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CHILDREN AND ALL-TERRAIN VEHICLES: ONE SIZE DOES NOT FIT ALL

ONE OF THE THINGS many of us love about living in Oregon is the fact that we have so many incredible opportunities for outdoor recreation. But all is not perfect in paradise. With huge increases in the popularity of all-terrain vehicle (ATV) riding as a recreational sport have come significant increases in ATV-related injuries and death among children in Oregon. This issue of the *CD Summary* reviews the morbidity and mortality due to ATV operation by youth, the current state of regulation and safety, and provides recommendations for anticipatory guidance for health care providers about this hazard. **ATV DEATHS AND INJURIES IN THE US & OREGON**

In the United States, between 1982-2003, there were 5,791 ATV-related deaths. Thirty-two percent of ATV related deaths occur among children under age 16. In the same period there were approximately 1.6 million ATV related visits to hospital emergency departments.<sup>1</sup> Eighty-seven percent of the injuries among children under 16 occurred while they were riding adult-sized ATVs.<sup>2</sup>

In Oregon, between 1999-2004, 18 children under age 18 died as a result of ATV-related injuries. Of those that died, 55% were drivers, 17% were passengers and occupant status was not specified for 28% of the victims. The average age at time of death was 13.7 years. Though Oregon law requires it, only two of these children were wearing a helmet at the time of the incident.<sup>3</sup>

Since 1999, the number of hospital admissions among children in Oregon for major trauma due to ATV-related injuries has increased by 146% percent. From 1999-2004, 534 children aged 1-18 were admitted into hospitals in Oregon for major trauma from riding ATVs. Over 54% of these injuries occurred among children under 15.<sup>4</sup>

**SAFETY STANDARDS CATCHING UP**

ATVs were first marketed as recreational vehicles in the 1970s. In the US today there are over 5.5 million ATVs in use.<sup>5</sup> These vehicles have either 3 or 4 wheels with large, low-pressure tires that are designed for off-road use. Several different sizes of ATV engines are manufactured, with larger engines designed for older (i.e. larger, stronger) people. The industry produces 50-70cc ATVs for 6-11 year olds, 70-90cc models for 12-16 year olds, and vehicles 90cc up to 700ccs for those over the age of 16. These vehicles can weigh up to 600 pounds and adult models can travel at speeds over 70 miles per hour.

The ATV industry promotes recommendations for safe operation that are less restrictive than the American Academy of Pediatrics (AAP), and SAFE KIDS Worldwide (SK) (Table 1).

The AAP and SK advocate more restrictive recommendations because:

- Children under 16 don't have the physical mass to safely drive an ATV because body weight is a key factor in the safe handling of ATVs up hills and around tight curves.
- Operating an ATV requires the cognitive ability to measure speed, distance, centrifugal force, and landscape, while operating hand brakes and the throttle.
- ATVs can weigh 400-600 pounds. Children don't have the body strength to get out from under an ATV that is overturned.
- The leading mechanism of injury on ATVs is getting thrown off. While helmets reduce the risk of fatal head injury by 42%, they cannot protect from other common causes of ATV-related injuries such as spinal cord, thoracic and abdominal injuries, and asphyxiation.
- Although ATVs may be considered recreational for children, their associated injury patterns, severity and costs to the healthcare system more closely resemble those from motorized vehicles and are more significant than bicycling.

Table 1. Age and size recommendations for ATV operations

AGE	INDUSTRY	AAP & SK
Under 6 years of age	No operation	No operation
Age 6 to 11	Under 70cc	No operation
Age 12 to 15	70-90cc	No operation
16 years and older	90cc and up	90cc and up



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Oregon statute allows children under age 18 to operate ATVs off-road and on private lands. Operators under age 18 are required to wear helmets unless they are on their own property. However, as noted above, only two youths who died in Oregon from ATV-related injuries in the past five years were wearing helmets and more than a quarter of the deaths among children on ATVs occurred on public roadways.

#### ANTICIPATORY GUIDANCE

More aggressive regulatory and mass educational approaches might help address some of these risks, and healthcare providers can be key advocates for this kind of public policy. In addition, individual patient education can also be helpful. Providers, particularly those in more rural areas where ATV use is more common, should consider asking if children are using ATVs, and if so counsel parents and youth to increase safe behaviors by:

- Operating the appropriate sized ATV based on age, size and maturity of the child.
- Never riding on public roads.
- Riding only on designated trails.
- Riding at a safe speed for the terrain and the operator's ability.
- Wearing helmets and other protective gear at all times.

- Not carrying passengers.
- Having the child complete an ATV safety course.
- Providing constant supervision while their child is riding an ATV.

Additional resources can be found at:

- Consumer Product Safety Commission, 1-800-638-2772, or [www.cpsc.gov](http://www.cpsc.gov).
- National Safe Kids Campaign, 1-202-662-0600, or [www.safekids.org](http://www.safekids.org).
- ATVs & Youth: Matching Children & Vehicles at [www.cdc.gov/nasd](http://www.cdc.gov/nasd) and search ATVs and youth
- 4-H Community ATV Safety Program at [www.atv-youth.org](http://www.atv-youth.org).
- Oregon Parks and Recreation Department: ATV training, permits, places to ride in Oregon, publications, resources and links at <http://legov.oregon.gov/OPRD/ATV/Permits.shtml>.

#### REFERENCES

1. US Consumer Product Safety Commission. 2003 Annual Report of ATV Deaths and Injuries. Bethesda, MD: US CPSC, January 2005.
2. National SAFE KIDS Campaign. 2004. *ATV Injury Fact Sheet*. Washington, D.C.
3. Oregon Death Certificates, unpublished data.
4. Oregon Trauma Registry, unpublished data.
5. Killingsworth JB, Tilford JM, Parker JG, Graham JJ, Dick RM, Aitken ME. National hospitalization impact of pediatric all-terrain vehicle injuries. *Pediatrics*. 2005;115:316-321.

#### Oregon HIV Reporting Rules Change

**B**EGINNING ON July 1, 2006, laboratories will be required to report results of all HIV RNA detection (i.e. "viral loads") and CD4+ T-lymphocyte tests.

Names of patients with reported cases of AIDS and all other reportable diseases have historically been retained by public health agencies. This change will make HIV reporting consistent with those practices. The change is necessary because recent federal changes require states to operate reporting systems that catalog HIV cases by name. The change should also improve disease tracking and prevention efforts and help connect people to available services. Anonymous testing will still be available through public testing sites in Oregon.

Enhanced laboratory reporting will help identify people who need more frequent health care, provide more information on testing patterns, and lead to better understanding of disease progression among subgroups of HIV-infected people in Oregon.

Additional information is available at: <http://oregon.gov/DHS/ph/hiv/data/news.shtml> or by calling the HIV Program at (971) 673-0153.