| 0730 | **BICYCLE HELMET AND HEAD, FACE AND NECK INJURIES: A CASE–CONTROL STUDY BASED ON 12 000 INJURED CYCLISTS FROM A ROAD TRAUMA REGISTRY** |

E Amoros*, M Chiron, B Thelot, A Ndiaye, B Laumon *Correspondence: INRETS, 25 Avenue Franois Mitterrand BRON 69500, France*

Introduction Several case–control studies have assessed the effectiveness of the bicycle helmet against head and face injuries. This is the first case–control study in a non anglo-saxon setting; it is based on recent years, when foam helmets are the most common helmets.

Material and Methods The study is based on a road trauma registry that covers both in and outpatients. Some 14 000 injured cyclists are included. Helmet wearing is routinely collected as part of the registry notification form. All injuries are recorded and coded with the Abbreviated Injury Scale (AIS). Cases are respectively defined as being AIS3+ head injured, AIS1+ head injured, AIS1+ face injured, AIS2+ neck injured and AIS1+ neck injured. A first analysis is similar to the analyses selected in the Cochrane review, adjusting for age, sex, motorised antagonist (yes/no). A second analysis restricts the dataset to cyclists who are at least injured in a body region other than head, face or neck (n=11 889), to sidestep the bias due to missing crash-involved but non-injured cyclists. This analysis moreover adjusts for more crash-force related variables.

Results Fully adjusted OR on the restricted dataset for wearing a helmet is 0.29, 95% CI=[0.13 to 0.56] for AIS3+ head injuries, 0.75, CI=[0.62 to 0.91] for AIS1+ head injuries, 0.71, CI=[0.58 to 0.86] for AIS1+ face injuries, 1.51, CI=[0.56 to 3.82] for AIS2+ neck injuries and 1.34, CI=[1.01 to 1.77] for AIS1+ neck injuries. The Cochrane-like analyses lead to the same conclusions except for the risk of AIS1+ neck injuries.

Conclusions The bicycle helmet protects against head and face injuries.