

# Equestrian Injuries in the Emergency Department: A Systematic Review

## ABSTRACT

**Background:** Equestrian injuries represent a global health concern, with figures continuing to rise due to the increased popularity of horse riding. The size of these animals, paired with their ability to reach speeds in excess of 40 miles per hour, exacerbate the likelihood and severity of horse-related injuries. This systematic review aims to provide an updated outlook on the prevalence and presentation of equestrian injuries in the emergency department, including an exploration of associated risk factors and injury patterns.

**Methods:** A systematic search strategy was implemented in line with the latest PRISMA guidelines. The literature databases PubMed, Scopus, and Web of Science were screened for relevant literature, with the reaped results being screened against the inclusion and exclusion criteria. Studies were included if a) they were published in the past ten years; b) they were published in the English language; c) the equestrian injury resulted in hospital admission or presentation to the emergency department; d) a description of patient outcomes was given.

**Results:** A total of 1,890,460 patients were represented across the ten studies included in this systematic review. The mean age of patients ranged from 29.8 years to 46.9 years, with a predominantly female population. Head and facial injuries were the most common, with prevalence rates ranging from 15.1% to 64%. The cause of injury included falls (28.9% to 86.4%), kicks (27.7% to 71.8%), crush incidents, trampling, dragging, or biting. Numerous factors influence the outcomes following equestrian injuries, including rider age and the use of protective equipment. Hospital outcomes included a mean length of stay ranging from 2 to 11.98 days and mortality rates ranging from 0.6% to 1.29%.

**Conclusion:** Both occupational and non-occupational equestrian activities carry a high risk of injury, ranging from minor to severe and fatal in some cases. Clinicians should be educated on the wide spectrum of ED presentations following horse-related injuries, and every effort should be made to guide patients to appropriate resources on protective equipment usage.

*Keywords: Equestrian injuries, horse-related trauma, emergency department*