

Supplemental materials

A: Detrended fluctuation analysis (DFA)

The COP time series was first integrated to make it an unbound time series. It was then divided into consecutive intervals of length n and a regression line was calculated at each interval. Then, the theoretical value $X_n[k]$ given by the regression was subtracted from its original value $X[k]$ and the COP data were detrended.

For a given interval length n , the size of fluctuation was calculated as:

$$F(n) = \sqrt{1/n \sum (X[k] - X_n[k])^2},$$

The above computation was repeated for intervals from 10 to $N/2$. Normally, the $F(n)$ value increases with interval length, and a power law is expected as:

$$F(n) = bn^\alpha,$$

where b is a constant and α is the scaling exponent. A scaling exponent greater than 1 indicates non-stationary and persistent features of postural control. A lower scaling exponent between 1.0 ($1/f$ noise) and 1.5 (Brownian motion) implies greater roughness and less persistent features in the COP movements.

B. Mean (SD) of gait spatiotemporal parameters for each participant

Participant ID	Stride length (m)			Stride velocity (m/s)			Double support percentage (%)		
	Pre	LA-Post	HA-Post	Pre	LA-Post	HA-Post	Pre	LA-Post	HA-Post
CP01	0.45 (0.08)	0.32 (0.07)	0.57 (0.04)	0.36 (0.11)	0.26 (0.07)	0.46 (0.05)	0.55 (0.08)	0.56 (0.06)	0.48 (0.05)
CP02	1.33 (0.08)	1.33 (0.03)	1.41 (0.04)	1.53 (0.14)	1.55 (0.06)	1.64 (0.07)	0.15 (0.02)	0.16 (0.03)	0.13 (0.02)
CP03	0.45 (0.17)	0.53 (0.16)	0.65 (0.18)	0.42 (0.10)	0.66 (0.19)	0.77 (0.12)	0.41 (0.06)	0.28 (0.07)	0.32 (0.05)
CP04	0.82 (0.11)	0.96 (0.10)	-	0.79 (0.21)	1.22 (0.16)	-	0.29 (0.10)	0.22 (0.02)	-
CP05	1.02 (0.07)	0.99 (0.09)	-	1.12 (0.15)	1.19 (0.10)	-	0.29 (0.03)	0.29 (0.05)	-
CP06	0.88 (0.08)	0.78 (0.12)	0.83 (0.03)	0.76 (0.09)	0.76 (0.12)	0.77 (0.09)	0.34 (0.05)	0.38 (0.14)	0.35 (0.06)
CP07	0.67 (0.10)	0.76 (0.06)	0.65 (0.002)	0.70 (0.29)	1.10 (0.09)	0.73 (0.07)	0.19 (0.06)	0.21 (0.02)	0.25 (0.06)
CP08	0.44 (0.12)	0.43 (0.07)	0.66 (0.09)	0.44 (0.11)	0.40 (0.09)	0.59 (0.12)	0.42 (0.06)	0.37 (0.10)	0.33 (0.07)
CP09	0.98 (0.02)	0.90 (0.09)	0.89 (0.04)	1.04 (0.04)	0.86 (0.16)	0.85 (0.16)	0.22 (0.02)	0.31 (0.03)	0.26 (0.05)
CP10	1.10 (0.07)	1.04 (0.11)	1.08 (0.06)	1.17 (0.14)	1.12 (0.14)	1.23 (0.14)	0.18 (0.03)	0.17 (0.01)	0.19 (0.01)

Pre: pre-WBV; LA-Post: post-low amplitude (LA) WBV; HA-post: post-high amplitude (HA) WBV.