

Unhelmeted Motorcycle Riders Have Increased Injury Burden: A Need to Revisit Universal Helmet Laws

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Purpose: Motorcycle crashes continue to become increasingly more common as the number of motorcyclists grows rapidly. However, the universal helmet laws, which were first enacted in 1967, have recently been repealed by many states. Currently, only 19 states observe the universal helmet laws requiring all motorcyclists to wear a helmet, 28 states have laws only requiring some motorcyclists to be protected by a helmet, and 3 states have no motorcycle helmet laws. The objective of this study is to compare hospital data for patients who were in a motorcycle collision and the outcomes associated with helmet wear.

Methods: The National Trauma Data Bank was utilized to conduct a retrospective analysis of 10,345 patients who were classified as having a motorcycle crash (MCC). Available inpatient data was analyzed on variables including hospital length of stay (LOS), ICU admission, ventilation support, insurance status, Glasgow Coma Scale (GCS), ISS, and mortality (on arrival and inpatient).

Results: Patients were divided into 2 groups: those wearing a helmet (n = 6250) and those who were not (n = 4095). Patients not wearing a helmet had an increased risk of: admission to the ICU (odds ratio [OR] = 1.36, P <0.001, confidence interval [CI] 1.25-1.48), requiring ventilation support (OR = 1.55, P <0.001, CI 1.39-1.72), presenting with a GCS of 8 or below (OR = 2.150, P <0.001, and inpatient mortality (OR = 2.00, P <0.001, CI 1.58-2.54). Unhelmeted patients were more likely to have government insurance or be uninsured than those patients wearing a helmet (P <0.001).

Conclusion: It is not well understood why many states are repealing or have repealed universal helmet laws. Lack of helmet use increases the severity of injury in traumatized patients leading to a substantial financial impact on health-care costs. Our analysis suggests the need to revisit the issue regarding laws that require protective headwear while riding motorcycles due to the individual and societal impact.