

Pediatric Kickball-Related Injuries Treated in US Emergency Departments Over 10 Years



Mohamad Abu Sharkh, D.D.S., Jeffrey Karp, D.M.D., M.S.
Division of Pediatric Dentistry, University of Minnesota School of Dentistry, Minneapolis, MN



BACKGROUND

Kickball is a popular recreational activity enjoyed by children across the United States (US). Generally considered a safe pastime, research related to kickball injuries are limited. In fact, a Pubmed search of kickball injuries with search entries “kickball injuries” and “kickball pediatric injuries” reveals only one published retrospective epidemiological study in the scientific literature. The prevalence for head, face, and mouth (HFM) injuries has not been reported previously. While kickball may not be as high impact as contact sports like football and hockey, a risk of accidental collisions and falls against the face and mouth during play are possible. Currently, mouthguards and other personal protective equipment are not mandated when playing kickball. Given kickball’s popularity amongst children less than 18 years of age, research identifying types, locations, and mechanisms of injury to the head, face, mouth, and teeth are needed. This project looks to raise awareness about HFM kickball injuries amongst school teachers, coaches, parents, and the healthcare community and promote policies and better informed safety standards at locations where kickball is played by children and adolescents.

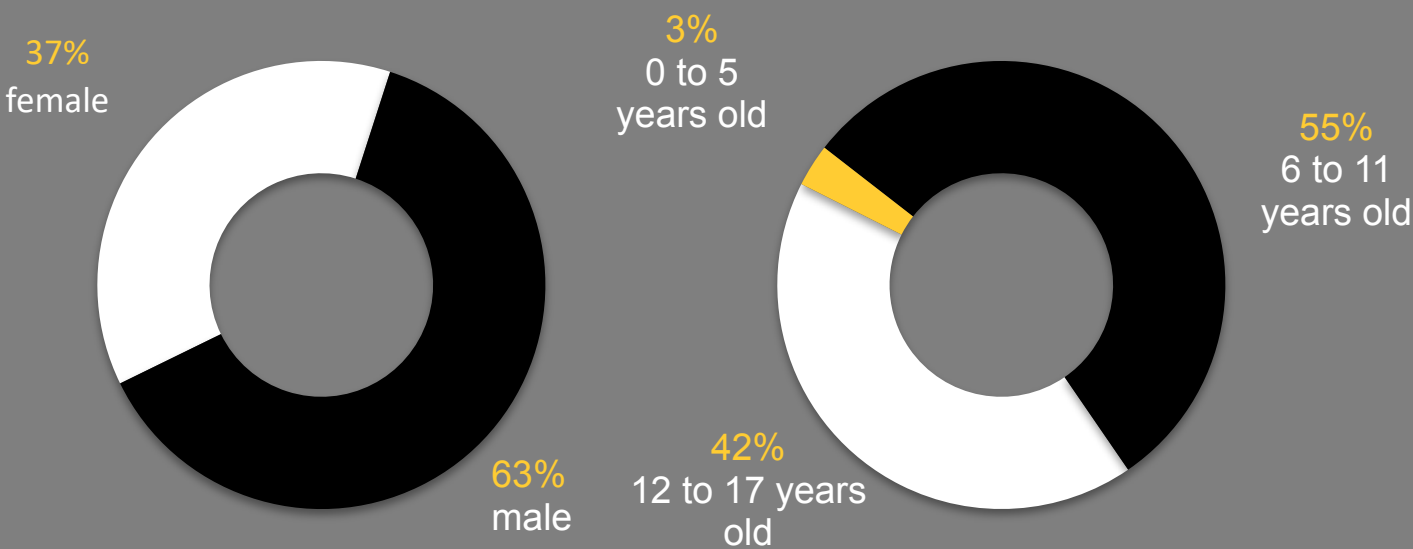
PURPOSE

The purpose of this study is to describe the epidemiological characteristics of HFM injuries related to kickball among children less than 18 years old, who were treated in hospital emergency departments in the United States over a 10 year time period using a nationally representative sample.

