

Fracture patterns in bicycle accidents. A descriptive national cohort study of fractures sustained in bicycle accidents in the Swedish Fracture Register 2015–2022

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Introduction

Cycling is a popular form of transportation, exercise and recreation. Bicycle accidents account for a majority of traffic related accidents in Sweden. Despite its widespread use, little is known about the fracture panorama resulting from bicycle accidents. The purpose of this study is to analyze fracture patterns of bicycle accidents in Sweden with regards to fracture types, sex, age and bicycle types.

Method

We retrieved data from the Swedish Fracture Register on all fractures caused by bicycle accidents for the years 2015 through 2022. The study population comprised both children and adults who had sustained one or more fractures in a bicycle accident as defined by ICD 10 causal codes.

Results

The study included 33 384 fractures (25 960 in adults and 7424 in children) in 30 815 patients. The mean age at fracture was 41.6 years (SD 22.5). The majority of the fractures (62.7%, n=20 932) were sustained by a low energy mechanism. In children wrist fractures (44.4%) clearly dominated, whereas in adult men fractures of the clavicle (22.8%), the hand (19.4%) and the proximal forearm (13.1%) and in women fractures of the wrist (18.4%), the proximal forearm (17.3%) and the hand (13.2%) predominated. As to be expected, fractures were more common during the warm season.

Conclusion

We found that bicyclists predominantly sustained fractures of the upper limb and by low energy mechanisms during summer. The fracture pattern differed by age and sex and energy mechanism.