

2025 HAFP Annual Update

Judo-Related Injuries in the US: A Descriptive Analysis of NEISS Data from Emergency Departments (2014- 2023)

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Objectives

1. Identify the most common diagnoses, injured body parts, and mechanism of injuries related to judo
2. Discuss the risk of head injuries and concussions in the context of the sport
3. Understand the role of ukemi in injury prevention

What is Judo?

- Japanese martial art that involves throwing and grappling techniques to subdue an opponent
- Founded in 1882 by Professor Jigoro Kano
- “Ju” “do” translates to “gentle way”
- Olympic Sport since 1964



Jigoro Kano



Fundamentals

- Physical education
- Contest proficiency
- Mental training
- Become a valuable member of society



Purpose

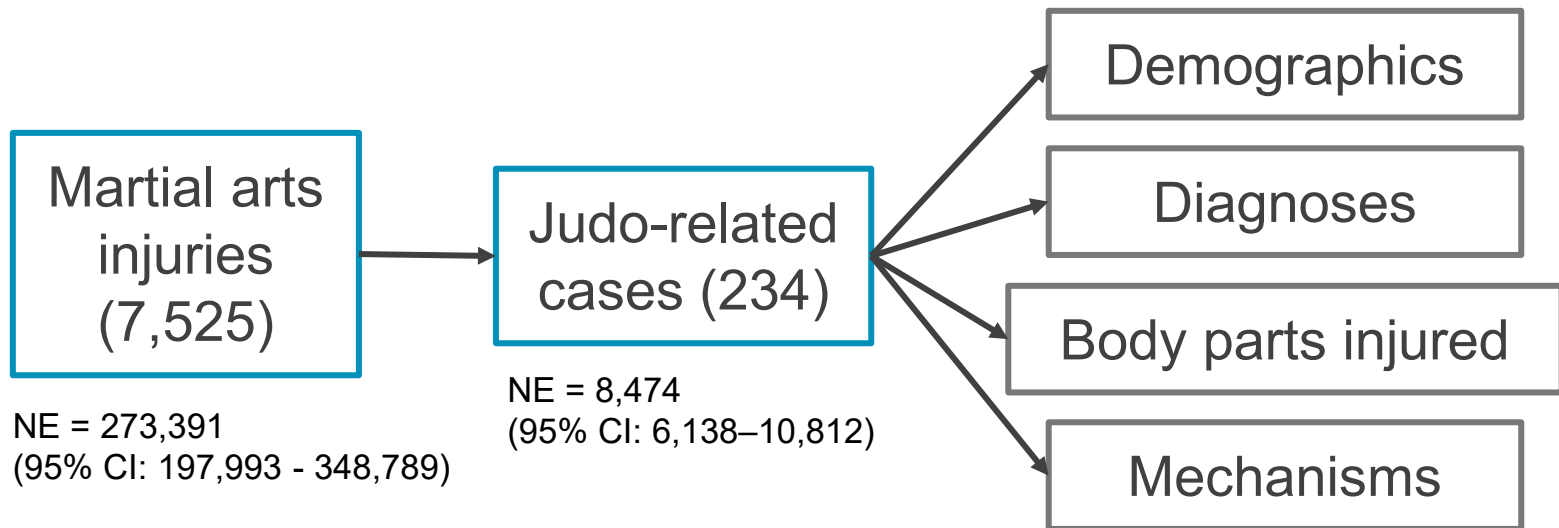
- Judo is one of the most popular sports worldwide
 - Local high school sport in Hawaii
- There is limited injury data on judo-specific injuries in the U.S.
- It is important to understand the risks of participating in judo

The primary purpose of this study is to evaluate judo-related injuries in U.S. emergency departments from 2014-2023.

Methods

U.S. Consumer Product Safety Commission's National Electronic Injury Surveillance System (NEISS) database