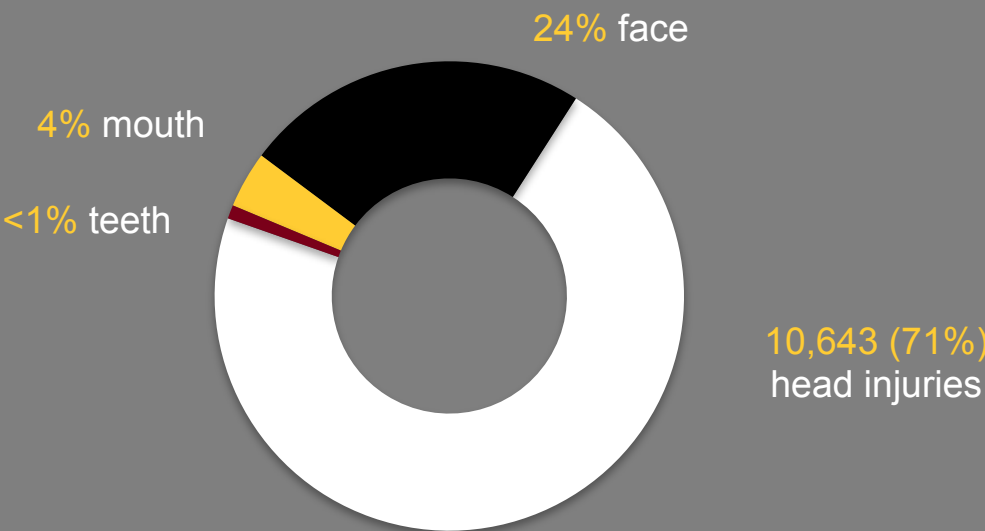
METHODS

Data on injuries were obtained from the National Electronic Surveillance System (NEISS) database, a network of hospitals that represent a stratified probability sample of hospitals in the United States. Data is weighted to produce national estimates for consumer product related injuries in the United States. Injuries presenting from January 1, 2013 to December 31, 2022 were reviewed. Cases were identified using the consumer product code related to kickball and cases involving HFM injuries were isolated by adding the body part code for head, face (including eyelid and nose), and mouth (including teeth, lips, and any oral soft tissues). Data were collected about injury events, including patient age, sex, injury diagnosis, body part injured, mechanism of injury, and location of the event. A descriptive analysis using the national estimates was performed.

