

Enhancing traditional therapy and rehabilitation with Video Games

Video games are quickly becoming a beneficial tool to utilize in therapy – whether it is physical, occupational, recreational or speech-language pathology. All disciplines have found a unique way to incorporate video game systems, such as the Nintendo Wii, DS or cell phone applications, to increase motivation and participation with their clients.

At Rainbow Rehabilitation Centers, video game consoles are the latest addition to the tools and techniques that keep clients engaged and improving while recovering from a brain or spinal cord injury.

There are many advantages to utilizing video games during therapy. They are fun and easy to use, and they can be competitive, track client progress, give visual feedback and increase socialization. Be aware that some have reported shoulder pain and eye strain from playing too much. However, when implemented in reasonable amounts of time, video games make for an engaging addition to therapy.

The Nintendo Wii and therapy

The Nintendo Wii has been used in therapy for stroke victims, people recovering from broken bones, surgery and brain injury. The Wii has a wide variety of games that can be used to address many areas that therapies typically focus on, including:

- Balance
- Fine-motor skills
- Hand-eye coordination
- Visual attention
- Processing speed
- Problem solving
- Comprehension
- Endurance
- Strength

The Nintendo DS

Nintendo also has a portable version called the DS. This allows clients to play in any environment at anytime. A game called “Brain Age” incorporates some tests used within neuropsychological testing. “Brain Age” features puzzles and tests such as Sudoku and mathematical questions designed to keep certain parts of the player’s brain active.

Recently a client at Rainbow utilized Nintendo Wii game “The Big Brain Academy” during individual speech-language pathology sessions. The game was played an average of once a week for approximately six weeks. The client initially took the test and scored 930. During each session, each of the five areas was practiced and then the test of all areas was given again. Over time, the client developed strategies to increase speed and accuracy. By the end, the client had achieved a score of 1,468.

Cell phones and games

Clients who have cell phones can utilize them in therapy as well. Phones such as the iPhone and Droid have applications and games that improve cognition, visual-spatial reasoning and attention.

Physical therapists can utilize the “Wii Fit” to increase balance and strengthen motor skills with the Wii Balance Board. The client receives visual feedback and can make adjustments to be in the proper position while standing on the board. The “Wii Fit” can calculate Body Mass Index and has more than 40 different exercise activities available, including: yoga, push ups, balance games and aerobics.

Occupational therapists can utilize games to help clients develop the coordination to relearn activities of daily living. For example when using the game, “Cooking Mama” from Nintendo (available on multiple gaming systems), a client has to simulate the motions of slicing meat, stirring batter, and peeling an onion. This method may be a safer way to work on regaining hand-eye coordination or fine motor skills.

There are also games that will walk a client step-by-step through a recipe with pictures and automatically adjust measurements based on serving size, if needed. Activities like these can help the client develop processing speed and problem solving.

Recreational therapists may use video games to increase socialization among clients. “Wii Sports” is a popular game for individuals of any age. “Wii Sports” is included with every Nintendo Wii console purchase and includes bowling,

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tennis, golf, boxing and baseball. The game also includes fitness and training modules to monitor player's progress in the games. Clients who are not physically able to run, play tennis or baseball, can do so on the Wii. A client favorite is Wii Bowling, where clients who cannot lift a bowling ball can participate using this game. The client can utilize this game standing up or sitting and can help with balance issues, visual attention, endurance and strength.

Speech & language pathologists may use video games to address cognitive areas such as problem solving, reading comprehension, memory, and visual attention. A great game that addresses a variety of areas of cognition for the Wii is "The Big Brain Academy." This particular game promotes the use of analysis, memorization, visualization, identification, math and computation through 15 activities that include five different types of challenges and puzzles. Each area is given a score based on accuracy and speed of completion.

To date, much of the information that is available comes from the experiences of rehabilitation professionals. Clinical research is just beginning to further understand how video games can positively affect client outcomes.

Video games can be utilized as an additional resource to enhance traditional therapy. The Wii may prove most effective when a client is discharged to home and must continue rehab on their own. Clients have the opportunity to engage family and friends in a fun and exciting game while benefiting therapeutically. ❖

Note: As with any video game system, follow the health and safety precautions listed in the manual. ❖

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