b>0.036*</b>	2.73-4.21	2.42 (0.86-6.78) <sup>b</sup>	0.094	1.55 (0.41-5.86) <sup>b</sup>	0.516
<b>Balance variables</b>								
TUG - normal, s (n=43:14) <sup>c</sup>	12.34±4.01	16.18±7.51	<b>0.033*</b>	9.79-15.59	2.58 (0.91-7.32)	0.075	2.40 (0.44-13.20)	0.313
TUG - dual task, s (n=41:13) <sup>c</sup>	16.44±11.18	19.44±9.81	0.112	11.23-19.03	1.29 (0.58-2.85)	0.531	1.31 (0.46-3.73) <sup>b</sup>	0.618
Step test - affected, taps/15s (n=43:14)	11.84±4.36	8.64±2.10	<b>0.014*</b>	7.00-14.00	<b>5.47 (1.22-24.52)<sup>b</sup></b>	<b>0.026*</b>	5.02 (0.84-28.87) <sup>b</sup>	0.076
Step test - less affected, taps/15s (n=43:14)	10.56±4.34	6.14±2.48	<b>&lt;0.001*</b>	7.00-12.00	<b>6.19 (1.50-25.47)<sup>b</sup></b>	<b>0.012*</b>	<b>9.58 (1.55-59.28)<sup>b</sup></b>	<b>0.015*</b>
COP vel EO total, cm/s (n=42:13) <sup>c</sup>	1.31±0.46	1.55±1.10	0.663	1.07-1.44	1.01 (0.61-1.70)	0.955	1.00 (0.58-1.71)	0.986
COP vel EO ML, cm/s (n=42:13) <sup>c</sup>	0.54±0.17	0.71±0.58	0.766	0.42-0.66	1.44 (0.64-3.22)	0.377	1.42 (0.63-3.22)	0.402
COP vel EO AP, cm/s (n=42:13) <sup>c</sup>	1.07±0.44	1.23±0.83	0.890	0.83-1.18	1.06 (0.58-1.92) <sup>b</sup>	0.861	1.07 (0.57-2.01) <sup>b</sup>	0.832
COP vel EC total, cm/s (n=41:13) <sup>c</sup>	1.90±0.87	2.07±1.41	0.678	1.35-2.18	1.25 (0.61-2.57) <sup>b</sup>	0.540	1.26 (0.60-2.67) <sup>b</sup>	0.541
COP vel EC ML, cm/s (n=41:13) <sup>c</sup>	0.66±0.23	0.78±0.58	0.800	0.50-0.78	1.11 (0.55-2.21)	0.774	1.06 (0.52-2.18)	0.869
COP vel EC AP, cm/s (n=41:13) <sup>c</sup>	1.66±0.82	1.76±1.20	0.564	1.14-1.84	1.35 (0.67-2.71) <sup>b</sup>	0.407	1.35 (0.65-2.81) <sup>b</sup>	0.420

\* Denotes a significance at  $P < 0.05$

<sup>a</sup> Between-group differences assessed using Mann-Whitney U tests; <sup>b</sup> an inverse relationship with falls exists, therefore IQR-OR compares the odds of having more falls among individuals with predictor values at the 25<sup>th</sup> percentile with the odds of having more falls among individuals with predictor values at the 75<sup>th</sup> percentile; <sup>c</sup> log-transformed for regression analysis due to significant positive skew.

Abbreviations: 6mWT = 6-metre walk test; AP = anteroposterior; COP = centre of pressure; EC = eyes closed; EO = eyes open; IQR = interquartile range; ML = mediolateral; OR = odds ratio; TUG = timed up and go; U = unable to calculate