

Are motorcycles really “donorcycles”? Examining organ donation rates between unhelmeted and helmeted motorcyclists

ABSTRACT

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Introduction: Motorcycles are colloquially referred to as “donorcycles” among medical staff. However, the actual impact of helmet laws and helmet use on organ donation is unknown. Michigan’s 35-year-old universal helmet law (UHL) was repealed in April 2012 and replaced by a partial-helmet law. We hypothesized that there would be an increase in organ donation rates from unhelmeted motorcyclist fatalities.

Methods: Michigan's Gift of Life Michigan organ donation database was queried from April 2008 through May 2015 in conjunction with the Michigan Trauma Quality Improvement Program database from the same time period. All in-hospital motorcycle crash fatalities were examined. *Results:* A three-fold increase was found in the rate of organ donation for unhelmeted motorcyclists compared to helmeted motorcyclists ($p = 0.006$). Motorcycle crash fatalities tended to be younger in age after the UHL repeal with an average age of 32.8 years versus 40.8, however, this finding was not statistically significant ($p = 0.071$). Additionally, there was no significant difference in organ donation rates pre-UHL repeal (2008–2012) versus post-repeal (2012–2015).

Conclusions: This is the first study to demonstrate an increased rate of organ donation among unhelmeted motorcyclist fatalities compared to helmeted rider fatalities. There was no significant increase in the rate of organ donation following the Michigan UHL repeal. However, we identified that some motorcycle crash fatalities were from illegally unhelmeted riders in the past, prior to the repeal.

Practical Application: Unhelmeted motorcyclists are three times more likely than helmeted riders to become organ donors, possibly due to the well documented increase in severe traumatic brain injuries in this population. From a public health perspective, helmets should be required for all motorcyclists and efforts to advocate in favor of helmet legislation should be supported by trauma systems and health professionals.