



RESEARCH ORAL ABSTRACT PRESENTATION SUBMISSION

Title: Evaluation of Equestrian Related Head Injuries in Kentucky Managed in the Emergency Department

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Aims/Objectives: The purpose of this study was to determine the incidence and relationships of equestrian related head injuries treated in the ED.

Design: A descriptive design was used and data were collected retrospectively from the electronic medical record.

Setting: This study examined horse-related injury data from a large, academic, Level 1 verified trauma center in the southeastern United States.

Sample: There were a total of 494 equestrian related injuries from 2016-2017 at the study institution. Of these 387 (78%) were discharged from the Emergency Department (ED) and head injuries accounted for 26% (N = 100) of the ED discharges.

Method/Procedure: We used a retrospective medical record review to identify patients with equestrian related head injuries whom were treated within the ED and did not require admission (N = 100). Patients were categorized using locale, gender, age, insurance, cost, type of injury, and mechanism of injury. Descriptive statistics were used to describe the sample and comparative statistics were used to determine differences and associations.

Results: The sample was primarily young (33+/- 19 years) females (55%) with private insurance (63%). The mean medical cost was cost \$8,227 +/- 8914. The majority of injuries occurred in an urban area (52%) and 46% of injuries resulted in concussions from equestrians falling or being thrown from the horse (57%). Chi-square analyses showed that men had significantly more concussions with loss of consciousness (LOC) (11 (65%), p = 0.04) and women had significantly more concussions without LOC (21 (72%), p =0.04). It was further determined that the mechanism of injury was significantly related to the outcome diagnoses. Equestrians who fell had more concussions with LOC (14 (82%), p < 0.0001) and concussions without LOC (23 (83%), p < 0.0001). Additionally, being kicked resulted in more injuries such as fractures (35 (65%), p < 0.0001). There were no differences in mechanism of injury by age categories, locale of incident, or gender.

Discussion: The findings of our investigation highlight the need for equestrian specific head injury education when being treated and discharged from the ED. Our interdisciplinary team has developed literature on head injury evaluation for equestrians as well as a Safe Return to Ride protocol and smartphone app. We plan to utilize this descriptive study to better target the needs and engage in community outreach in the equestrian circuit to provide education on horse related head injuries, use of protective equipment, and safety regarding resuming riding activities.