

Zygomatic Arch Fracture Classification and Epidemiologic Analysis

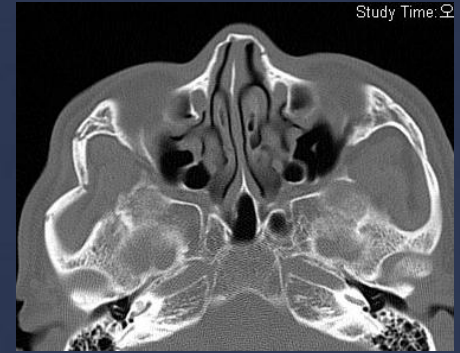
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“Nothing to Disclose”

Zygomatic Arch Fracture

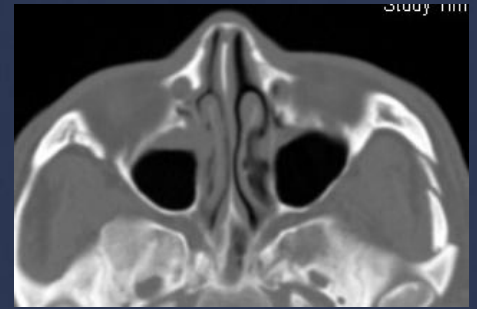


- Zygoma
 - most prominent portion of face
 - easily injured by trauma.

- Since 1927 “**Sir Gillies**”
 - importance of malar prominency
 - introduced the closed reduction



