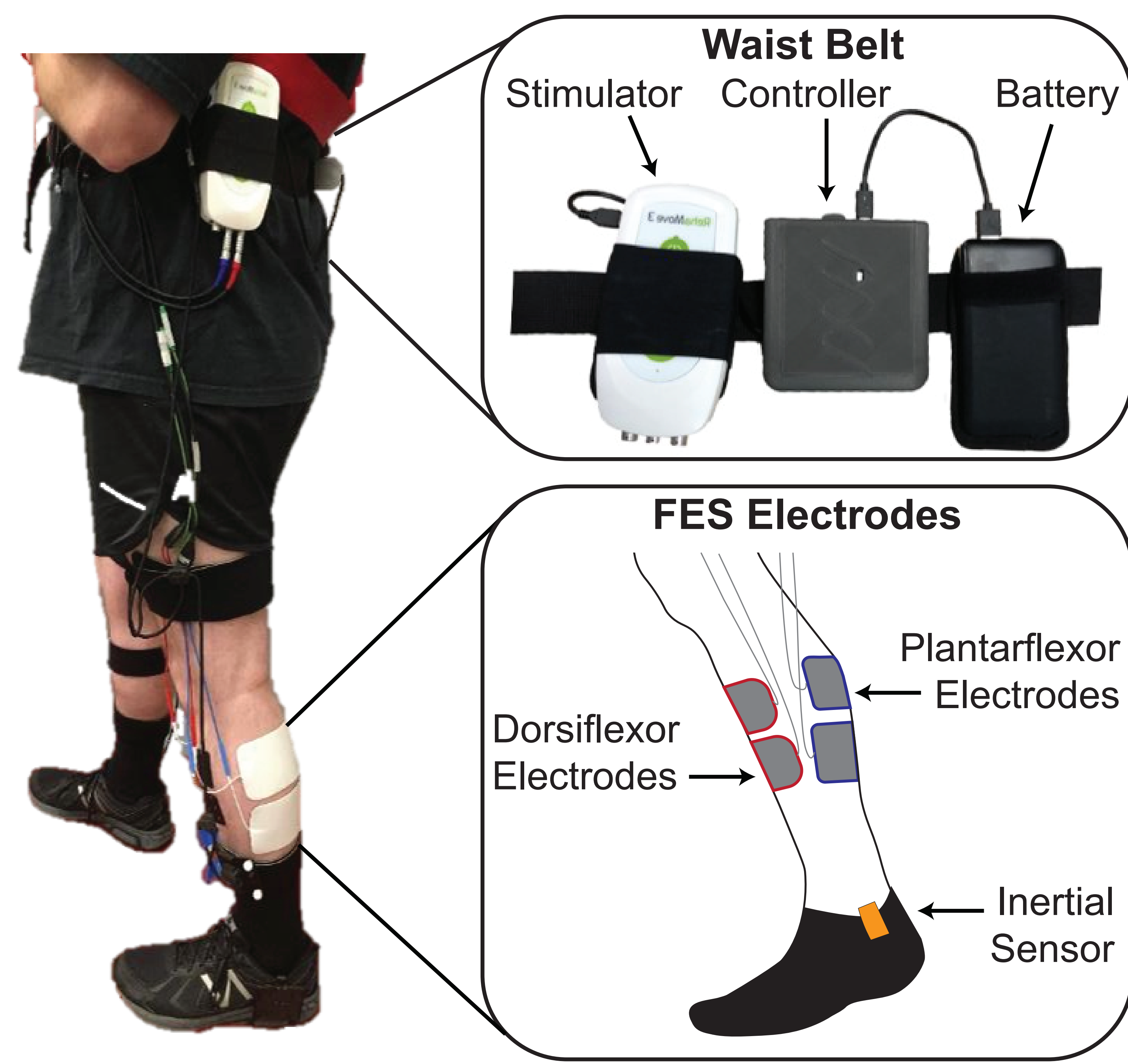


Overground Gait Training with a Plantarflexor Neuroprosthesis Increases Walking Speed and Paretic Propulsion After Stroke

