

## Oberlin Times

### Video game therapy - a new frontier

Staff and agencies  
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By Lisa Baertlein Fri Mar 17, 6:48 PM ET

LOS ANGELES - Doctors pronounced Ethan Myers brain dead after a car accident dealt the 9-year-old a severe brain injury in 2002. After he miraculously awoke from a nearly month-long coma, doctors declared he would never again eat on his own, walk or talk. Yet, thanks partly to a video game system, Myers has caught up with his peers in school and even read a speech to a large group of students.

"I'm doing the exact same things as them. I'm getting buddies and stuff," said Myers, who had relearned to walk and was reading at a second-grade level before his video game therapy began in May 2004. "I couldn't remember where I put stuff and now I can. I remember school stuff and people's names," he said in a telephone interview from his family's home in Colorado.

More fundamentally, Myers can now fully open his right hand, which paralysis had curled closed. His brother and sister, who were in the car with him during the accident and each suffered mild brain injuries, have also shown improvement in their memory and other functions.

Ethan and his parents attribute his most recent progress to neuro-feedback training on the CyberLearning Technology LLC system, which is often used to play car racing video games. "In the last year, we've seen the Ethan we knew before the accident," said Howard Myers, the teenager's father.

Neuro-feedback is a form of conditioning that rewards people for producing specific brain waves, such as those that appear when a person is relaxed or paying attention. While this form of treatment has been around for decades, incorporating video games marks a new frontier that taps young people's fascination with animation and electronics to sweeten often frightening, lengthy and tedious medical treatments. Video games are being used, for instance, to help sick children manage pain and anxiety during hospital stays.

A young leukemia patient inspired "Ben's Game," which let him fight the cancer cells invading his body. A private island called Brigadoon in Linden Lab's "Second Life" virtual world is open only to people with Asperger's syndrome and autism.

West Virginia's public schools are battling obesity by making "Dance Dance Revolution" -- a step-to-the-beat video game -- part of their curriculum, while Nintendo Co. Ltd. (7974.OS) has made a splash with its new "Brain Age" mind-exercising game.

CyberLearning's SMART BrainGames system, which Myers still uses, targets symptoms arising from brain injuries, attention-deficit hyperactivity disorder (ADHD) and learning disabilities. Users wear a helmet with built-in sensors to measure brain waves. That data is relayed to a neuro-feedback system that affects the game controller.

Car racing games work best with the system, which rewards users by telling the controller to allow them to go fast and steer with control, doctors said. When patients' brain waves aren't in "the zone" the controller makes it harder to accelerate and steer.

Families generally pay \$2,000 to \$2,500 for a six-month supervised program with one of CyberLearning's 55 licensed health professionals trained on the SMART BrainGames system.

Despite demonstrated benefits of neuro-feedback, one pediatrician said better-designed studies are needed to help parents of children with ADHD make informed decisions. "We have some very effective treatments for kids with ADHD," said Dr. Andrew Adesman, chief of developmental and behavioral pediatrics at Schneider Children's Hospital in New Hyde Park, New York. "I'd be concerned about parents pursuing expensive and not very established treatments in lieu of more proven therapies."

Traditional treatments, such as prescribing the stimulant Ritalin , behavioral therapy and education, are often covered by health insurance, while neuro-feedback usually is not. Despite such hurdles, some medical practitioners are advocating the new approach.

Last year, Margaret MacDonald, a San Jose, California doctor, focused her practice on neuro-feedback after her son's attention-deficit symptoms improved within three months of using CyberLearning's system. She starts patients with 20- to 25-minute sessions at least two times per week and recommends that they work with a trained professional to ensure they are reinforcing the right brain wave activity to produce the desired result.

"This isn't something you can just play with .... You could train the wrong thing and cause someone to become more anxious and irritable," she said.

Steven Stockdale, the licensed psychologist in Colorado Springs, Colorado, who treats Ethan Myers, said he has seen some nice changes come about from the video game therapy. "Kids can become less agitated, more calm and less angry," he said. "It's much more engaging."