

Supplementary Table I. Energy cost of walking models for the most impaired leg

Fixed Coefficients	Estimate	95%CI	
		lower	upper
Most impaired leg – speed continuous			
Intercept	0.21	-2.94	3.37
Medio-lateral margins of stability MIL (m)	47.67	16.87	78.48
Walking speed (m/s)	2.54	0.39	4.70
Medio-lateral margins of stability MIL* walking speed	-27.07	-49.32	-4.83
Most impaired leg - EDSS			
Intercept	4.98	0.47	9.48
Medio-lateral margins of stability MIL (m)	-4.08	-51.05	42.89
EDSS	-0.39	-1.90	1.12
Medio-lateral margins of stability MIL * EDSS	4.61	-9.89	19.11
Most impaired leg - speed categorical			
Intercept	3.22	2.13	4.30
Medio-lateral margins of stability MIL (m)	16.03	5.97	26.10
Walking condition (CWS =0 FWS=1)	0.71	-0.05	1.48
Medio-lateral margins of stability MIL * walking condition	-6.96	-14.16	0.24

Abbreviations: 95%CI, 95% confidence interval; MIL, most impaired leg; EDSS, Expanded Disability Status Scale; CWS, comfortable walking speed; FWS, fast walking speed

Supplementary Table II. Energy cost of walking models for the least impaired leg

Fixed Coefficients	Estimate	95%CI	
		lower	upper
Least impaired leg – speed continuous			
Intercept	-0.45	-4.66	3.77
Medio-lateral margins of stability LIL (m)	60.37	16.71	104.02
Walking speed (m/s)	3.91	1.08	6.75
Medio-lateral margins of stability LIL * walking speed	-45.09	-76.05	-14.13
Least impaired leg EDSS			
Intercept	1.94	0.48	9.49
Medio-lateral margins of stability LIL (m)	21.50	-51.05	42.90
EDSS	1.12	-1.90	1.12
Medio-lateral margins of stability LIL * EDSS	-8.40	-9.89	19.11
Least impaired leg - speed categorical			
Intercept	4.01	2.22	5.80
Medio-lateral margins of stability LIL (m)	9.07	-8.94	27.09
Walking condition (CWS =0; FWS=1)	0.86	-0.30	2.03
Medio-lateral margins of stability LIL * walking condition	-9.11	-20.99	2.76

Abbreviations: 95%CI, 95% confidence interval; LIL, least impaired leg; EDSS, Expanded Disability Status Scale; CWS, comfortable walking speed; FWS, fast walking speed

Supplementary Table III. Energy cost of walking models for Balance board

Fixed Coefficients	Estimate	95%CI	
		lower	upper
Balance board – speed continuous			
Intercept	6.81	5.54	8.07
Balance board quarters (%)	-0.14	-0.23	-0.05
Walking speed (m/s)	-1.25	-2.35	-0.15
Balance board quarters * walking speed	0.08	0.02	0.15
Balance board - EDSS			
Intercept	5.87	3.63	8.11
Balance board quarters (%)	-0.02	-0.05	0.004
EDSS	-0.21	-0.87	0.45
Balance board quarters * EDSS	0.01	-0.003	0.01
Balance board - speed categorical			
Intercept	5.46	4.99	5.93
Balance board quarters (%)	-0.01	-0.02	0.003
Walking condition (CWS =0; FWS=1)	-0.42	-0.68	-0.17
Balance board quarters * Walking condition	0.01	0.003	0.01

Abbreviations: 95%CI, 95% confidence interval; EDSS, Expanded Disability Status Scale; CWS, comfortable walking speed; FWS, fast walking speed