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Kyle Murphy, a teenager with ADHD, uses a high-tech simulator at the University at Buffalo to practice safe driving skills.

Harry Scull Jr / Buffalo News

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FOCUS: DRIVER EDUCATION

The risks increase when these teens are driving

New studies focus on curbing risks of ADHD

By **Henry L. Davis**
NEWS MEDICAL REPORTER

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Teenagers stand out as some of the riskiest drivers on the road, and the riskiest among them are teens with attention deficit hyperactivity disorder.

These drivers are eight times more likely to lose their license, four times more likely to crash a car and three times more likely to suffer a terrible injury.

The seriousness of the problem has been attracting greater attention, particularly with the introduction in the last decade of medications and other therapies to treat the disorder.

That's why on a recent evening Karen Murphy and her son, Kyle, sat in a high-tech driving simulator on the University at Buffalo North Campus in Amherst while researchers had them maneuver through virtual driving hazards projected onto a computerized landscape.

It looked like a giant video game.

But the goal of the project, similar to that of a growing number of efforts across the country, is to find a way to make the most dangerous drivers on the road safer to themselves and others.

“Emerging research shows that ADHD significantly increases the risks of tickets, road rage, accidents, injuries and deaths,” said Gregory A. Fabiano, lead investigator for the project.

Attention deficit hyperactivity disorder is a common behavioral disorder that begins in childhood and is marked and hyperactivity.

Nearly 9 percent of children in the United States ages 8 to 15, or about 2.4 million children, exhibit symptoms that meet the medical definition of ADHD, according to a 2007 study from Cincinnati Children’s Medical Center. However, more than half have not been formally diagnosed, and about two-thirds are not receiving consistent treatment with medications.

Murphy enrolled her son in the project hoping it would make him a better driver and help her help him.

“Kyle doesn’t always concentrate as much as he should. He knows he doesn’t, but he tries to work at it. I don’t know if that’s the ADHD, or it’s just about being a teenager. But I thought the study would help both of us either way,” said Murphy, who lives in Varysburg.

Some teenagers with ADHD make a point of being careful and therefore maintain fine driving records.

Nevertheless, statistics paint a sobering picture of teenage drivers.

Motor vehicle crashes are the leading cause of death among teens. Young people are disproportionately involved in accidents, and their collisions and traffic violations are more likely to involve speeding.

A steady flow of research over the years indicates that ADHD, combined with the inexperience and immaturity common to adolescence, compounds the problem.

“These are the riskiest drivers, and the gap between teens with ADHD and other young drivers narrows some yet continues into adulthood,” said Russell Barkley, a longtime ADHD researcher with faculty positions at the University of South Carolina and Upstate Medical University in Syracuse.

In recent years, researchers have begun to look at whether treatments prescribed to relieve the symptoms of ADHD can improve driving safety.

Studies of young people with ADHD conducted under laboratory conditions in driving simulators suggest that the stimulant methylphenidate sold under the brand names Ritalin and Concerta, among others), in a controlled-release form, helps drivers deal with impulsiveness and distractions. Now, researchers are testing this concept under real-life conditions.

Other studies are focusing on behavioral therapy.

Research from UB’s Center for Children and Families, for instance, has shown that behavioral therapy, when used by itself or in combination with small doses of medication, can be more effective and carries lower risks of long-term side effects than ADHD medication used alone.

Fabiano and his colleagues now are trying to apply that idea to driving, as well, with the aim of giving families an alternative to drug treatment.

“We want to teach skills that a teenager can apply to new situations and make them accountable so that they use those skills,” he said of the pilot study the researchers want to use to make the case for a federal grant to perform a larger research project.

Just as physicians and other health professionals still debate the optimal treatment for ADHD, there is debate over which method may be more effective for drivers with ADHD, and whether either one will work at all once teens are driving on their own.

At UB, students and parents participating in the program first meet with a researcher to work on improving communication skills. It’s the sort of advice parents need to keep their blood pressure under control when the student driver sitting next to them inadvertently runs a stop sign or brakes hard enough to snap their necks back.

“A lot of this is about getting better at communicating with your kids and about using positive reinforcement to reward behavior,” said Murphy.

Teen and parent practice those skills in the simulator, the front half of a Ford 1999 Contour that sits atop a platform capable of tilting, vibrating and making noises that attempt to mimic the feel of the road. They drive in virtual space through an artificial scene displayed in front of them on a massive screen while a computer simulates hazards from deer crossing the road to aggressive tailgaters.

“It’s really neat,” said Kyle. “It shows you what you need to work on more.”

Each week the parents and teens set up a contract to work on a specific behavior related to driving or another issue at home. The researchers also place devices in the participants’ cars to monitor and beep for such things as hard braking and fast accelerations.

“Teenagers with ADHD — the teens who need the most driving instruction — often get the least because they’re not communicating effectively with their parents,” said Fabiano, assistant professor in the department of counseling, school and educational psychology.

Other experts endorse the idea of contracts that encourage accountability and reward positive behavior.

“Contracts are good because they set clear expectations, but they are not complete solutions. There is no guarantee the good intentions will translate into the right actions at the moment they’re needed,” said Chris Zeigler Dendy, author of “Teenagers with ADD & ADHD,” a book about attention deficit disorder and ADHD.

Indeed, Barkley remains skeptical about whether behavioral therapy will succeed once teenagers drive on their own, unless the program incorporates a healthy dose of accountability.

“It’s a practical problem. Teens drive well in training, but can you get it to endure? To me, it’s an open question,” he said.

A related problem, Barkley said, is that young people with ADHD typically don’t have a realistic view of their driving skills.

“Teens with ADHD tend to evaluate their driving performance as normal when, in fact, it’s horrible,” he said. “Then there is the disorder itself. It’s often not a problem of knowing how to behave. It’s about acting on what you know.”

Fabiano counters that medications may be helpful for many teenagers, but some children don’t react well to drugs, won’t take them or drive at times when the medications may not be fully effective.

“Behavioral therapy won’t endure unless families learn to continually work on the skills they learn,” he said. “The question is whether you can teach skills that can be applied to new situations.”

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