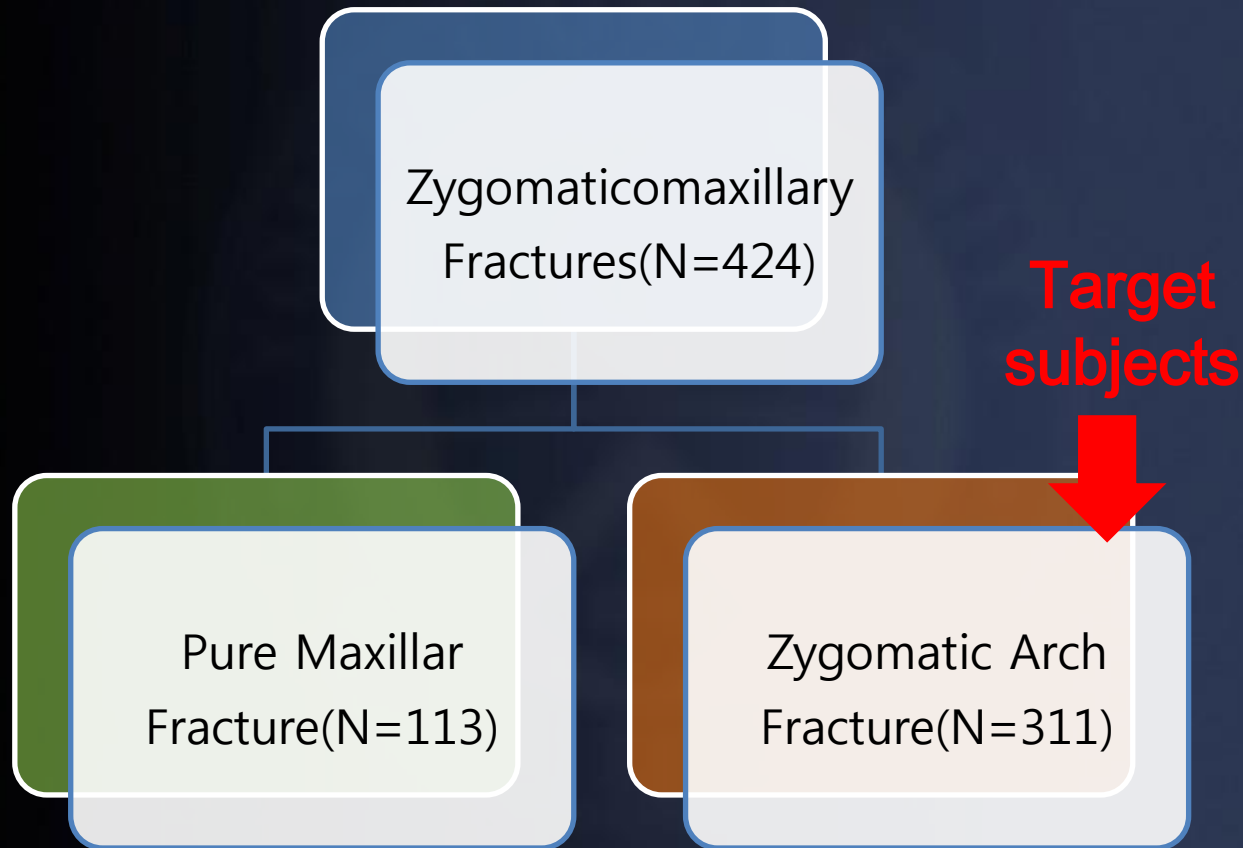
Zygomatic Arch Fracture



- Numerous reports about zygomatic arch reduction
- No well organized classification and treatment algorithms
- We made a fracture type classification according to
 - injury vector
