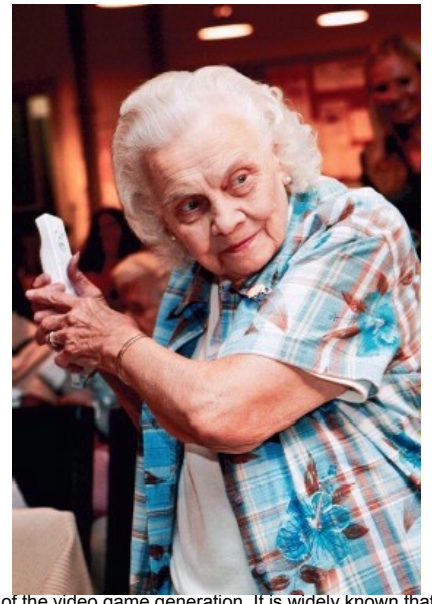
Video Games

It’s Not Just Child’s Play



If you are a parent, or even a grandparent, you are aware of the video game generation. It is widely known that children today, and even a good portion of adults, spend considerable hours engaged in video game entertainment.

From the beginning, games such as PONG™ and Pac-Man® have evolved based on what players are asking for and industry innovations to the current games and systems. Technological innovations have changed the way a player interacts with these systems — for example, simple joysticks, or the mouse on your computer, have become much more dynamic and technical.New systems no longer require a joystick — they have sensors in the console that analyze the player, and then construct their movement to play the game in virtual reality.

Video Games in Rehabilitation

These advances in video game technology have resulted in increased use with rehabilitation. Patients with stroke, traumatic brain and spinal cord injury, cerebral palsy, musculoskeletal injuries, and surgical repairs are performing video game “therapy.”

The therapeutic application of video games involves five steps: 1) determining what the patient can and cannot do; 2) analyzing the neurological and musculoskeletal requirements, and pathways required for specific tasks or goals; 3) selecting the game or system that provides the environment to stimulate or facilitate the desired motor response or task; 4) observing the patient playing the game to assure that the desired outcomes are achieved; 5) encouraging the patient to repeat the therapeutic experience at home.

Benefits of Video Games

Video games have always provided some inherent benefit to memory and cognition (asking the player to be able to follow the directions and demands of the game), eye-hand coordination, and visual/spatial relationship.New systems are now also providing benefits to postural control, weight shifting, visual perceptual processing, and endurance through yoga, balance, strength, and aerobic training.

Now, video games are dynamic. Systems like the Nintendo® Wii™ incorporate the movement of the player as an integral part of the game. The player holds a device, which detects three dimensional acceleration and orientation, and movement through space is simulated on the video. Games such as boxing, golf, tennis, bowling, running, etc., all require controlled movements of the handheld device while also requiring postural weight shifts, body rotation, lunging, and other coordinated supporting movements.

Nintendo® Wii Fit™

Wii Fit is an innovative video game system that incorporates a step plate. A player stands on the step plate, and the system calculates the player’s center of gravity.As the game begins, the step plate senses the player’s weight shifts and movements to move their game character on the video monitor to complete the task or to compete in the game.

This type of advanced technology has opened the door for use in rehabilitation settings. Rehabilitation clinics that treat balance, stroke and neurological conditions realized that the movements required could reinforce rehabilitation programs at home.

While significant research has been limited,many patients have experienced increased confidence and competitiveness, improved engagement, family involvement, and a great sense of enjoyment. These additional benefits greatly assist physical and occupational therapists who develop home exercise programs and activities.

So, when you see the kids all hovering around the electronic displays, realize it’s not just for kids….

Healthy Living is a publication of Eisenhower Medical Center · © Copyright 2014 All Rights Reserved · www.emc.org