

A 20-year analysis of pediatric and young adult mountain biking injuries presenting to us emergency departments

Jeffrey S Mun

Geisinger Commonwealth School of Medicine, USA

Introduction: Within the past decade, mountain biking has rapidly increased in popularity among children and young adults. The objective of this study was to evaluate and characterize pediatric and young adult mountain biking injuries presenting to US emergency department (EDs) from 2003-2022.

Methods: We queried data for patients aged 4 to 21 years who had presented to EDs from 2003 to 2022 using the National Electronic Injury Surveillance System (NEISS) Database. Information collected included age, sex, race, discharge disposition, body region injured, primary diagnosis, mechanism of injury, and helmet status.

Results: A total of 1,138 patients (Mean Age \pm SD: 15.3 \pm 3.6) were included in our study. Majority of patients were of male sex (94.5%) and white race (60.6%). 87.6% of patients were discharged home on the same day of injury while 10.1% were admitted to the hospital. The most common body region injured were the scalp (16.9%), wrist (9.0%), face (6.3%), and elbow (6.1%). The most common mechanism of injuries in the study group were loss of balance (52.6%), direct crash (18.3%), fall from a jump (9.1%), and bike malfunction (4.5%). Furthermore, the most common primary diagnoses were fracture (29.9%), contusion (16.4%), sprain (12.2%), and internal abdominal organ damage (11.4%). 1 out of every 4 patients were not wearing a helmet during activity.

Discussion: Majority of pediatric and young adult patients presenting to EDs for injuries sustained while mountain biking were discharged home on the same day of the accident. Fractures and internal abdominal organ damage were common primary diagnoses. Over 25% of patients were not wearing a helmet at time of injury. The results suggest physicians should consider informing pediatric mountain biking patients presenting to the ED on safe helmeting practices and evaluating them for internal abdominal organ damage prior to discharge.

Biography

Jeffrey S Mun, Geisinger Commonwealth School of Medicine, USA.

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