

# Fundación MAPFRE



Most cyclists' lesions are not serious, from a simple, superficial wound to the loss of consciousness or so severe that death results.



Only 79 countries have policies in effect for protecting pedestrians and cyclists by separating them from motor vehicles traveling at higher speed. In countries with higher income levels (69 percent) compared with 24 percent in countries with average or lower income levels (34 percent).



Head injuries are the cause of approximately three-fourths of all deaths of cyclists involved in accidents, and injuries to the face are also frequent.



The WHO indicates these are a result of traumatic brain injury (TBI)  
2/3 of serious injuries of cyclists that require hospitalization.  
3/4 of fatalities of cyclists.



## Figures from the Fundación MAPFRE study on cyclist' head injuries



TBI is **considered the leading cause** of death in 57 percent of the cyclist cases studied.



Furthermore, **46 percent of the fatal victims did not wear a protective helmet** at the time of the accident / 54 percent wore a protective helmet.

## Injuries

### Causes of the injury

Loss of control over the bicycle, a hole in the road, or a collision against another bicycle or a motor vehicle.

### Data on injuries

- High incidence of head injuries in urban settings.
- 85.6 percent of injuries occur when riding downhill.
- Of the cases resulting in injuries, 65 percent occurred during a forward-facing fall, reason for which the upper extremities and the head were affected.
- Falls sideways usually affect the legs.
- The profile of trauma suffered by mountain bikers is: 55 percent facial fractures, 22 percent dental fractures and 23 percent injuries to soft tissues.
- There is a close relationship between the existence of a head injury and more serious after-effects, leaves and hospitalizations.
- In random trials, helmets can reduce between 63 and 88 percent of all brain and head injuries for cyclists of all ages.
- Injuries to the middle and upper area of the face are reduced by 65 percent.

### Head injury

According to the studies completed at **Fundación MAPFRE**, the risk of suffering a head injury is 1.72 times greater in the case of cyclists not wearing a helmet, compared with cyclists wearing a helmet. As regards brain injuries, the risk is 2.3 times greater.

## Helmet specifications



1. Wearing a helmet would reduce the risk of a brain injury in two-thirds, or more, of these cases, and in a significant part of injuries to the middle and upper area of the face, although helmets do not prevent injuries to the lower area of the face.
2. A helmet must be approved or certified in the European Union. A helmet expires because the materials with which it is manufactured deteriorate over time due to the external agents it must withstand. Usually, the expiration date is shown on a sticker inside the helmet.
3. In the case of a blow that affects the helmet, it will no longer provide protection from subsequent blows because it loses its damping capacity and ability to absorb energy. Therefore, it must be replaced.

The minimum requirements a helmet must meet are:

### Ventilation

An aerodynamic study is important to permit the passage of air and cooling.

### Padded

The helmet must be protected by padding to cushion a blow in the event of a fall, absorb sweat and avoid abrasions.

### Visor

Eye protection.