



Psychosomatic

Rehabilitation that incorporates virtual reality

A systematic review to the effectiveness of virtual reality based rehabilitation for improving walking speed,

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Virtual reality based rehabilitation seems to be as effective on walking speed, balance and mobility compared to standard rehabilitation regimen in people with stroke.

It is widely accepted that a high dosage of task-oriented exercises is favourable in rehabilitation after stroke. Virtual reality simulates real-world activities in which the user has the sense of being present in and in control over this simulated environment. Because virtual reality based rehabilitation incorporates more task-oriented exercises compared to standard rehabilitation it is assumed to be more beneficial.

This systematic literature study reviewed 15 trials involving 341 participants (> 18 years old). Main outcome measures are walking speed, balance and mobility. Both head mounted devices as conventional workstations are included for virtual environment simulation. The authors compared four types of rehabilitation, namely: standard rehabilitation, rehabilitation replaced by some virtual reality, rehabilitation replaced by all virtual reality and standard rehabilitation extended with virtual reality.



This literature study shows a beneficial effect of virtual reality based rehabilitation compared to standard rehabilitation on all outcome measures. However the results are limited to sub-acute (>6 months) patients with mild motor impairment. Further research should help to define the optimal frequency, intensity, time and type of virtual reality based rehabilitation.

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