

Focus on All-Terrain Vehicle Safety: Resource Guide 2012



As summer is a popular time for all-terrain vehicle (ATV) use, CSN is providing this special issue of our newsletter on the safe use of ATVs. This newsletter issue contains information on organizations focused on ATV safety; legislation governing ATV use; publications with data on ATV injury statistics and prevention; training guides for safe vehicle use; and CSN presentations and publications on this important topic.

Organizations

1. Specialty Vehicle Institute of America

The Specialty Vehicle Institute of America promotes the safe and responsible use of All-Terrain Vehicles (ATVs) through rider training programs, public awareness campaigns, and state legislation. The SVIA also serves as a resource for ATV research, statistics, and vehicle standards.

<http://www.svia.org/Default.aspx>

Legislation

2. ATVSafety.gov State Legislation: A CPSC Webpage

This webpage, offered by the Consumer Product Safety Commission (CPSC), describes the diversity of state laws on ATV safety regulation. 44 states have already passed ATV safety laws of one form or another, with each statute tailored to meet the needs of its particular region and constituency.

<http://www.atvsafety.gov/legislation/legislation.html>

3. Assessing Public Opinion Regarding Potential ATV-related Policies (2009)

This study from the Journal of Safety Research assesses the attitudes of registered Ohio voters concerning potential legislation regarding ATV use and safety. A statewide telephone survey of 838 registered Ohio voters was conducted, and results were weighted by region. The voters were in favor of: restricting the use of ATVs by children

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younger than 16 years (81%); prohibiting passengers on ATVs (81%); requiring helmets (78%); and requiring all ATV owners and users to take a safety class (77%). ATV riders indicated that a mandatory helmet law would increase helmet use. The authors suggest that assessing public opinion regarding new laws is a critical first step when considering legislation to improve ATV safety.

<http://www.sciencedirect.com/science/article/pii/S0022437509000280>

Publications

4. 2010 Annual Report of ATV-related Deaths and Injuries: A CPSC Report (2011)

This report, published by the U.S. Consumer Product Safety Commission (CPSC), presents the 2010 annual update on ATV-related deaths and ATV-related injuries treated in hospital emergency rooms.

ATV-related fatalities (11,001 total) included 2,775 children less than 16 years of age (25%) and 1,184 under 12 years of age (11%).

In 2010, 25% of the estimated number of ATV-related, emergency room-treated injuries involved children less than 16 years of age. Children under 12 represented approximately 12% of the total estimated injuries.

<http://www.cpsc.gov/library/foia/foia12/os/atv2010.pdf>

5. ATV and Bicycle Deaths and Associated Costs in the United States, 2000-2005 (2009)

This study from Public Health Reports determined the national rate and costs of recent all-terrain vehicle (ATV) and bicycle deaths. From 2000 through 2005, 5,204 people died from ATV crashes and 4,924 from bicycle mishaps. A mean of 694 adults and 174 children died annually from ATV injuries, while 666 adults and 155 children died from bicycle injuries. Death rates increased among adult ATV and bike riders and child ATV riders. Males had higher fatality rates for both ATVs and bicycles. Among children, total costs increased 15 percent for ATV deaths and decreased 23 percent for bicycle deaths. In adults, ATV costs increased 45 percent, and bike costs increased 39 percent. Bicycle- and ATV-related deaths and associated costs are high and, for the most part, increasing. Promotion of proven prevention strategies, including helmet use, is indicated.

<http://www.publichealthreports.org/issueopen.cfm?articleID=2204>

6. National Hospitalization Impact of Pediatric All-Terrain Vehicle Injuries (2005)

This Pediatrics study characterizes the ATV-related patterns of injury, hospital length of stay, and hospital charges, with a nationally representative sample. An estimated 5,292 children were hospitalized because of ATV-related injuries between 1997 and 2000, and hospitalizations increased 79.1 percent. Rates of ATV-related hospitalization were highest for white adolescent males, consistent with previous studies. Injury severity varied considerably, with more than one third of patients sustaining moderate to severe injuries. Total hospital charges for these injuries were \$74,367,677 for 2 years. Most of the charges were paid by private insurers. The results of this study show substantial increases in childhood ATV-related injuries and their considerable impact on hospitalizations.

