

# **Injury Pattern, Injury Severity, and Mortality in 33,495 Hospital-admitted Victims of Motorized Two-wheeled Vehicle Crashes in The Netherlands. 2012**

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## **Abstract**

### **BACKGROUND:**

Road traffic accidents involving motorized two-wheeled vehicle (MTV) riders often result in severe morbidity and mortality. The aim of this nationwide study is to describe the influence of the type of motorized two-wheeled vehicle on the patient injury severity and mortality on hospitalization, after MTV accidents in The Netherlands.

### **METHODS:**

Data from the Institute for Road Safety Research and the Hospital Trauma Databases were analyzed. All MTV crash victims admitted to Dutch hospitals from 1993 to 2008 were included. Logistic regression analysis was performed on sex, age, type of MTV, Injury Severity Score, and Abbreviated Injury Scale to calculate the relative risks of severe trauma and mortality for motor and light-moped riders according to the Mantel and Haenszel procedure (RR<sub>mh</sub>).

### **RESULTS:**

Among 33,495 MTV crash victims, 10,607 were motorcyclists, 19,708 moped riders, and 3,180 light-moped riders. In the light-moped rider group head injury, especially severe head injury was most common in light-moped riders, and the prevalence of severe trauma (17.1%) and mortality (4.2%) was highest, compared with motorcyclists and moped riders. In elderly crash victims (>55 years), the risk to sustain severe trauma was almost twofold higher in light-moped riders compared with moped riders (RR<sub>mh</sub>: 1.79). Young motorcyclists (<25 years) had highest chances of dying (RR<sub>mh</sub>: 1.64).

### **CONCLUSION:**

Hospitalized light-moped riders show more severe head injuries, severe trauma, and higher mortality than moped riders and motorcyclists. Young motorcyclists and elderly light-moped riders are most vulnerable, with highest chances of severe trauma and mortality. Continuing improvement of the MTV safety is urgent.