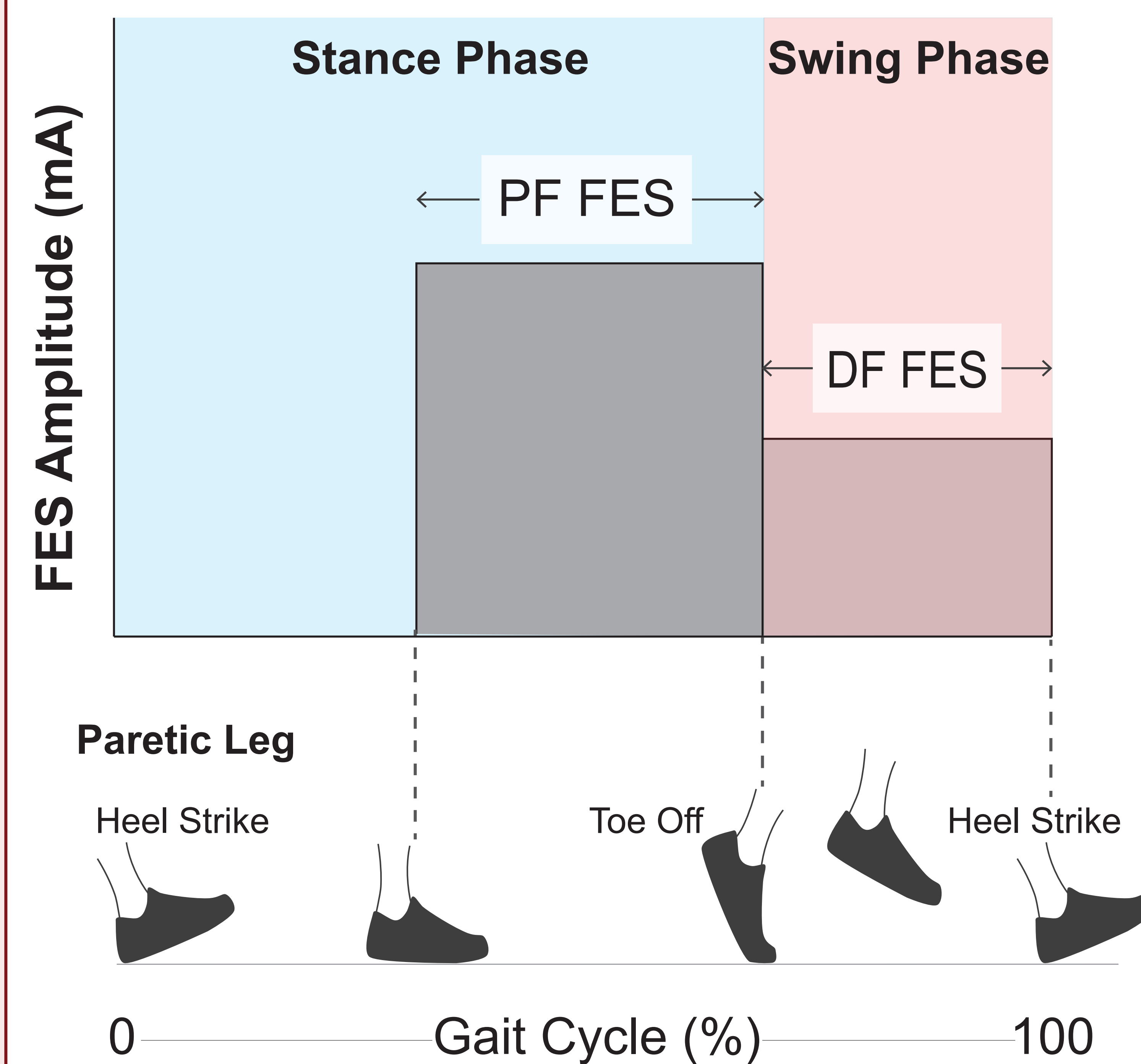
Dabin Choe; Ashlyn J. Aiello, MS; Johanna Spangler, PT, DPT; Benjamin Shih, PhD; Conor J. Walsh, PhD; Louis N. Awad, PT, DPT, PhD

Can a single session of walking with gait-adaptive stimulation of the paretic plantarflexors improve post-stroke walking speed and paretic propulsion?

