Universidad de Navarra

Facultad de Medicina
European Center for Injury Prevention

Extended summary 1I/2010

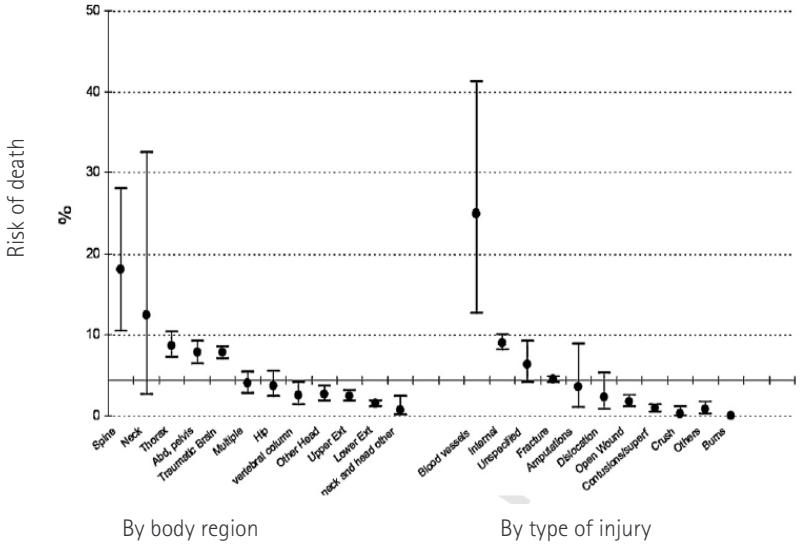
Arregui C, Lopez-Valdes F, Segui-Gomez M. Pedestrian injuries in 8 European countries: An analysis of hospital discharge data. ***Accid Anal Prev*** **2010 DOI information: 10.1016/j.aap.2010.01.005**

Out of the 50,000 yearly road traffic deaths in the European Union (formed by 27 European countries and commonly designated as EU-27), some 8500 are pedestrians. While some studies focus on the increased risk for pedestrian mortality compared to other road users, there is a dearth of information on injury patterns that could be used to prioritize injury prevention measures.

Hospital discharge data from eight European countries have been used in this study. Injury information from 10,341 pedestrians sustaining 19,424 injuries has been analyzed. Data have been augmented with Abbreviated Injury Scale, Functional Capacity Index and Injury Severity Score codes, and have been categorized into the Barell Matrix.

Fractures (51.1%, 50.3–51.8) and internal injuries (21.3%, 20.7–21.9) are the most frequently found in the data; however, blood vessel injuries and internal injuries are the ones associated with the highest risk of death. Head and lower extremities account for 26% of the injuries each, being spinal and thoracic injuries those showing the highest threat to life risk. Hip and lower extremities injuries are the most frequent cause of functional limitation 1 year after discharge. Due to its intrinsic importance, different injury causation mechanisms for head injuries have been analyzed. Though current standards and regulations consider Head Injury Criterion (HIC) as the only tool to assess the risk of injuries to the head, real world injury data show that only 12.1% (11.0–13.2) of these injuries can be attributed to a pure translational mechanism and therefore susceptible to be predicted by HIC.

Design of prevention strategies, particularly from the engineering point of view, should benefit from this information.



By body region By type of injury

Percent (and 95% CI) of hospitalized pedestrians dead during hospital stay by body regions and types of injuries (N= 10,341, average p (death) = 4.3%), eight mentioned European countries, 2004.

[Adapted from Fig. 2]

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