

**Supporting Information**  
**Two independent contributions to step variability during over-ground human walking**  
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**Table S2** Step variabilities, expressed as variance ( $N = 14$ , mean  $\pm$  s.d.). Normalization units are given in terms of leg length  $L$  and gravitational acceleration  $g$ . Short-term variability is defined by applying a high-pass filter to step data, with a cut-off period of 30 steps (and long-term by a low-pass filter).

Variance	units	Eyes Open condition	Eyes Closed condition
Totals			
Speed	$gL$	$0.000133 \pm 0.000065$	$0.000122 \pm 0.000058$
Step length	$L^2$	$0.000292 \pm 0.000121$	$0.000377 \pm 0.000125$
Step width	$L^2$	$0.000677 \pm 0.000221$	$0.001380 \pm 0.000413$
De-trended			
Step length	$L^2$	$0.000163 \pm 0.000061$	$0.000255 \pm 0.000079$
Step width	$L^2$	$0.000700 \pm 0.000219$	$0.001420 \pm 0.000418$
Speed trend			
Step length	$L^2$	$0.000121 \pm 0.000097$	$0.000125 \pm 0.000061$
Step width	$L^2$	$0.000023 \pm 0.000028$	$0.000034 \pm 0.000048$
Short-term			
Step length	$L^2$	$0.000173 \pm 0.000069$	$0.000272 \pm 0.000090$
Step width	$L^2$	$0.000590 \pm 0.000201$	$0.001254 \pm 0.000421$
Long-term			
Step length	$L^2$	$0.000117 \pm 0.000081$	$0.000101 \pm 0.000046$
Step width	$L^2$	$0.000093 \pm 0.000044$	$0.000154 \pm 0.000061$