Plantarflexor Neuroprosthesis

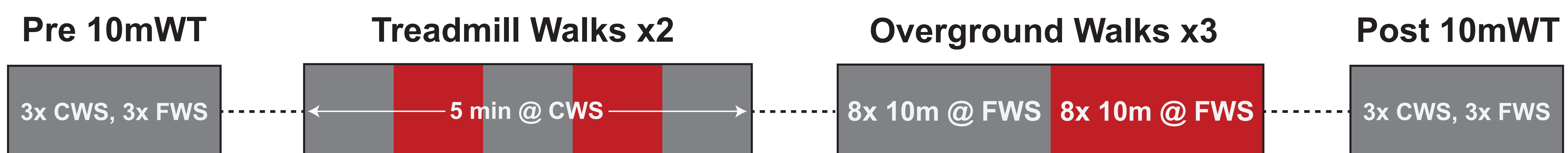


Stimulation Timing Control



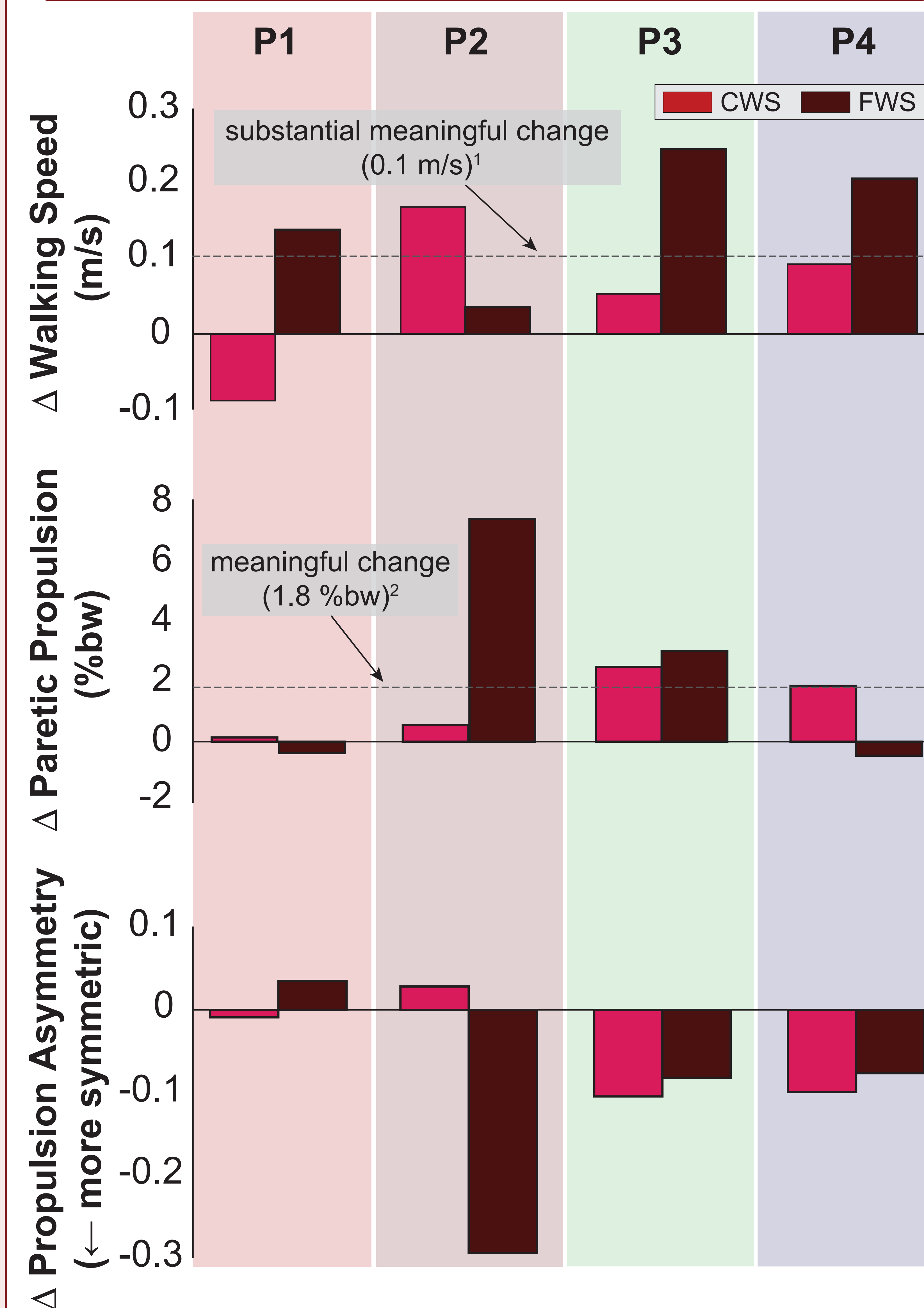
Collection Protocol

4 participants with chronic stroke (2 female; age 51.3 ± 8.5 years; chronicity 6.5 ± 1.4 years)