 - surgical approach.



Material and Methods



Study Duration: 2007~2010
Retrospective medial record & CT review

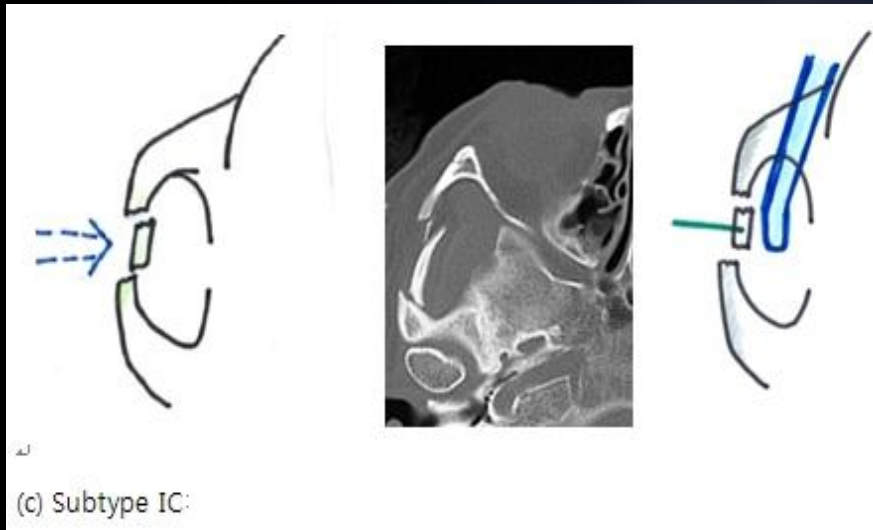
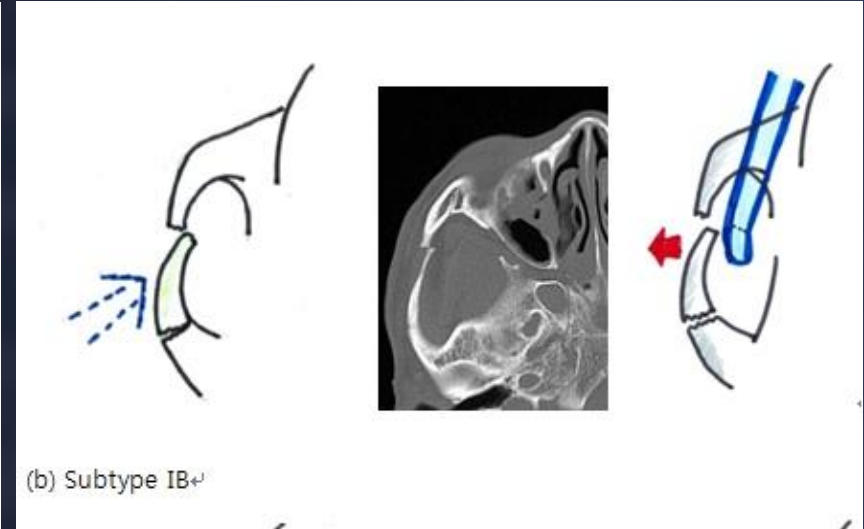
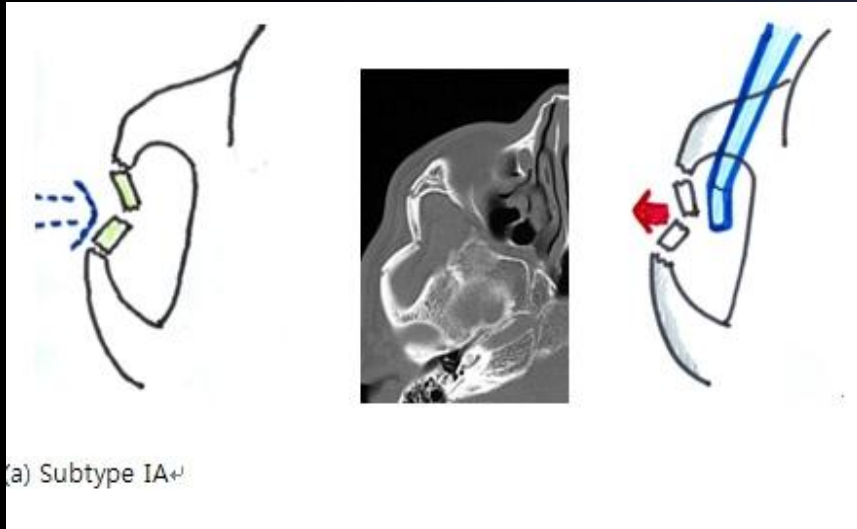


