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Why Should 4-H Horse and Pony Youth Wear Certified Equestrian Helmets?

Abstract
This article reviews literature that pertains to the use and function of equestrian helmets. It provides health reasons that may be used to justify the use of equestrian helmets. The article covers equestrian injuries, helmet wearing habits, head injuries, and equestrian helmets. The authors use the information provided to advocate the use of helmets and to recommend that Extension professionals promote helmet use among youth equestrians.

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Introduction

As more state 4-H programs across the country require members to wear helmets whenever mounted, the question of why youth are being required to wear helmets becomes more important. A survey was administered to the participants of the 2003 Indiana 4-H Horsemanship Camp to determine their feelings about helmets and their use patterns. Only 49.46% of youth surveyed believed that a helmet made them safer when mounted. This article provides a resource for adults to use in explaining why so many programs encourage or require helmet use.

Equestrian Injuries

Fifty-four percent of riding injuries occurred when riders were mounted performing non-jumping activities, and 21.1% of riders reported head injuries as a result of riding accidents. In fact, 31.1% of all riding injuries reported are to the head and face (Nelson, Rivara, Condie, & Smith, 1994; Whitlock, 1999). Nelson, Rivara, and Condie (1994) found that riders who sustained head injuries wear helmets infrequently and that the number of years riding, riding style, and gender do not have significant effects on injury rate, while Paix (1999) found that injury rates increased when level of competition increased.

The unpredictable nature of the horse, the speed at which a horse travels, and the rider's distance from the ground--up to three meters--combine to put equestrians at higher risk for serious injury than participants in automobile and motorcycle racing (Watt & Finch, 1996; Paix, 1999). The human skull can be shattered at 7-10 kilometers per hour, which means that a fall from a trotting horse can shatter the skull (HorseQuest.com, 2000). Watt and Finch (1996) reported that the majority of serious equestrian injuries and deaths involve head injuries and that the age group reporting the greatest number of injuries is 10-19 year olds. Most 4-H members fall in to the 10-19-age category.

Head injuries occur most frequently in riders who are 21 years of age or younger, and the use of an approved helmet has been shown to reduce the rate of injury. The American Academy of

Pediatrics recommends that young riders be supervised when riding and be required to wear an ASTM/SEI-certified helmet with the chins strap attached (Committee on Sports Medicine and Fitness, 1992). Riders who are unsupervised probably have the highest risk of injury because their actions while mounted are not regulated (Watt & Finch, 1996).

Head Injuries

Head injury information is important to equestrians because the most common reason for equestrian death or admittance to hospitals is head injury (HorseQuest.com, 2000). Most brain injuries are minor. But brain trauma has a cumulative effect, and the results of brain injuries range from shortened attention spans to vegetative states and death, depending on the severity of each individual injury and the number and timing of previous injuries (Family Caregiver Alliance, 1997; Merck, 1995). Second impact syndrome affects junior and senior high school age athletes at a higher rate than athletes in other age groups, once again showing that 4-H youth are in a high risk category for serious injury (McCrory & Berkovic, 1998).

Equestrian Helmets

Most serious head injuries can be prevented with the use of an ASTM/SEI-certified, properly fitting, equestrian helmet with the chin strap fastened (HorseQuest.com, 2000). Yet only 20% of equestrians use an approved helmet every time they ride (Cirelli, Cloud, Chvilicek, & Magnum, 2000). Since The United States Pony Club made helmet use mandatory in 1983, their head injury rate has fallen 29% (HorseQuest.com, 2000). ASTM/SEI-certified helmets will decrease equestrian deaths and serious head injuries if used properly (Lamb, 2001). Not wearing a helmet, wearing a helmet that is inadequate or improperly fitted are factors associated with most riding injuries (Watt & Finch, 1996).

Helmets protect the skull in two different ways. First, they protect the head from the crushing force of the fall by having a stiff outer shell. Second, they absorb energy to reduce the force on the skull and brain (HorseQuest.com, 1999). In order to be approved by the ASTM, helmets must pass a series of crush tests and penetration tests (HorseQuest.com, 1999).

Although there has been an increase in the number of people riding in the last 20 years and an increase in most types of injuries due to riding, Chitnavis, Gibbons, Hirigoyen, Parry, & Simpson (1996) found a significant decrease in the number of skull fractures. Chitnavis et al. (1996) attribute this decrease to the increased use of and improved quality of equestrian safety helmets. It is important to realize that equestrian helmets--ASTM F-1163--are different from bicycle helmets in a variety of ways that make bicycle helmets inadequate protection for equestrian (BC Medical Association).

The American Academy of Pediatrics stated that young riders should wear helmets that meet ASTM and SEI standards and that organizations promoting or sanctioning riding events should require the use of helmets (Committee on Sports Medicine and Fitness, 1992). Lamb (2001) stated that Cooperative Extension Services should take the responsibility for educating people about the risks involved in equestrian sports and the proper use of helmets.

Conclusion

It is important that Extension staff and leaders help participants in their horse and pony clubs understand the real reason behind helmet use, protection and safety of our youth. Passing off the reason as a "decrease in liability" promotes an attitude of "only when I have to" toward helmet use. We need to help educate our youth and their parents to understand that helmets are a necessary part of safe equestrian activity and that youth should wear helmets whenever they ride, not only when our rules require it.

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