Use of Motorcycle Helmets: Laws Mandating Use

Risk of Bias Assessment

Studies evaluating helmet laws from U.S. (60)

Author Year	Data Analyzed Properly	Intervention Independent of Other Changes	Sufficient Data Points to Enable Reliable Statistical Inference	Intervention Unlikely to Affect Data Collection	Blinded Assessment of Primary Outcome(s)	Completeness of Data	Reliable Primary Outcome Measure(s)
Auman 2002	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Bavon 2010	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Berkowitz 1981	High Risk	Low Risk	Low Risk	Low Risk	High Risk	High Risk	Unclear Risk
Bledsoe 2005	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Branas 2001	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Brooks 2010	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Chenier 1987	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Coben 2007	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Dao 2012	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
de Wolf 1986	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Dee 2009	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
DOT	Unclear Risk	High Risk	Low Risk	Low Risk	High Risk	High Risk	Unclear Risk

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Fleming 1992	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	High Risk
French 2009	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	High Risk	Low Risk
French 2012	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Gilbert 2008	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Graham 1986	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Hartunian 1983	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Ho 2004	Low Risk	High Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Hotz 2002	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Houston 2007a	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Houston 2007b	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Houston 2008	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Koehler 1978	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Kraus 1994	Low Risk	Unclear Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Kraus 1995	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Kyrychenko 2006	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk

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Lloyd 1987	High Risk	Low Risk	Unclear Risk	Low Risk	High Risk	Unclear Risk	Low Risk
Lummis 1981	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Lund 1991	High Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Max 1998	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Mayrose 2008	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
McGwin 2004	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
McHugh 1985	High Risk	Unclear Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
McSwain 1985	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Mertz 2008	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Mock 1995	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Morris 2006	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Mounce 1992	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Muelleman 1992	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Muller 2004	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
NHTSA 1980	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk

Author Year	Data Analyzed Properly	Intervention Independent of Other Changes	Sufficient Data Points to Enable Reliable Statistical Inference	Intervention Unlikely to Affect Data Collection	Blinded Assessment of Primary Outcome(s)	Completeness of Data	Reliable Primary Outcome Measure(s)
O'Keeffe 2007	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Paulsrude 1967	Low Risk	High Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Pickrell 2008	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Preusser 2000	High Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Prinzinger 1982	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Proscia 2002	Low Risk	Low Risk	Unclear Risk	Low Risk	High Risk	Low Risk	Low Risk
Robertson 1976	Low Risk	Low Risk	Unclear Risk	Low Risk	High Risk	Low Risk	Low Risk
Sass 2000	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Scholten 1984	Low Risk	High Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Sosin 1992	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Stolzenberg 2003	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Struckman 1980	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Turner 2004	Unclear Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Ulmer 2003	High Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Ulmer 2005	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk

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Watson 1980	Low Risk	Unclear Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Weiss 2010	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Williams 1979	High Risk	Low Risk	High Risk	Low Risk	High Risk	Low Risk	Low Risk

Studies evaluating helmet laws from outside U.S. (11)

Author Year	Data Analyzed Properly	Intervention Independent of Other Changes	Sufficient Data Points to Enable Reliable Statistical Inference	Intervention Unlikely to Affect Data Collection	Blinded Assessment of Primary Outcome(s)	Completeness of Data	Reliable Primary Outcome Measure(s)
Chiu 2000	Low Risk	Low Risk	Low Risk	Low Risk	Unclear Risk	Low Risk	Unclear Risk
Ferrando 2000	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Unclear Risk
Foldvary 1964	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Grima 1995	Low Risk	Low Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
LaTorre 2007	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Nurchi 1987	High Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk
Peek-Asa 1997	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Unclear Risk

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Servadei 2003	Low Risk	Low Risk	Low Risk	Low Risk	Unclear Risk	Low Risk	Low Risk
Singh 1973	High Risk	Unclear Risk	Low Risk	Low Risk	High Risk	Low Risk	Low Risk
Singh 1975	Low Risk	High Risk	Low Risk	Low Risk	Unclear Risk	Low Risk	Low Risk
Taggi 1998	Unclear Risk	Low Risk	Low Risk	Low Risk	Unclear Risk	Low Risk	Unclear Risk
Tsai 1999	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk	Low Risk