Results

- We classified the zygomatic arch fracture into 4 groups
- Type I: Isolated Zygomatic Arch Fracture
- Type II: Rotation Fracture
- Type III: Rotation + Impaction
- Type IV: Communitated Fracture



Type I: Isolated Zygomatic Arch Fracture



Blue dotted arrow: trauma force
Red arrow: rotation vector
Green line : inserted K-wire on zygoma segment
Blue device : Dingman elevator



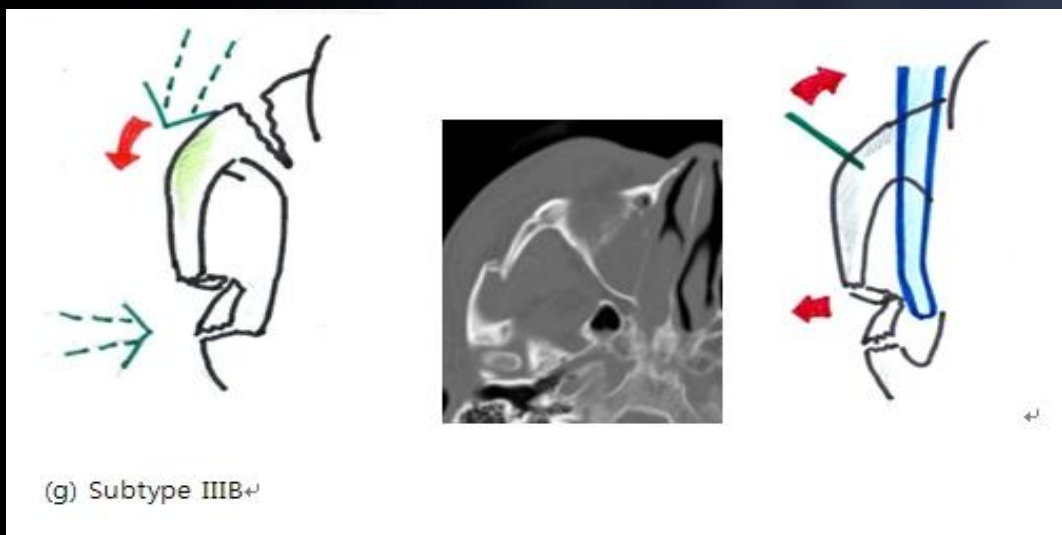
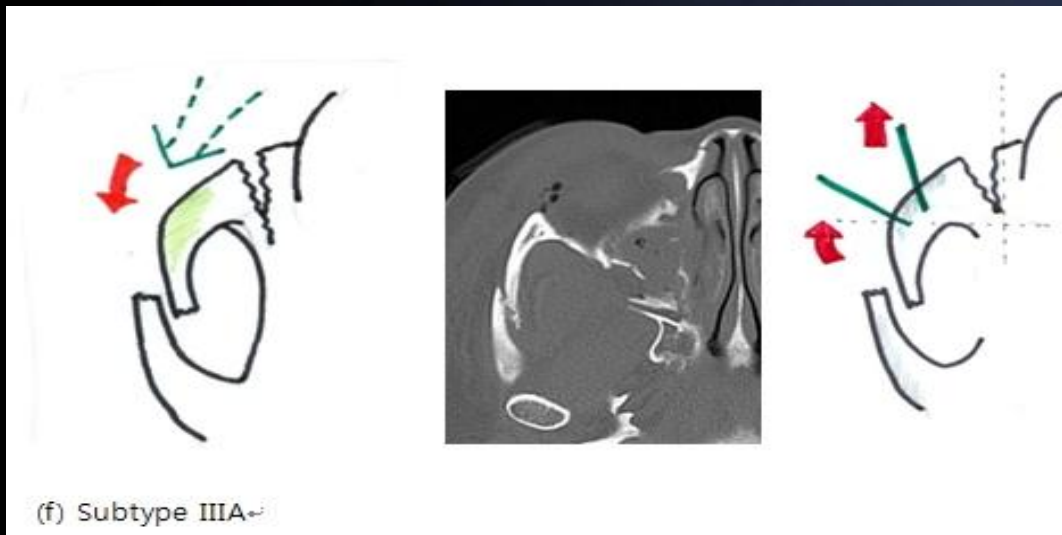
Type II: One Vector Rotation Fracture



Blue dotted arrow: trauma force
Red arrow: rotation vector
Green line : inserted K-wire on zygoma segment
Blue device : Dingman elevator



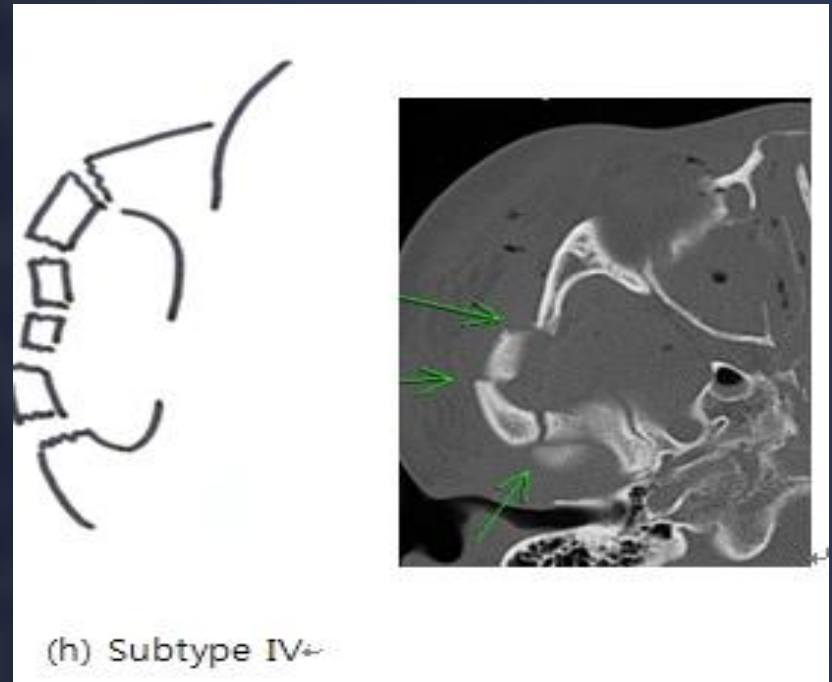
Type III: Two Vectors Rotation + Impaction



