

Step in time: exploration of synchrony and timing correction in response to virtual reality avatars for gait re-training

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ABSTRACT

This study investigates the use of virtual reality avatars as exercise cues for retraining gait. A feasibility test was conducted by asking participants to step in time with the avatar viewed through a virtual reality headset. We observed that a temporal perturbation (a speeding up or slowing down of one step cycle) applied to the avatar resulted in a significant corrective response in participants' own step timing. If this response can extend to spatial perturbations, we suggest that virtual reality avatars have the potential to assist in the targeted rehabilitation of neuromuscular or other disorders and retraining of gait post-surgery.

Full papers will be published in the Conference Proceedings and will be freely available to delegates at the conference and online on September 20, 2016.