

## A RETROSPECTIVE ANALYSIS OF FACIAL FRACTURE ETIOLOGIES

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### ABSTRACT:

**Purpose:** Assessment of mechanism of injury and type and location of the facial injury.

**Material and Methods:** The medical records of 276 patients with 216 facial fractures were retrospectively analyzed. Fracture patterns were classified based on the presence or absence of fractures of the orbit, zygoma, maxilla, mandible and nose.

**Results:** The most common etiology of trauma was assault (42.6%) followed by car accident (23.1%), fall (16.2%), sports (5%), occupational (2%), and gunshot wound (0.9%) (fig. 1). The most common fracture type was mandible fractures (31.1%), followed by nasal bone fracture (29.3%) (fig. 2). Car accident was found to be a significant predictor of panfacial fractures or associated injury, as was GSW. Sports injuries were a significant predictor of isolated upper midface fractures, and assault was a significant predictor for isolated mandible and nasal bones fractures. Car accident and GSW each were found to lead to significantly higher severity of injury than assault, fall, and sports.

**Conclusion:** The results confirm intuitive aspects of the etiology of facial fractures that have been anecdotally supported in the past.

**Key words:** etiologies of trauma, mechanism of trauma, facial fracture

### PURPOSE:

The aim of this study is to estimate the risk factors and cause of accident. We sought to evaluate the frequency and distribution of maxillofacial injuries and to compare different etiology agents over the 4-year period at the University Hospital 'St. Anna'.

### METHODS:

Variables of interest included location of traumatic event (location and type of fractures), mechanism of injury, patient's age and gender, comorbidities on presentation, presence and location of associated injuries. 276 patients with maxillofacial fracture were observed.

The causes of injuries were classified into categories

as follows: sports, traffic, industrial accidents, assault and activities of daily living.

### RESULTS:

The most common cause of injuries was assault followed by motor vehicle accidents, activities of daily living, sporting accidents, and work related accidents respectively.

Interpersonal violence and road traffic accidents were the most frequent causes of facial fractures. Alcohol consumption was associated with just over 1/3 of all cases, and was strongly associated with interpersonal violence. Because maxillofacial surgeons routinely assess a patient's head, neck and mouth, they have a unique and excellent opportunity to recognize whether or not a patient is being abused. There should be collaboration of the dental community in the effort to prevent domestic/intimate partner violence and provide more information about the signs and symptoms of domestic violence injuries, including strangulation, which is often overlooked by medical and dental professionals.

Group-specific analysis revealed a significantly higher proportion of traffic accidents in the study group.

There is a need of an increase in the public health effort to educate individuals about the dangers of motor vehicle and to provide proper safety guidelines before the purchase of a vehicle and to prevent driving under influence of alcohol or drugs.

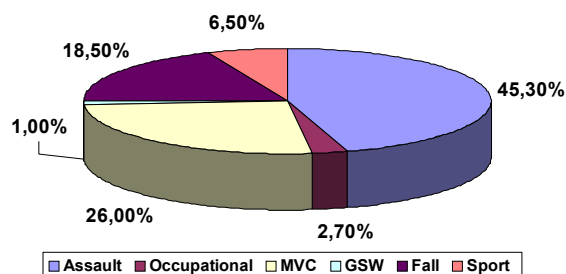
Sports and leisure-related accidents ranked with a particularly low incidence in the study group.

Industrials accidents played a less important role. The highest incidence of maxillofacial injury was found among construction workers, followed by craftsmen and office employees. The most frequent cause of injury was a blow, followed by falls and falls over obstacles respectively. The probability of sustaining maxillofacial trauma at work is correlated to the nature of the occupation. Individuals (mostly men) using tools or machines at work are exposed to a much higher risk of work-related maxillofacial trauma.

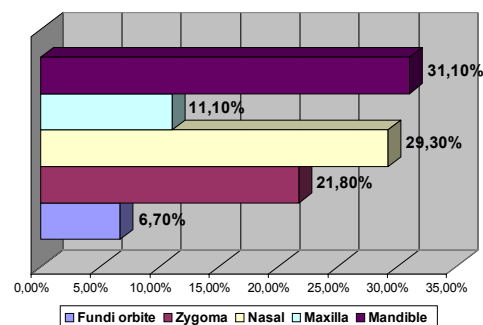
## CONCLUSION:

Our study would allow having the following: surveillance on injuries, a valid source of information for the public and legislators so as to implement preventive measures for high risk activities, and date for retrospective or prospective studies.

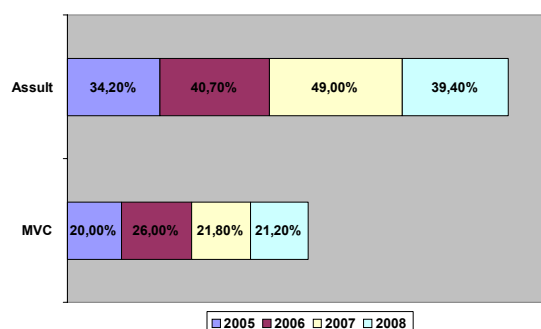
**Figure 1.** Mechanism of injury



**Figure 2.** Location of trauma



**Figure 3.** Part of total number of causes for the period



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