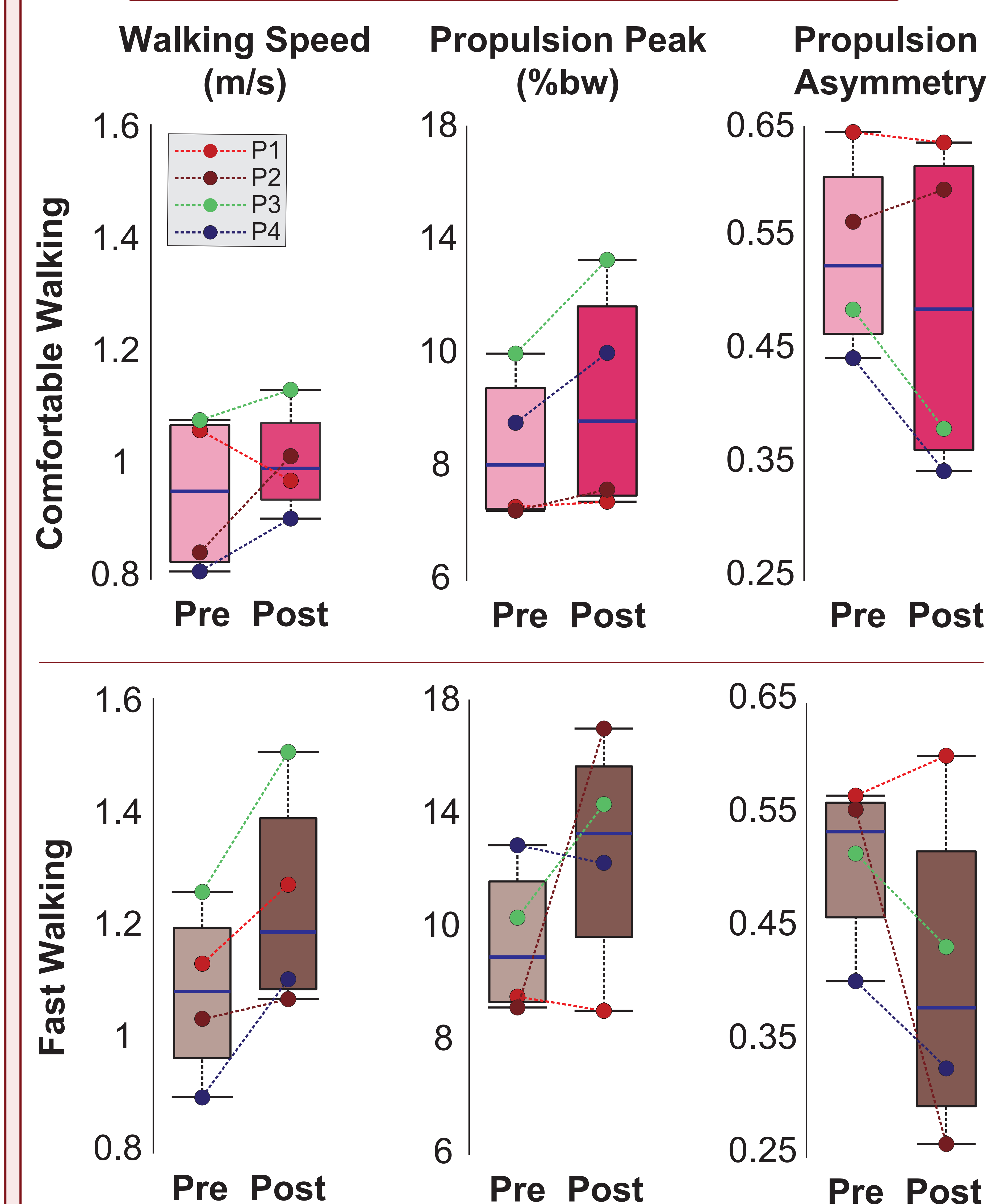


Legend: No FES (grey), DF+PF FES (red), FES: functional electrical stimulation, 10mWT: 10-meter Walk Test, CWS: comfortable walking speed, FWS: fast walking speed, DF: dorsiflexion, PF: plantarflexion, m/s: meters per second, %bw: percent body weight

Participant-Specific Outcomes



Group Effects After Session



A single session of training with a plantarflexor neuroprosthesis improves fast walking speed and paretic propulsion. Most participants who walked at faster speeds after the session also improved propulsion symmetry.

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References:

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- [2] Campanini 2009. doi:10.1016/j.gaitpost.2009.03.011