

ATV vehicles a danger on paved roads, and at night

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(HealthDay)—Off-road vehicles are meant for exactly that—riding on

rough terrain including mud, sand and uneven ground.

A new study found that combining two questionable ideas—driving all-terrain and other off-road vehicles on paved roads in the dark—is particularly dangerous, especially since alcohol is often involved.

"It's lack of visibility and also what people are doing at night," said study author Nicholas Stange, currently a medical student at Saint Louis University.

The study considered the impact of off-road [vehicle](#) use at nighttime compared to daytime in Iowa. Of more than 500 crashes analyzed, about one-quarter occurred at night. And one-third of these nighttime crashes took place on roads with highway speeds.

ATVs weren't designed for roadways, said Dr. Gary Smith, who is president of the Child Injury Prevention Alliance, and director of the Center for Injury Research and Policy at Nationwide Children's Hospital in Columbus, Ohio.

"Even the manufacturers are very quick to state that these vehicles are designed for off-road use. And their use on roadways is going to increase the likelihood of the operator being injured," said Smith, who wasn't part of this study.

Nearly half of Iowa counties allow off-road vehicles on the road, some with no nighttime restrictions, said Stange, who studied the issue while an undergraduate at the University of Iowa.

He and his colleagues analyzed Iowa Department of Transportation's off-road vehicle [crash](#) data from 2002 to 2017. About 25% of the 559 crashes occurred at night. In nearly half of nighttime crashes (48%), the driver was physically or mentally impaired, often by alcohol.

Comparatively, about 11% of daytime drivers were impaired.

The vehicles in question include ATVs and SxS vehicles, also known as side-by-sides. An ATV is an off-road, motorized vehicle with low-pressure tires, a straddle seat and handlebars. A side-by-side, or utility-terrain vehicle, has bucket or bench seats and a rollover structure.

Researchers found that major injuries and [fatal injuries](#) happened more frequently in the dark, with 15% of nighttime crashes resulting in fatalities compared to 8% of daytime crashes. About half of nighttime crashes resulted in major injuries, compared to 39% of daytime crashes. And about one-third of nighttime crashes happened on roads with highway speeds, according to the study.

"Most of them are injuries due to a rollover," Stange said about ATV crashes. "That's generally the same for daytime and nighttime crashes."

With SxS vehicles, which can be equipped with [seat belts](#), people can be ejected when not wearing seat belt or can injure limbs when trying to stop the vehicle from rolling, Stange said.

Researchers found that crashes involving a second motor vehicle were less common at night than during the day. About 13% of nighttime crashes involved another vehicle, whereas 35% of daytime crashes did. And children younger than 16 were more commonly injured in off-road vehicle crashes in daylight—89% compared to 11% at night.

ATV tires can make them harder to steer at high speeds, while their design makes them less steady around corners, Smith said. They require split-second decisions and shifting weight, he added, calling the concerns the study noted "a perfect storm."

"Using it at night is going to be more difficult and it's already difficult,"

Smith said. "I think that nighttime is a risk factor, use on roadways is a risk factor, high speeds is a risk factor, use of alcohol and other drugs that impair coordination and cognitive function, huge risk factor. All of those need to be addressed when we see these kinds of numbers. It's very concerning."

According to the study, Iowa law restricts roadway off-road vehicle use to occupational purposes and daylight hours. Yet, local jurisdictions can allow recreational use on roadways, Stange said.

The study found a need for injury prevention strategies, including educating users about the dangers of roadway and nighttime off-road vehicle use. Better enforcement of state and local off-road vehicle safety laws was also recommended.

"A lot of the issues that make them dangerous on roads is just inherent to their design [for] off roads," Stange said. If more counties pass recreational ATV use laws, he said he hopes this research will convince them to consider putting in daylight restrictions.

The study was included in the American Academy of Pediatrics' annual meeting, held virtually Oct. 2-5. Research presented at meetings is usually considered preliminary until published in a peer-reviewed medical journal.

More information: The University of Michigan has more about [all-terrain vehicle safety](#).

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