Check This: Head and Neck Ice Hockey Injuries in Children

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Introduction

Ice hockey is a popular sport worldwide, known for its constant fast-pace, physical contact, and end-to-end action. According to USA Hockey's 2021-2022 registration report, there are approximately 384,000 registered ice hockey players aged 18 years and under in the United States.[1] Unfortunately, the same characteristics that made ice hockey so popular are also the ones that made it very physically demanding and dangerous for participants.

In an effort to minimize injuries, particularly those of the head and neck, full face masks or cages have been required for all amateur players. Per USA Hockey 2021-2025 Official Rules of Ice Hockey – Junior Hockey Edition, all youth players are required to wear gloves, shin pads, shoulder pads, elbow pads, hip pads or padded hockey pants, a protective cup, tendon pads plus all protective head equipment, including a helmet, full face mask, and internal mouthpiece.[2] Despite these safety measures, head and neck injuries persist among pediatric hockey players.

The United States Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS) collects data on consumer-product related injuries.[3,4] Each year, data on various types of injuries is gathered from approximately 100 emergency departments in the United States and submitted to the NEISS database. Our goal was to describe non-concussion head and neck ice hockey injuries in children in the United States.

Objective

- Our objective is to describe non-concussion head and neck ice hockey injuries in children in the United States.

Methods

- Retrospective study of children 1-18 years old with head, neck, mouth, eye, and ear injuries related to ice hockey.
- Reviewed the NEISS database from 2010 to 2021.
- Clinical data collected: demographics [Table 1], injury mechanism [Table 2], injury type [Figure 1], injury location [Table 3], and disposition from emergency department.
- Records where the only injury was a concussion or internal head injury were removed.
- Descriptive statistics were used to summarize demographic data.
- Frequencies and chi-square tests were calculated.

Table 1. Patient demographics

Sex	N (%)	Mean Age (years)
Male	426 (89.7)	13.2
Female	49 (10.3)	11.8

Results

- N = 475 children.
- 8 children (1.7%) admitted or observed overnight.
- There was no difference in the injury type, injury location, injury mechanism between males and females.

Table 2. Injury mechanism (*p<.001)*

Injury Mechanism	N (%)
Hockey Stick	110 (32.2)
Fall	92 (19.4)
Body Checking	32 (6.7)
Board Collision	37 (7.8)

Figure 1. Injury type (N, %)

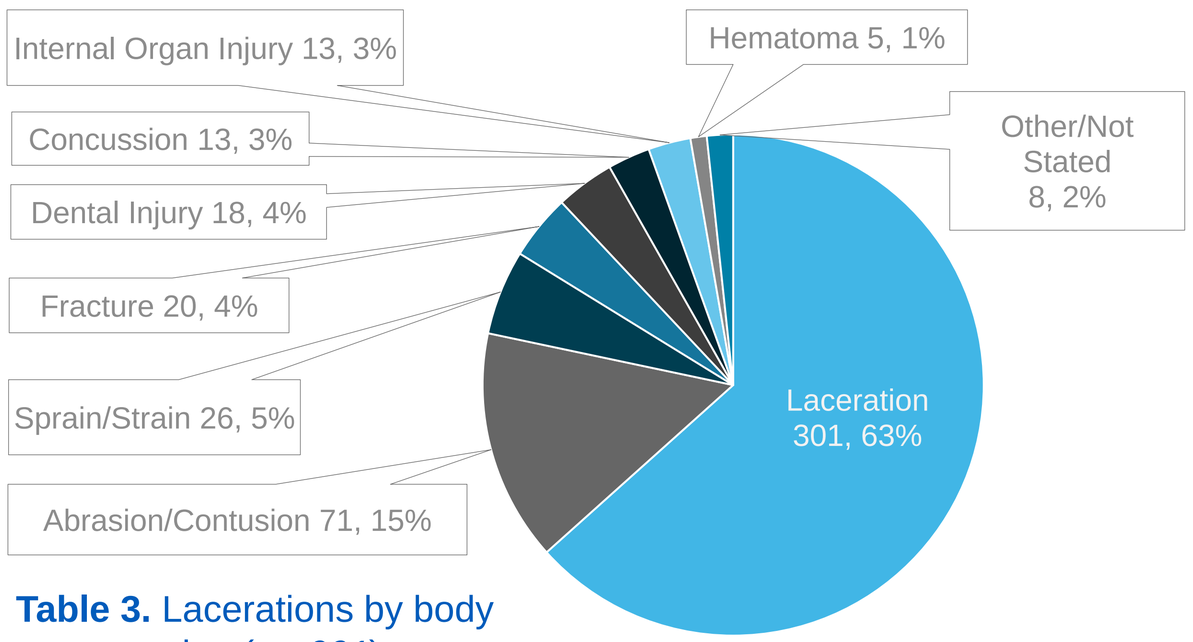

Table 3. Lacerations by body region (*p<.001*)

Body Location	N (%)
Face	231 (82.8)
Ear	16 (76.2)
Oral	33 (62.3)

Discussion

- There is an increasing safety culture in ice hockey with the advent of equipment requirements, rules, and regulations.[1]
- Lacerations are some of the most common injury types in other studies.[5]
- All players under 18 years of age are required to wear a full-face cage.[2]
- Some injuries to the head and neck are acquired by improperly wearing equipment.[6]

Conclusion

- Female ice hockey players sustain injuries at younger ages than males, which may reflect the loss of older girls from the sport.
- In older boys, injury rates may reflect the lack of mandated full-face protective shields in some leagues and the speed and size of players.
- Further study should be done to evaluate the utility of full-face cages.

References

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