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Multiple riders, lack of helmet use, and faster ATVs contribute to pediatric injuries

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As all-terrain vehicle (ATV) use continues to grow, so does the number of injuries. Children comprise about one-third of the 130,000 to 150,000 ATV-related emergency department visits each year and one-quarter of the more than 800 deaths. In fact, more children are injured from ATV crashes each year than from bicycles.

Two research abstracts, presented on Monday, Oct. 17 at the American Academy of Pediatrics (AAP) National Conference and Exhibition in Boston, provide insights into the potential causes of ATV crashes as well as much-needed safety precautions.

The AAP does not recommend ATV use by children under age 16.

In the first study, "All-Terrain Vehicle (ATV) Related Injuries: Mechanisms and Contributing Factors," researchers reviewed ATV injury data at the University of Iowa from 2002 to 2009. Of the 345 injury cases, 80 percent involved males, and 30 percent were age 16 or younger. Less than 20 percent of riders wore helmets, with drivers more likely than passengers to wear helmets, and children more likely than adults.

Rollovers were the most common cause of injury, accounting for 42 percent of injury-causing crashes. For patients over 15 who were tested, 35% were positive for alcohol and 25% for drugs. Head injuries are the leading cause of ATV-related death.

All children treated for ATV injuries had been driving adult sized-ATVs, said Charles A. Jennissen, MD, FAAP, lead author of the study.

"The epidemic of ATV-related injuries can be attributed, at least in part, to the vehicles' increasing popularity," said Dr. Jennissen. "In 2008, the number of ATVs in the U.S. was estimated to be 10.2 million, greater than triple the number a decade earlier. A major factor in the burgeoning sales has been the production of bigger and faster machines. Some ATV models now weigh over 800 pounds and are capable of speeds over 80 miles per hour."

In addition, while most ATVs are designed for adults, children are often allowed to drive them, typically with unsafe behaviors such as no helmet or riding with passengers.

In a separate study, "Optimizing Seat Length Design to Minimize Extra Passengers on All-Terrain Vehicles," Dr. Jennissen looked at the potential outcome of shortening ATV seats, which while meant for just one person, are typically long enough to accommodate an additional passenger, particularly a child.

"We suggest that a shorter seat, starting further from the handle bar attachment is the preferred ATV seat design," said Dr. Jennissen. "This should discourage multiple passenger ATV use by reducing the space available for additional riders, and help decrease the number of ATV injuries."

Provided by American Academy of Pediatrics

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