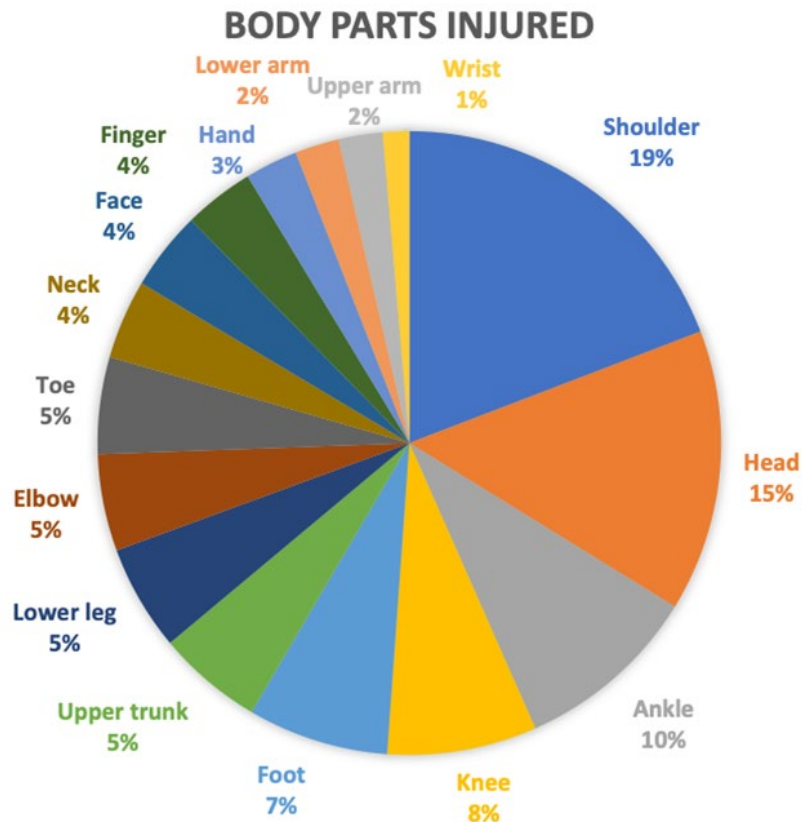
- Accessed on August 2024 (2014-2023)



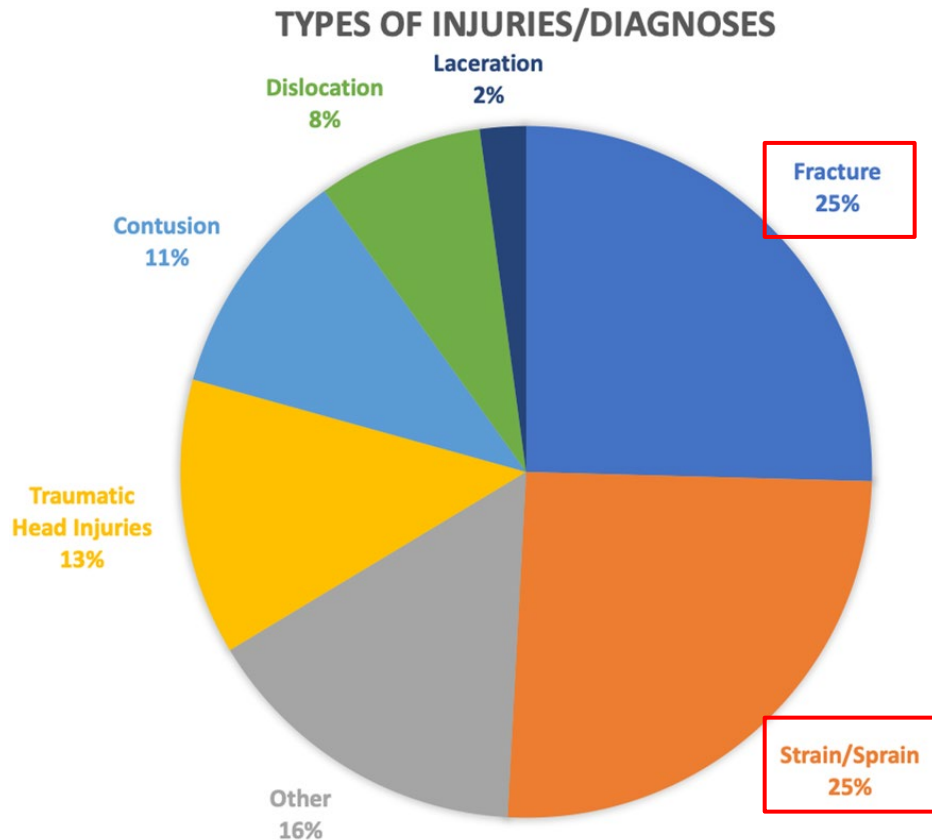
Results - Demographics

Demographic data	Number
Male	157
Female	77
Average age (years)	21.6
Range (years)	61
Not stated	124
White	82
Black/African American	10
Other	5
Asian	13

