Identifying Mechanisms of Sports-Related Injuries Through Video Analysis

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Abstract:

PURPOSE: The purpose was to explore the feasibility and value of video analysis for identifying mechanisms of injuries and common injury scenarios among youth athletes.

METHODS: 476 boys and girls high school lacrosse games were recorded by trained videographers during the spring of 2008 in Fairfax County, Virginia. When an injury occurred, a log entry was recorded to include the time of injury, the body part injured, and the player number. Videotapes were analyzed using StudioCode (Sportstec USA, Camarillo, CA) video analysis software to identify event characteristics. Data from video analysis were linked to the injury report filed by the athletic trainer for further detail and verification.

RESULTS: 236 injuries (42 concussions) were identified among nearly 2400 players and 130,000 athlete-exposures during the 2008 high school lacrosse season. Among the coded variables for an individual injury event were field conditions, team activity, location on the field where the injury occurred, player activity at the time of injury, primary mechanism of injury, location of contact to head/helmet if concussion, and precipitating events leading to the injury.

CONCLUSIONS: Video analysis has been used in professional sports to identify mechanisms of injuries. This approach can be used in youth sports to identify common injury scenarios and directly observe precursors to injury rather than relying on self-report. It also allows for direct comparison of similar injury events. It is a promising tool to better understand injury mechanisms and develop potential interventions such as protective equipment, rule changes/enforcement, and coaching/training techniques.