

Time is Function: Making It Real

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Knowledge Exchange Idea: Using The Nintendo Wii As An Adjunct To Conventional Rehabilitation of Patients With Post-Stroke Upper Limb Weakness

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Exploring opportunities to increase therapy intensity

What we did and why:

- Existing evidence suggests that increasing intensity of stroke rehabilitation results in better motor recovery.
- Introducing the Nintendo Wii (NW) to patients with the objective of making upper limb exercise fun as well as patients being motivated to use the NW in the evenings and on weekends (after hours).

Outcomes and feedback:

- Once familiar with the NW, various patients found it a fun, entertaining way to exercise the upper limb.
- They could practice with other patients or family members in the evenings and/or on weekends.
- Some patients wanted to buy a NW gaming system so they could continue exercising at home.

Lessons Learned:

- The use of the NW gaming system does not replace conventional rehabilitation but it does add a dimension of entertainment.
- It offers an opportunity for socialization and leisure (i.e. patients can use it in pairs or in groups).
- Using the NW requires not only sensory motor function inputs but cognitive inputs as well, as the player is required to attend, comprehend, recall, plan, and execute appropriate responses to the visual cues provided on the screen.
- Selection of Wii games is very important to patient's success. Each game is pre-selected taking into consideration patient's preferences and residual upper limb function.
- The games requiring the least amount of "button pushing" or "button holding", (just upper extremity movement) were the easiest games for patients to learn and want to continue playing (i.e. Wii Sports, tennis, baseball, golf).
- When patients becoming proficient with the selected Wii games then other therapeutic exercise can be introduced (i.e. standing balance training).
- Consistent patient use of the NW during evenings/weekends has required a person (i.e. students, volunteers) to setup the Wii and assist with any difficulties during its use.