

## **MOTORCYCLE HELMET POLICY**

### **Position Statement**

WHEREAS brain injury is the leading cause of death in motorcycle crashes, and

WHEREAS motorcycle helmets are 39% effective in preventing crash-related fatalities and 67% effective in preventing crash-related brain injuries among motorcycle riders, and

WHEREAS universal motorcycle helmet use laws have been shown to significantly increase helmet use and are easily enforced because of the high visibility of motorcycle riders, and

WHEREAS motorcycle helmet laws applying only to minors or novice operators are more difficult to enforce and are less effective in promoting helmet use by motorcycle riders, and

WHEREAS following enactment of a universal helmet law, motorcycle crash-related fatalities have been shown to decrease by 15 - 37%, and

WHEREAS following the repeal or weakening of motorcycle helmet laws, motorcycle crash-related fatalities have been shown to increase by 21 - 100%, and

WHEREAS hospital costs of motorcycle crash-related injuries are higher among unhelmeted operators than helmeted operators,

WHEREAS motorcycle injury costs are shared by all citizens via health care costs and health care insurance, and not just by the injured motorcyclists,

BE IT RESOLVED that the Association for the Advancement of Automotive Medicine urges all countries, provinces, and/or states to adopt and enforce legislation mandating that all persons riding on a motorcycle wear a helmet that meets national motorcycle helmet standards.

***Proposed for adoption: 2011***

### **AAAM White Paper in support of Motorcycle Helmet Policy 2011**

Laws requiring motorcyclists to wear helmets are in effect in most countries outside the United States. The first motorcycle helmet use law in the world took effect on January 1, 1961, in Victoria, Australia. In the United States, fewer than half of the states currently have laws requiring all motorcycles to wear a helmet. A pattern of enactment, repeal, reinstatement, or weakening of universal helmet laws, and low helmet use rates in some states, has provided a natural laboratory to evaluate the effects of wearing helmets and the effects of universal helmet laws.

According to the US National Highway Traffic Safety Administration, per mile traveled, the number of deaths on motorcycles in 2007 was about 37 times the number in cars, and the number of motorcyclist injuries was approximately 8 times that in cars.<sup>1</sup> Helmets are the principal countermeasure for reducing crash-related head injuries, the leading cause of death among unhelmeted riders.<sup>2</sup> Helmets are 67 percent effective in preventing brain injuries: in the event of a crash, unhelmeted motorcyclists are three times more likely than helmeted riders to suffer traumatic brain injuries.<sup>2</sup> It is estimated that motorcycle helmets reduce the likelihood of death in a crash by 39 percent, after adjusting for age, gender, and seat position.<sup>3</sup> Based on a review of 25 studies of the costs of injuries from motorcycle crashes in the United States, helmet use not only reduces the risk of death and the probability and severity of head injuries, but also reduces the cost of medical treatment, length of hospital stay, necessity for special medical treatments, and probability of long-term disability.<sup>4</sup>

Evaluations of helmet law changes have shown that helmet use approaches 100 percent when all motorcyclists were required to wear helmets, compared with about 50 percent when there was no helmet law or a law applying only to some riders.<sup>5</sup> In states that either reinstated or enacted universal motorcycle helmet laws, helmet use increased dramatically, and motorcyclist deaths decreased by 15-37 percent.<sup>2</sup> In states that repealed or weakened their universal helmet laws, helmet use declined sharply, and motorcyclist deaths increased by 21-100 percent.<sup>2, 6, 7, 8, 9, 10, 11, 12</sup> After controlling for various factors such as per capita income, population density, and annual precipitation, death rates were found to be lowest in US states with helmet laws that cover all riders, and rates in states with helmet laws that cover only some riders were lower than those in states with no helmet law. These results held for deaths per 10,000 registered motorcycles, deaths per 100,000 population, and deaths per 10 billion vehicle miles traveled.<sup>13, 14</sup>

