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Strategies to achieve high intensity gait training in a clinical setting: A Case Study

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The effectiveness of high intensity gait training (HIGT) is supported in the literature. HIGT is defined as 60-85% heart rate reserve for 30-40 minutes performed over ground or on the treadmill. Presently, there is limited evidence investigating clinically feasible treatment strategies to achieve HIGT. This case study's purpose is to identify clinically feasible interventions to achieve HIGT and promote efficient knowledge translation. The patient was a 23-year-old male with C5 incomplete spinal cord injury presenting with left hemiparesis. Interventions incorporated treadmill training (TT) and over ground training (OGT) for a maximum of 60 minutes per session. Strategies included: varying speed; limb weighting; uneven surface gradients; and complex skills training. Results indicate that HIGT is clinically feasible. HIGT was achieved 90.9% of the time with TT vs. 66.6% of the time during OGT. HIGT was achieved a mean 36 minutes out of a total of 46 minutes per session. Achieving HIGT via OGT was more challenging due to increased fall risk. HIGT OG was accomplished with: running; resisted fast walking; ankle/trunk weighting; and stairs. TT achieved HIGT by: varying speed; increasing gradient; and limb weighting. Harness support would be recommended, as appropriate, to ensure safety and to maximize task demands with both OGT and TT. Future studies with larger sample sizes could provide evidence to identify the most effective training approaches for HIGT. To conclude, this case study provided examples of clinically feasible interventions to promote more consistent achievement of HIGT in the clinic.

Biography

Brian Wadsworth is a Staff Physical Therapist at Rusk Rehabilitation at NYU Langone Health in New York City. He has completed his Residency in Neurologic PT at NYU Rusk between August 2017 and August 2018. He has completed his Graduation at Sacred Heart University with his Doctorate in Physical Therapy in July 2017.

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