<http://pediatrics.aappublications.org/cgi/reprint/115/3/e316>

7. All-Terrain Vehicle Injury Prevention: Healthcare Providers' Knowledge, Attitudes, and the Anticipatory Guidance They Provide (2012)

All-terrain vehicles (ATVs) continue to be an increasing cause of injuries and deaths in children,

especially in rural communities. More children die in the United States each year from ATV-related events than from bicycle crashes. The purpose of this study from the Journal of Community Health was to determine the ATV anticipatory guidance practices of primary care providers, as well as their attitudes, knowledge, and the barriers faced in educating families about the risk of ATV use.

<http://www.springerlink.com/content/h030520214268178/>

8. Pediatric All-Terrain Vehicle Trauma: The Epidemic Continues Unabated (2012)

The popularity of all-terrain vehicles (ATVs) continues to increase, but this form of recreation is not as well regulated and can impact children disproportionately. This study from Pediatric Emergency Care examines the epidemiology of ATV injuries in Arizona with emphasis on pediatric injuries and compares ATV injuries to those associated with motorcycle (MCC) and motor vehicle crashes (MVC). All-terrain vehicle-related crashes have increased during this study period and have become a significant source of injuries. Public education and awareness of the dangers associated with ATV use need to be targeted toward both parents and children likely to use ATVs.

http://journals.lww.com/pec-online/Abstract/2012/05000/Pediatric_All_Terrain_Vehicle_Trauma_The_Epidemic.9.aspx

9. All-Terrain Vehicle Riding among Youth: How Do They Fair? (2010)

Pediatric all-terrain vehicle (ATV) injuries have been increasing annually for more than a decade. The objective of this study from the Journal of Pediatric Surgery was to describe the riding behaviors, helmet use, and crash history of young ATV riders. Dangerous driving behavior among children who ride ATVs is widespread, and current safety recommendations are largely ignored. Renewed efforts are needed to improve safety programs and create policy measures that prevent pediatric ATV crash-related injuries.

<http://www.sciencedirect.com/science/article/pii/S0022346810001132>

10. Age-related Patterns of Spine Injury in Children Involved in All-Terrain Vehicle Accidents (2012)

With increases in use and power of all-terrain vehicles (ATVs), there have been dramatic increases in both the number and severity of ATV-related injuries. The KIDS database showed a 240% increase in the number of children admitted to a hospital for an ATV-related injury between 1997 and 2006. Over the same time period, there was a 476% increase in the number of children with ATV-related spine injuries. To better understand the nature of these injuries, a series of pediatric ATV-related spine fractures at a regional pediatric trauma center were analyzed in this study from the Journal of Pediatric Orthopaedics.



Photo by [reellady](#).

http://journals.lww.com/pedor-thopaedics/Abstract/2012/07000/Age_related_Patterns_of_Spine_Injury_in_Children.1.aspx

11. Children Plus All Nonautomobile Motorized Vehicles (Not Just All-Terrain Vehicles) Equals Injuries (2007)

This article from Pediatrics describes pediatric nonautomobile motorized vehicle (ATV)-related injuries sustained between 1990 and 2003 and compares ATV-related injuries with other types of nonautomobile motorized vehicle-related injuries. The researchers analyzed data from the U.S. Consumer Product Safety Commission National Electronic Injury Surveillance System. Overall, the number of these injuries increased from 70,500 in 1990 to 130,900 in 2003. Although the majority of injuries were ATV-related, similar increases in injury rates were observed for: 2-wheeled off-road vehicles; 2-wheeled on-road vehicles; and go-carts/buggies. Most public health and legislative attention to date has been focused on ATVs, with substantially less attention focused on other nonautomobile motorized vehicles. Also, these non-ATV injuries were associated with younger ages (12-15 years vs. older than 16 years).