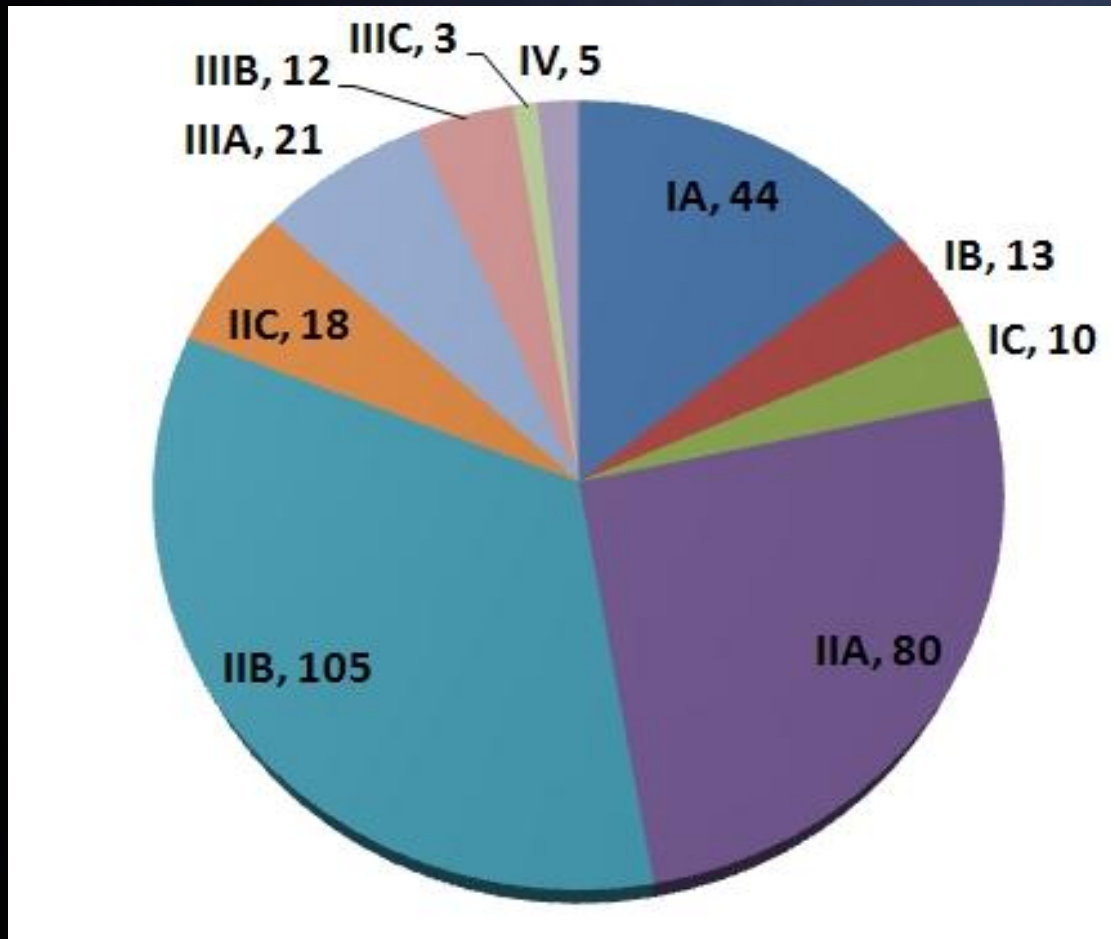
Blue dotted arrow: trauma force
Red arrow: rotation vector
Green line : inserted K-wire on zygoma segment
Blue device : Dingman elevator

