



DATA

Relative risk of head injury

Cycle helmets are often promoted on the presumption that cyclists are especially likely to suffer head injuries. The data below shows that cyclists are only a very small part of the head injury burden and that other people are much more likely to be head injury victims.

Ontario, Canada

Major head injuries per year	2,494	100%
of which:		
Motor vehicle involvement, including pedestrians but excluding cyclists		49%
Falls		35%
Homicide		6%
Suicide		2%
Other causes		6%
Cyclists		less than 2%

Source: CIHI, 2004

Canada (whole country)

All head injuries 2003 - 2004	16,800	100%
Falls		45%
Motor vehicle involvement (excl cyclists)		36%
Assault		9%
Other causes		10%
Cyclists		5%

Source: CIHI, 2006

As the proportion of major head injuries that are cyclists is lower than the proportion of all head injuries (although the populations differ), it would appear that on average head injuries to cyclists are less severe than those to other groups.

US traumatic brain injury deaths per year

The following table shows the average number of deaths per year over the period 1997 to 2007.

<i>Activity</i>	<i>Average TBI fatalities/year</i>	<i>% of total</i>
All causes	53014	100%
Motorists	7955	15%
Pedestrians	1825	3.4%
Motorcyclists	1361	2.6%
Cyclists	325	0.6%

Source: Coronado et al, 2011

The source data also shows that only 44.5% of US bicyclist fatalities involve head injuries (325/730).

References



CIHI, 2004

[Major Head and Spinal Cord Injury Hospitalizations in Ontario, 2001-2002](#). Canadian Institute for Health Information. Ontario Trauma Registry Analytic Bulletin, March 2004. **External Link**
<http://www.vehicularcyclist.com/OntHIInjuriesMajor2001-2CIHI.pdf>

CIHI, 2006

[Head Injuries in Canada: A Decade of Change \(1994-1995 to 2003-2004\)](#). Canadian Institute for Health Information, August 2006. **External Link**
https://secure.cihi.ca/free_products/ntr_head_injuries_2006_e.pdf

Coronado et al, 2011

Coronado VG, Xu L, Basavaraju SV, McGuire LC, Wald MM, Faul MD, Guzman BR, Hemphill JD, 2011. [Surveillance for Traumatic Brain Injury Related Deaths: United States, 1997- 2007](#). Centers for Disease Control and Prevention May 6, 2011 / 60(SS05);1-32. **External Link**
http://www.cdc.gov/mmwr/preview/mmwrhtml/ss6005a1.htm?s_cid=ss6005a1_w

The Bicycle Helmet Research Foundation (BHRF), an incorporated body with an international membership, exists to undertake, encourage and spread the scientific study of the use of bicycle helmets. Also to consider the effect of the promotion and use of helmets on the perception of cycling in terms of risk and the achievement of wider public health and societal goals.

BHRF strives to provide a resource of best-available factual information to assist the understanding of a complex subject, and one where some of the reasoning may conflict with received opinion. In particular BHRF seeks to provide access to a wider range of information than is commonly made available by those that take a strong helmet promotion stance. It is hoped that this will assist informed judgements about the pros and cons of cycle helmets.

For more information, please visit www.cyclehelmets.org.

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