

Occupational Therapists Use Wii for Parkinson's Study



Ingrid Bell, left, uses the Nintendo Wii with guidance from her occupational therapist, Jessica Westmeier-Shuh. The Wii is part of an MCG study examining the efficacy of occupational therapy in treating Parkinson's disease. Credit: Medical College of Georgia

It's Ingrid Bell's turn at bat. She steps up to the plate, awaiting the pitch. A 70-mph fastball soars toward her. She swings and connects with the ball. Foul ball! Everyone cheers for her anyway.

This baseball game's not taking place on a field, and there's no real bat or ball to be seen. Mrs. Bell is playing the Nintendo Wii as part of her occupational therapy. She is among 30 Parkinson's disease patients participating in a Medical College of Georgia study to determine if occupational therapy enhances the treatment of the disease.

Parkinson's disease affects daily tasks that people take for granted. Brushing teeth, getting out of bed and walking become a problem for these patients because of dopamine depletion, which results in stiffness or slowing of movement and fine motor dysfunction.

"Occupational therapy looks at how the illness affects the patient's whole life, from the psychological, cognitive and sensory motor standpoints," says Dr. Ben Herz, assistant professor of occupational therapy in the School of Allied Health Sciences and a study principal investigator along with Dr. John Morgan, neurologist. "Our therapists are responsible for helping someone maintain or gain their independence with functional activities."

While occupational therapy is frequently used in the comprehensive care of Parkinson's patients, evidence is needed to support its short- or long-term effectiveness, says Dr. Herz.

"We're hoping to show a slowing of the progression of the disease and a decrease in medication while increasing function. If we can teach patients to exercise and do functional activities, maybe we can have them take less medications," he says.

Study participants are divided into an experimental group receiving therapy or a control group that does not. Each participant meets individually with an occupational therapist for one hour a week for eight weeks. Participants in both groups are given functional and standardized tests and evaluated on a quality-of-life scale before and after therapy begins, then four months later. The control group has the option to receive therapy after the second evaluation.

"None of the participants have had occupational therapy before because we wanted no preconceived notions of what therapists would do or how they would do it," Dr. Herz says. "A few participants were probably taken aback when they heard they'd be playing video games."

But the Wii has been popular with both participants and therapists.

“Because the Wii is interactive and you have to do certain functional movements to be successful, it’s an effective modality for working with Parkinson’s patients,” says Dr. Herz. “One of the therapists uses the Wii for timing and loosening up, and the other uses it for coordination and balance issues.”

Participants also perform functional activities, such as dressing and rolling over in bed; fine motor skills, like circling in word searches and carefully moving blocks in the game Jenga; and stretching.

“These therapists are thinking way out of the box. They’re doing activities that will make a difference in these participants’ lives based on what we know about Parkinson’s,” Dr. Herz says.

Early results show at least short-term gains. Therapists set goals for each participant prior to treatment. These goals range from independence with daily living activities, such as cooking, dressing or bathing, to functional activities such as sports and leisure without any adaptation. About 98 percent of those goals have been met or surpassed, Dr. Herz says.

When Mrs. Bell started therapy in January, she was dependent on her husband to walk, dress and get out of bed. She could climb only one step on her own.

“Now she’s doing 24 steps without any difficulty,” says Dr. Herz.

“I may need help putting my shirt and shoes on, but I’m trying as hard as I can to do it myself,” Mrs. Bell says.

Source: Medical College of Georgia

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