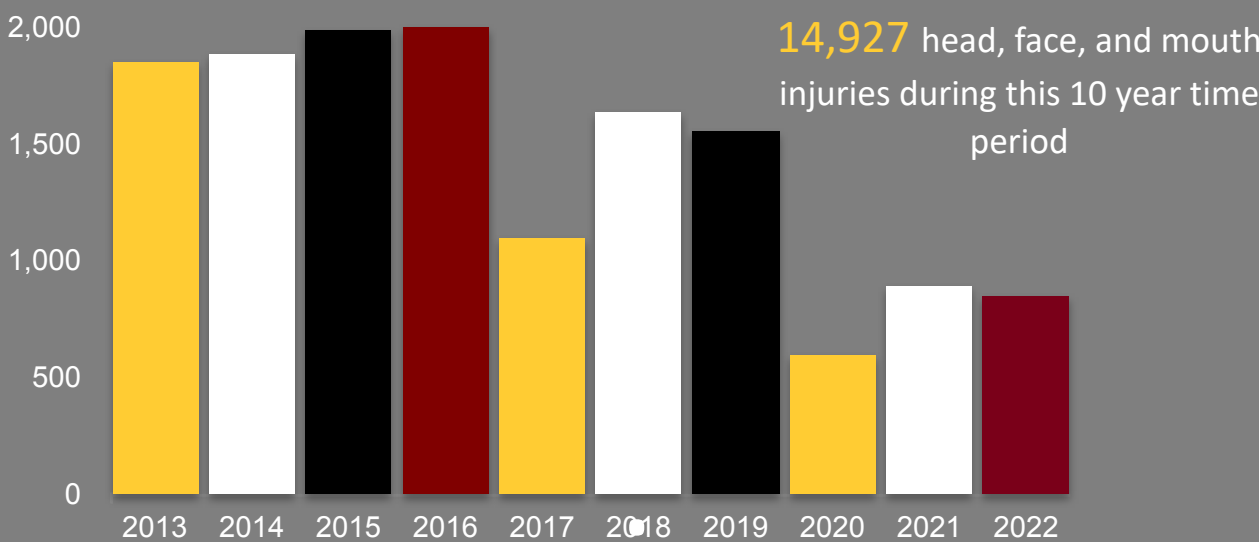
AGE AND SEX



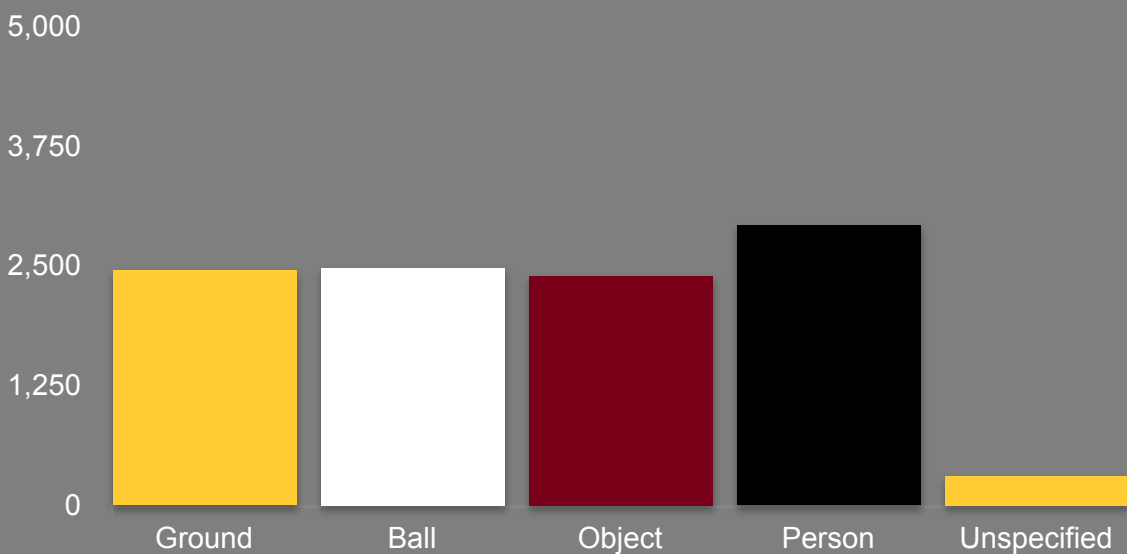
BODY PART



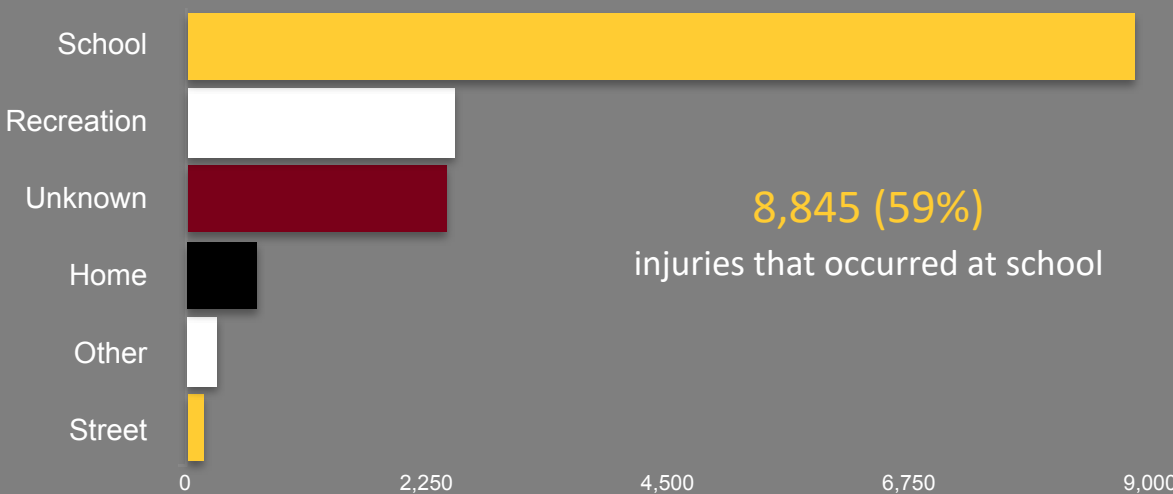
YEAR



MECHANISM



LOCATION



CONCLUSIONS

Over the 10 year study period, almost 15,000 children presented to U.S. emergency departments with HFM kickball related injuries. Ninety seven percent of these injuries were sustained by school aged children. Most injuries occurred in school settings and involved the head or the face. The percentage of males injured was 1.7 times that of females. This study demonstrates that kickball does lead to HFM injuries with some regularity. Dental injuries related to kickball are rare in comparison to other HFM injuries. Nonetheless, gym teachers, coaches, parents and oral health professionals should be educated about emergency management of sports related oral injuries, especially tooth avulsions. School districts and athletic associations should pursue prevention initiatives directed at reducing kickball injuries in school aged children.