

Video games effective treatment for stroke patients: study

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Virtual reality and other video games can significantly improve motor function in stroke patients, according to research from St. Michael's Hospital.

Patients who played video games, such as Wii and Playstation, were up to five times more likely to show improvements in arm motor function compared to those who had standard therapy.

"Virtual reality gaming is a promising and potentially useful alternative to enhance motor improvement after [stroke](#)," said Dr. Gustavo Saposnik, the lead author of the study and the director of the Stroke Outcomes Research Unit at the hospital. "It provides an affordable, enjoyable and effective alternative to intensify treatment and promote motor recovery after a stroke."

The study, published in the April edition of *Stroke: Journal of the American Heart Association*, reviewed 12 existing studies that looked at the effects of electronic games on upper arm strength and mobility.

Between 55 and 75 per cent of [stroke survivors](#) experience motor problems in their arm. Yet conventional therapy – physiotherapy and occupational therapy – provide only "modest and sometimes delayed effects," said Saposnik, also a Heart and Stroke Foundation-funded researcher.

Current research suggests effective therapy needs to be challenging,

repetitive, task-specific and novel. Video games apply these concepts, helping the brain to heal through a process called neuroplasticity – the brain's ability to remodel itself after injury by creating new nerve cell connections.

"Recovery of motor skill depends on neurological recovery, adaptation, and learning new strategies," Saposnik said. "[Virtual reality](#) systems drive neuroplasticity and lead to benefits in motor function improvement after stroke."

Most of the studies Saposnik looked at included patients who had mild to moderate strokes. He said further research is needed to determine the effects of video games on treatment for more severe cases.

Provided by St. Michael's Hospital

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