<http://pediatrics.aappublications.org/cgi/reprint/120/1/134.pdf>

12. U.S. Probes Off-Road Vehicles After a String of Accidents: A Wall Street Journal Article (2008)

The Yamaha Rhino is a newer type of all-terrain vehicle (ATV) designed to be faster and more agile, which may cause stability problems. Under current federal regulations, the Yamaha Rhino is not subject to the same safety standards that traditional ATVs must meet, because it has a steering wheel instead of the handle bars featured on recreational ATVs. The U.S. Consumer Product Safety Commission is looking into the safety of the Yamaha Rhino as a result of a growing number of rollovers, resulting in at least 30 deaths and over 200 lawsuits filed on behalf of injured riders.

http://online.wsj.com/article/SB122576165022595629.html?mod=googlenews_wsj

13. Injury Prevention and Recreational All-Terrain Vehicle Use: The Impact of Helmet Use in West Virginia (2012)



Photo by [Barbara Bowen](#).

All-terrain vehicles (ATVs) are a popular source of outdoor activity in the United States, particularly in West Virginia. During the period of time from 1999 to 2007, deaths associated with ATVs in West Virginia increased by 28%. Helmet use among bicycle and motorcycle riders has been shown to decrease morbidity and mortality following trauma. The findings of this study from the WV Medical Journal support previous studies documenting that helmet use is protective against intracranial injury and other injuries of the head and neck. ATV use continues to be a significant contribution to trauma morbidity and mortality in West Virginia. Efforts that focus on increased helmet use have the potential to significantly reduce morbidity and mortality following ATV trauma. Enforcement of the current West Virginia ATV Law should be encouraged. Legislation expanding the mandatory use of safety equipment and rider training should be enacted in West Virginia.

[http://www.childrensafetynetwork.org/sites/childrensafetynetwork.org/files/ATV the Impact of Helmet Use in WV.pdf](http://www.childrensafetynetwork.org/sites/childrensafetynetwork.org/files/ATV%20the%20Impact%20of%20Helmet%20Use%20in%20WV.pdf)

14. All-Terrain Vehicle Safety and Use Patterns in Central Illinois Youth (2010)

All-terrain vehicles' (ATVs) popularity and associated injuries among children are increasing in the United States. Currently, most known ATV use pattern data are obtained from injured youth and little documented data exist characterizing the typical ATV use patterns and safety practices among American children in general. The purpose of this study from the Journal of Rural Health was to describe the typical ATV safety and use patterns of rural youth. The study found that ATV use is common in a rural 4-H population. Most child ATV users were adolescent boys, had little safety training and did not use safety equipment or helmets. ATV injury prevention efforts should focus on these areas.

<http://onlinelibrary.wiley.com/doi/10.1111/j.1748-0361.2009.00267.x/abstract>

Training

15. ATV Rider Course: An ASI Program

This half-day session, conducted by the ATV Safety Institute (ASI) (<http://www.atvsafety.org/>), includes training on: pre-ride inspection; starting and stopping; quick turns; hill riding; emergency stopping and swerving; and riding over obstacles. Participants also learn about: protective gear; local regulations; places to ride; and environmental concerns. The standard cost of attending is \$150 for adults and \$55 for children ages 15 and younger. In some states, the owners of new ATVs are eligible for free training and incentives. CSN is not endorsing this training and cannot provide any guarantees about its quality or effectiveness. For more information, to find the nearest training location, and to enroll, visit their website.

<https://online.svia.org/Training/Default.aspx>

16. Youths Operating All-Terrain Vehicles: Implications for Safety Education (2009)

This study from the Journal of Agromedicine identifies youth ATV safety-related behaviors and how ATV safety training affects them. The authors administered a survey to 624 participants aged 12 to 20 with a median age of 16. 56 percent of the participants were male, and 69 percent lived on a farm. The median age for first riding an ATV was 9. ATV size recommendations were rarely observed: nearly all ATVs operated by youth less than 16 years of age were over 90 cc. Safety-related behaviors were reported as follows: always wearing a helmet (24 percent); never taking passengers (12 percent); never riding as a passenger (16 percent); and never riding on a paved road (19 percent). A small percentage (22 percent) had participated in ATV safety training: 41 percent were willing, but 46 percent said such training was not available. ATV training was positively associated with: always wearing a helmet; never taking passengers; never riding as a passenger; and never riding on a paved road. However, training was also associated with an increase in injuries, although it was not known if the injuries occurred before or after the training, and no exposure time data were available. The authors suggest that gender differences in operation, behaviors, and injuries should be considered in training.