Results - Injury Profile



Results - Injury Profile



Result - Injury Profile

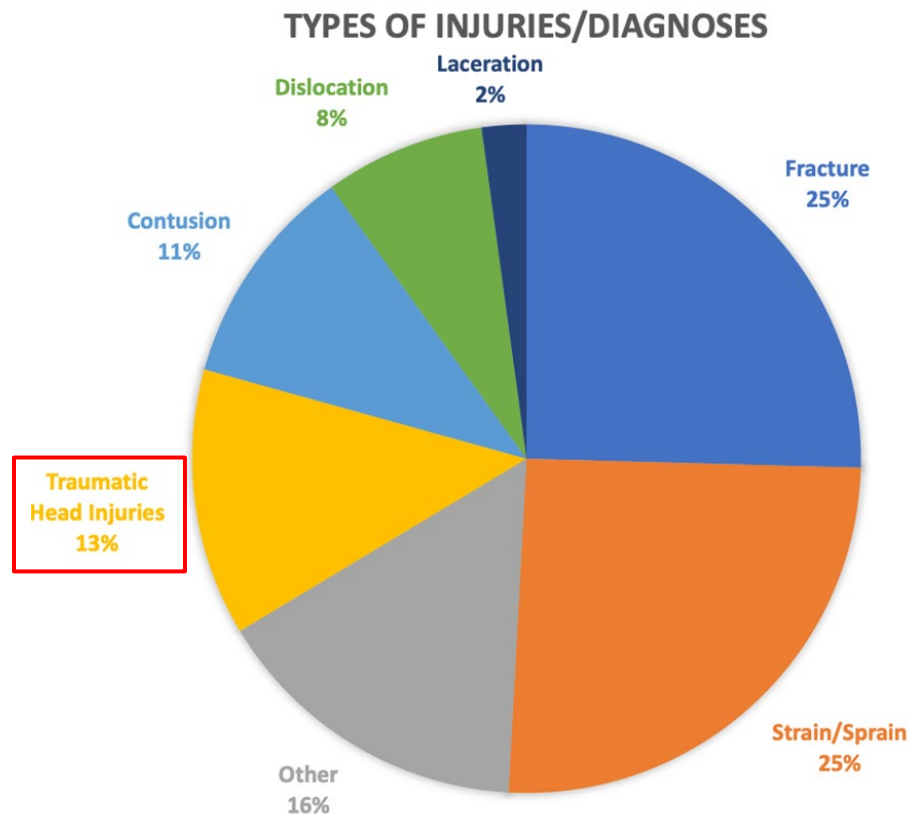
Fractures	Percent
Shoulder*	32.2
Toe	10.2
Lower leg	8.5
Elbow	6.8
Lower arm	6.8
Upper arm	6.8
Face	6.8

* 84% of which were clavicle fractures

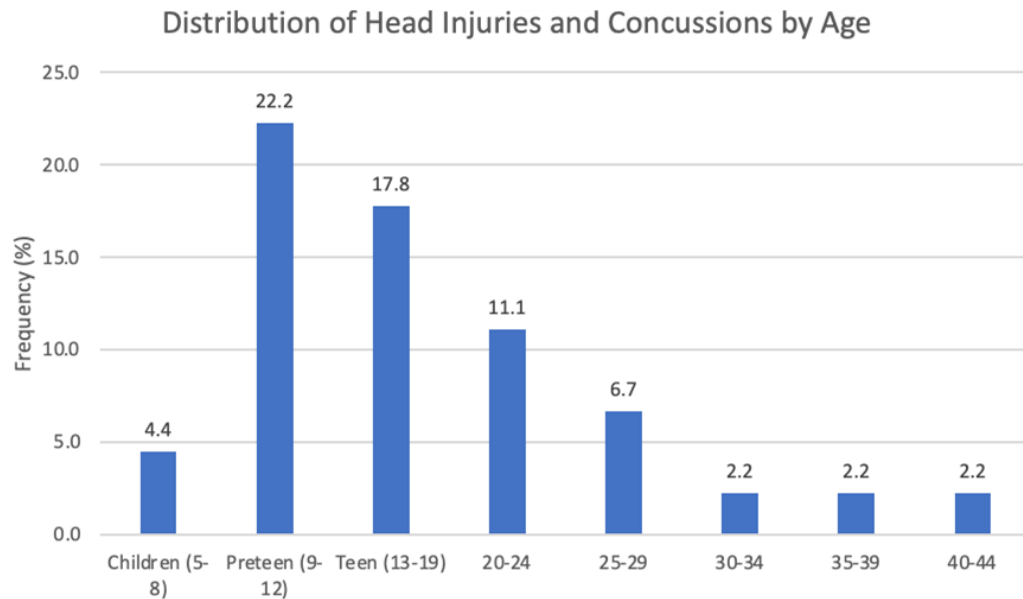
Sprain/Strain	Percent
Ankle	28.8
Knee	16.9
Shoulder	13.6
Foot	8.5
Lower Trunk	6.8
Neck	6.8