Weak helmet use laws that apply only to young riders are virtually impossible to enforce. In 2008, helmets were used by fewer than half of fatally injured minors in states with weak helmet laws, even though the laws required them. Helmet use for all riders remains low in states where restricted laws are in effect, and death rates are 20 to 40 percent lower when states have helmet laws that apply to all riders compared to states have weak laws or no laws.<sup>15</sup> Based on a study of Florida's weakening of its helmet law to exclude riders 21 years and older with at least \$10,000 of medical insurance coverage, riders younger than 21 were 97 percent more likely to die in crashes after the law change than before. Helmet use among fatally injured motorcyclists younger than 21 declined from 72 percent before the law change to 55 percent after.<sup>10</sup>

---

## References

<sup>1</sup>National Highway Traffic Safety Administration. 2009. Traffic safety facts, 2008. Report no. DOT HS-811-159. Washington, DC: US Department of Transportation.

<sup>2</sup>National Highway Traffic Safety Administration. 2007. Traffic safety facts, 2006: motorcycle helmet use laws. Washington, DC: US Department of Transportation.

<sup>3</sup>Norvell, D.C. and Cummings, P. 2002. Association of helmet use with death in motorcycle crashes: a matched-pair cohort study. *American Journal of Epidemiology* 156:483-87.

<sup>4</sup>Lawrence, B.A.; Max, W.; and Miller, T.R. 2002. Cost of injuries resulting from motorcycle crashes: a literature review. Report no. DOT HS-809-242. Washington, DC: National Highway Traffic Safety Administration.

<sup>5</sup>National Highway Traffic Safety Administration. 2005. Without motorcycle helmets, we all pay the price. Washington, DC: US Department of Transportation.

<sup>6</sup>Ulmer, R.G. and Northrup, V.S. 2005. Evaluation of the repeal of the all-rider motorcycle helmet law in Florida. Report no. DOT HS-809-849. Washington, DC: National Highway Traffic Safety Administration.

<sup>7</sup>Kraus, J.F.; Peek, C.; McArthur, D.L.; and Williams, A.F. 1994. The effect of the 1992 California motorcycle helmet usage law on motorcycle crash fatalities and injuries. *Journal of the American Medical Association* 272:1506-11.

<sup>8</sup>Muelleman, R.L.; Mlinek, E.J.; and Collicott, P.E. 1992. Motorcycle crash injuries and costs: effect of a re-enacted comprehensive helmet use law. *American Journal of Emergency Medicine* 21:266-72.

<sup>9</sup>Mounce, N.; Brackett, Q.; Hinshaw, W.; Lund, A.K.; and Wells, J.K. 1992. The reinstated comprehensive motorcycle helmet law in Texas. Arlington, VA: Insurance Institute for Highway Safety.

<sup>10</sup>Preusser, D.F.; Hedlund, J.H.; and Ulmer, R.G. 2000. Evaluation of motorcycle helmet law repeal in Arkansas and Texas. Washington, DC: National Highway Traffic Safety Administration.

<sup>11</sup>Ulmer, R.G. and Preusser, D.F. 2003. Evaluation of the repeal of motorcycle helmet laws in Kentucky and Louisiana. Report no. DOT HS-809-530. Washington, DC: National Highway Traffic Safety Administration.

---

<sup>12</sup>Kyrychenko, S.Y. and McCartt, A.T. 2006. Florida weakened motorcycle helmet law: effects on death rates in motorcycle crashes. *Traffic Injury Prevention* 7:55-60.

<sup>13</sup>Houston, D.J. and Richardson, Jr., L.E. 2007. Motorcycle safety and the repeal of universal helmet laws. *American Journal of Public Health* 97:2063-69.

<sup>14</sup>Houston, D.J. and Richardson, Jr., L.E. 2008. Motorcycle fatality rates and mandatory helmet-use laws. *Accident Analysis and Prevention* 40:200-08.

<sup>15</sup>US General Accounting Office. 1991. Highway safety: motorcycle helmet laws save lives and reduce costs to society. Washington, DC.