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Biography

Sam Smith, is a Senior Rehabilitation Physiotherapist at the University of Canberra Hospital in Canberra, Australia with 6 years experience working in inpatient rehabilitation and 4 years experience working in professional sport. He is a graduate of the Bachelor of Physiotherapy program at the University of Canberra and is currently completing his Master of Sports Medicine at the University of Melbourne.

The Effects On Patient Therapy Times Following The Implementation Of Robotics Therapy In An Inpatient Neurological Rehabilitation Ward

Abstract:

Background: The Hocoma Lokomat is an electromechanical-assisted exoskeleton robotics device designed for intensive walking practice for patients with neurological conditions. It was installed at University of Canberra Hospital inpatient neurological rehabilitation ward in 2024. Lokomat robotics therapy requires two staff members to run each session whereas the inpatient neurological rehabilitation ward has typically used a semi-supervised structure for conventional gym-based physiotherapy.

Aim: To determine what effects the implementation of robotics therapy has on overall patient therapy time on an inpatient neurological rehabilitation ward.

Methods: Patient therapy times were tracked during pre-intervention and post-intervention blocks each consisting of 13 weeks. The pre-intervention period consisted of conventional gym-based physiotherapy only. The post-intervention period included the time spent completing both conventional gym-based physiotherapy and robotics therapy.

Results: There was a decrease in therapy time provided to patients following the implementation of robotics therapy. There was a reduction in therapy time provided per staff member between the pre-intervention period and the post-intervention period of 55 minutes per day (415 minutes vs 360 minutes), while 0.86 less patients were seen in the post-intervention period per staff member per day (5.12 vs 4.26).

Conclusions: When implementing new technology such as robotics therapy that requires a different staffing structure, appropriate staffing levels are required to ensure it does not adversely affect the therapy time for other patients on the ward. If there is no change in staffing structure, a reduction in patient therapy time can be expected.