Frey et al (2019): Children aged 10-14 had significantly more clavicle fractures than adults

Results - Injury Profile

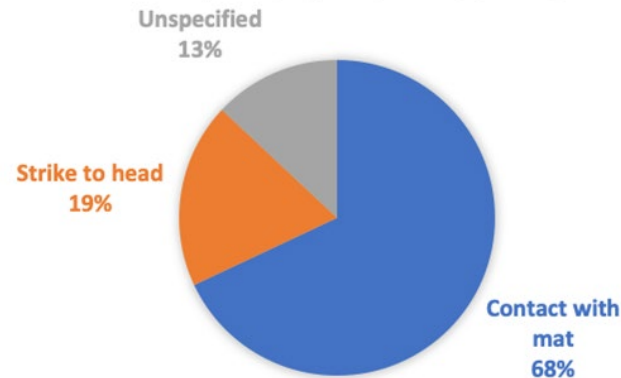


Results - Traumatic Head Injuries

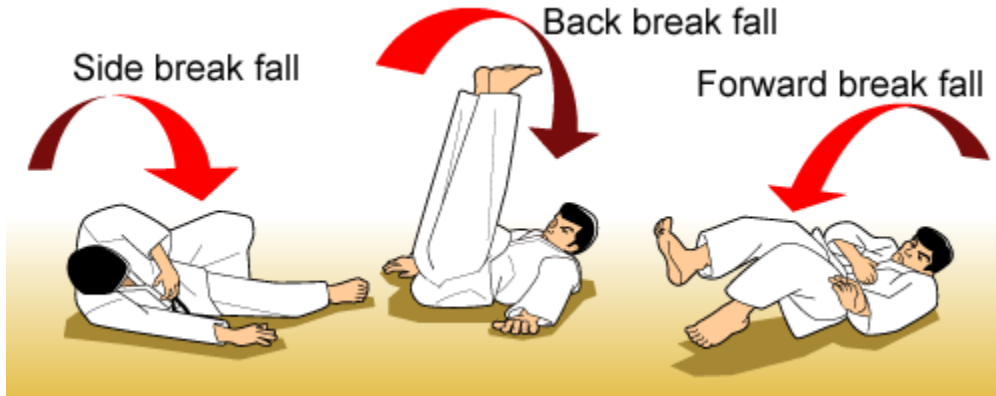


Kamitani et al (2013): Head injuries were associated with age younger than 20 years and with being thrown

MECHANISMS FOR TRAUMATIC HEAD/NECK/FACE INJURIES



Ukemi technique as prevention



<https://www.judo-ch.jp/english/dictionary/terms/ukemi/>



Kamitani et al (2013)

Limitations

Judo Case Identification: Potential underreporting or misclassification of judo-related injuries due to limitations in filter terms and reporting.

Database Design Limitations: NEISS is not tailored for judo-specific injuries, lacking key variables like experience level, rank, and context (tournament vs. practice).

ED-Only Data: Excludes injuries treated outside the emergency department, such as those seen in urgent care, primary care, or other settings.

No Injury Rate Calculation: Absence of data on total U.S. judo participants prevents determining injury rates.

Future Directions

Improve Injury Reporting: Develop standardized reporting systems specific to judo that accurately document injuries

Expand Data Sources: Incorporate data from other health settings to capture a more comprehensive picture of judo-related injuries.

Establish Participant Demographics: Conduct surveys or maintain a national registry to estimate the total number of judo participants in the U.S., providing a denominator for calculating injury rates.

Prospective Cohort Study: Track judo athletes across ranks and experience levels to analyze injury incidence, patterns, and risk factors

Conclusions

- This study provides an updated injury profile among judo participants presenting to U.S. emergency departments
- Shoulder fractures are common in judo and typically involve clavicle fractures
- Preteen and teenagers experienced the highest number of traumatic head injuries, primarily from mat contact
- Preventative measures should focus on proper ukemi technique and possibly investigating mat surfaces

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Supplemental Figures

Results - Mechanism of Injury

