

Assessment of the Management of Head Collisions in the 2023 Women’s FIFA World Cup

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Introduction

Recent studies have shown inadequate in-game management of possible concussions in professional soccer.¹⁻⁴

This study analyzed the assessment of head collision events (HCE) in the 2023 Women’s FIFA World Cup (FWC) compared to previous men’s and women’s FWC tournaments.

Methods

Five researchers identified head collision events through publicly available video review of the 2023 Women’s FWC. Each game was reviewed by at least 2 reviewers.

A HCE was defined as any event where a player stopped playing immediately after contact to the head or neck region. Signs of concussion, as defined by FIFA⁵, were recorded for further analysis. These included time spent in the recumbent position, grabbing the head or neck, visible injury, disorientation, or blank/vacant look. Additionally, time spent on the ground and duration of stoppage were recorded for each HCE. Findings were compared to similar studies analyzing the 2019 Women’s FWC and 2022 Men’s FWC.

Results

	2022 FIFA World Cup	2023 FIFA World Cup	P-value
Number of Head Collision Events	147	126	
Players Removed for Concussion	4	6	0.704
Players Evaluated	105	105	0.575
Players Evaluated by Medical Staff	35	66	0.001
Players with ≥2 Signs of Concussion	123	33	0.001
Duration of Time Stopped When Player was Down	90 [56.25, 128.75 seconds]	60 [35, 135 seconds]	0.001



	2019 FIFA World Cup	2023 FIFA World Cup	P-value
Number of Head Collision Events	69	126	<0.001
Players Removed for Concussion	4	6	0.933
Players Evaluated by Medical Staff	37	66	0.870
Players with ≥2 Signs of Concussion	58	33	<0.001
Duration of Time Stopped When Player was Down	70s. [10,330]	80s [0,355]	

Discussion

This study shows improvement in the percentage of players displaying head injury ultimately being evaluated by medical staff. However, few players, 4.7% total and 18% of those displaying > 2 signs of concussion, were removed from play. This study shows improved on-field concussion evaluation, yet re-demonstrates possible resistance by teams and medical staff to remove participants from play.

Clinical Significance

This study provides an updated assessment of FIFA's adherence to its concussion protocol for female athletes. It also compares differences in concussion evaluation between the recent men’s and women’s tournaments, suggesting there is room for improvement in analyzing HCE in both realms.

References

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