<http://www.tandfonline.com/doi/abs/10.1080/10599240902751047>

17. How to Develop a Community-Based 4-H ATV Safety Youth-Adult Collaboration: Implementation, Resources, and Lessons Learned Guide

This manual includes guidance on: bringing a group together; holding successful meetings; developing an action plan with a group; sustaining volunteers; and marketing.

http://www.lsuagcenter.com/nr/rdonlyres/cbfbfe69-2e54-4dcd-b319-77b81164694b/51234/4h_atv_safety_guide.pdf

18. 2007 ATV Safety Project Summaries

For more than 25 years, the National 4-H Council and local 4-H representatives have been helping communities develop, implement, and evaluate 4-H ATV safety projects and programs for youth (<http://www.atv-youth.org/>).

19. All-Terrain Vehicle Injury in Children: Strategies for Prevention (2004)

The purpose of this study from Injury Prevention was to investigate the knowledge, practices, and beliefs of ATV users to help develop safety education strategies. Focus groups were conducted to characterize participant ATV use and safety awareness, as well as to explore avenues for prevention. A rural state with high ATV use and injury rates was chosen as the setting for the focus groups. The participants were adult and adolescent ATV users. ATV riders were aware of some risks. Youths felt that age-specific regulation was unlikely to be a helpful strategy. Participants endorsed messages demonstrating graphic consequences as likely to get the attention of young riders regarding risks. Educational settings were suggested, including hunter and driver safety classes. The authors conclude that: efforts to improve ATV safety awareness should clearly show pediatric ATV injury risk and safety practices; campaigns must show realistic understanding of current use practices; messages emphasizing the consequences of unsafe ATV use are most likely to have impact; and approaches based on age-based restrictions are unrealistic.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1730140/pdf/v010p00303.pdf>

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20. ATV State Legislation Maps

This collection of maps shows which states have ATV-related legislation on: safety education; registration, title and license requirements; passenger prohibitions; on-road use restrictions; ages for operating; minimum age requirements; and helmet and eye protection.

<http://www.childrensafetynetwork.org/publications/atv-legislation-maps-0>

21. CSN Presentation: Snowmobile-Related Injury to Children

This CSN presentation reviews the risks that snowmobiles present to children as well as interventions



Photo by [Radio Rover](#).

that promote the safe and responsible use of snowmobiles.

<http://www.childrensafetynetwork.org/sites/childrensafetynetwork.org/files/Snowmobile%20related%20injury%20to%20children.pdf>

22. Using a Community of Practice to Inform Action

The Rural/Agricultural Injuries Community of Practice (COP) was a Children's Safety Network initiative that brought together representatives from six Northeastern states to reduce rural injury rates, which are often significantly higher than injury rates in urban areas. The COP provided a sustained opportunity to explore the particular challenges of preventing injuries in rural communities.

CSN provided each of the participating states with state-specific data comparing rural and urban injuries and facilitated monthly conference calls for representatives from the six states. These calls included presentations on one or more of four injury topics: 1) injuries related to ATV and off-road vehicles, 2) injuries related to teen driving, 3) youth suicide, and 4) farm and agricultural injuries. The conference calls also provided time for the states to discuss their injury data and to share strategies for reducing rural injuries.

<http://www.childrensafetynetwork.org/spotlight/using-community-practice-inform-action>



Photo by [Blue Ridge Business Journal](#).



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Children's Safety Network
Education Development Center, Inc.
43 Foundry Avenue
Waltham, MA 02453-8313

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