

Exhibit H

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Current Trends Injuries Associated with Horseback Riding --United States, 1987 and 1988

Each year in the United States, an estimated 30 million persons ride horses (1). The rate of serious injury per number of riding hours is estimated to be higher for horseback riders than for motorcyclists and automobile racers (2). The following report uses data from the National Electronic Injury Surveillance System (NEISS) to describe the epidemiology of horseback-riding-associated injuries in the United States during 1987 and 1988.

NEISS is an emergency-room based active injury surveillance program of the U.S. Consumer Products Safety Commission. NEISS records the most severe diagnosis listed on the emergency room record. Reports from NEISS can be used to develop national estimates of the number of persons with product-related injuries treated in hospital emergency rooms.*

During 1987 and 1988, an estimated 92,763 emergency room visits were made in the United States for injuries related to horseback riding. Although the greatest number of injuries occurred in the 25-44-year age group, injury rates were highest for 5-24-year-olds, especially for females (Table 1).

Nearly half the injuries occurred at home or on a farm (Table 2). Soft tissue injury (e.g., laceration, contusion, or abrasion) was the most common diagnosis, followed by fracture or dislocation, strain or sprain, and concussion (Table 2). Most injuries to the extremities and trunk involved soft tissue, fractures and dislocations, and strains and sprains. Head and neck injuries were mainly soft tissue (56.9%), concussions (18.5%), and fractures or dislocations (11.0%). The 14,120 fractures to upper extremities represented the single most common site and type of injury.

Of the injured persons, 9.9% required hospitalization. More than two thirds of hospitalized persons had head and neck (42.2%) or trunk injuries (25.2%). The most common diagnoses for these patients were fractures or dislocations (55.1%) and concussions (17.2%). Reported by: DB Hammett, MD, American Medical Equestrian Association, Waynesville, North Carolina. Unintentional Injuries Section, Epidemiology Br, Div of Injury Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note

Editorial Note: Estimates of the number of persons in the United States who ride horses each year are broad, and demographic data are unavailable. The lack of specific denominators for horseback riders requires the use of census data to determine rates. However, the rates in this report may

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inaccurately estimate the risks for injury. For example, one possible explanation for the higher rates in 5-24-year-olds is that persons in this group are more likely to ride horses.

The risks for severe injury to the head, trunk, abdomen, and pelvis associated with horseback riding are well defined (3-5). Although no national estimates exist for the number of fatal injuries associated with horseback riding, a review of state medical examiner records from 27 states for 1976-1987 identified 205 such deaths (6); head injuries were associated with more than 60% of these deaths.

Although falls account for most horseback-riding-associated injuries (4,6), in one study, fewer than 20% of riders had worn a helmet at the time of the fall (3). Even when riders wear headgear, the headgear may be decorative or improperly secured, thereby providing limited or no protection (2,5,7). Because of the potentially severe sequelae of head injury (8,9), horseback riders should wear a properly secured hard shell helmet lined with expanded polystyrene or similar material. Helmet use has been endorsed by several medical and trade organizations, and national performance standards for helmets are available (10-13). Horseback riders can also be injured when they collide with fixed objects; are dragged along the ground with a foot caught in a stirrup; are crushed between the horse and ground; or are trampled, kicked, or bitten (2). Equipment problems associated with injuries include improper boot-stirrup fit; broken reins, bridles, or stirrup straps; and malfunctions of the stirrup-release mechanism (2,10).

To reduce injuries, riders should wear properly fitting heeled boots and nonskid gloves, avoid loose-fitting clothing, regularly maintain and inspect equipment, replace worn parts, and use appropriately sized stirrups (2,10). Safety practices of horseback riders may improve when they are trained by experienced instructors who have successfully completed a horse-safety course from an accredited organization, who emphasize safe riding techniques, and who themselves wear helmets while riding. In addition, riding safety may improve for riders who use appropriate techniques to stop, start, and turn a horse and to perform a rapid (emergency) dismount (14).

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- Sixty-two hospitals with emergency rooms located throughout the United States contributed to this data base each month in 1987, 61 contributed data from January through March 1988, and 62 provided data from April through December 1988. The NEISS code used for horseback riding injuries is product code 1239, "Horseback riding (activity, apparel, or equipment)."

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