Type IV: Communitated Fracture

Usually Open Fractures



Distribution of Fracture Subtypes

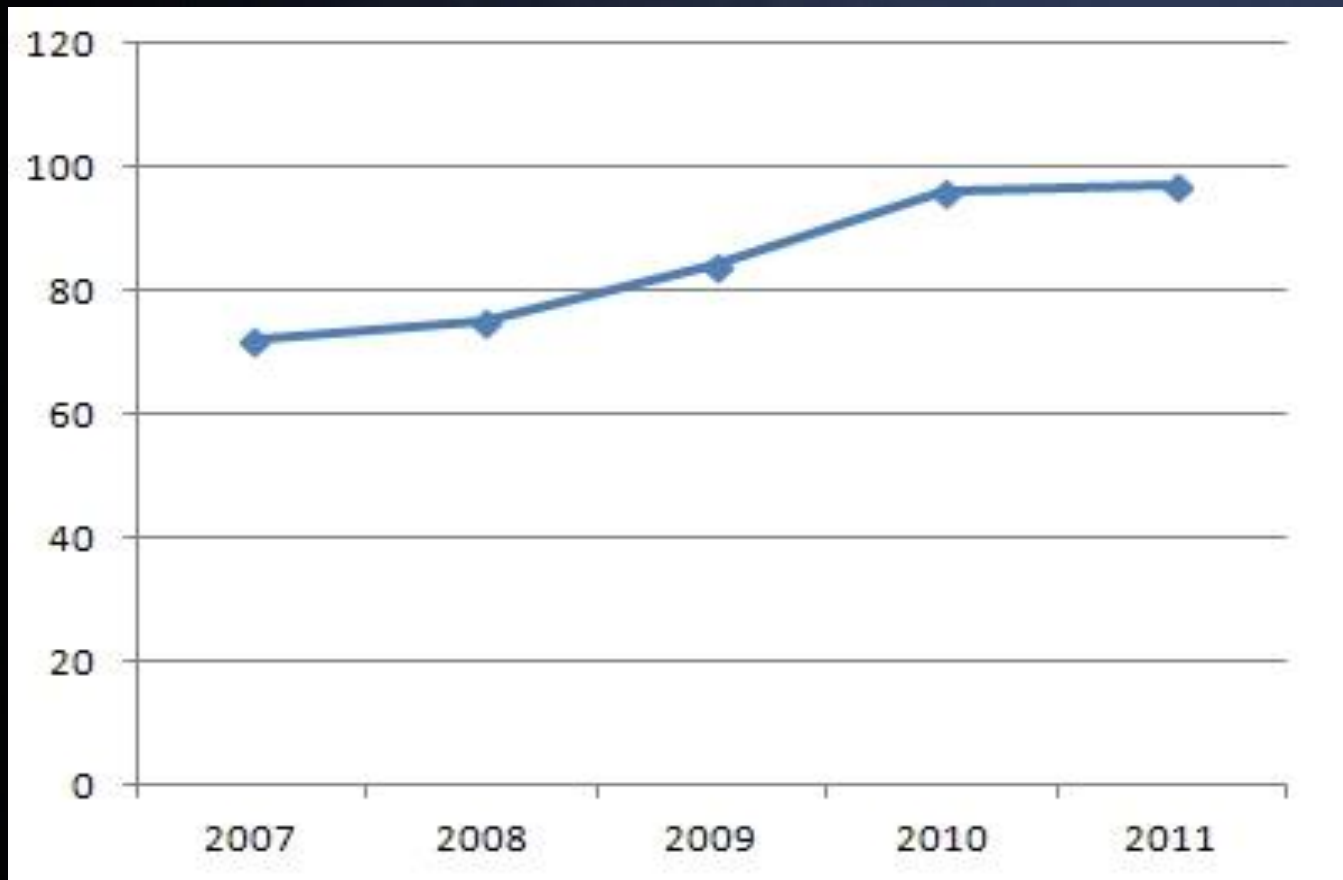


Unit: Type, Number of Patients



Incidence of zygomatic arch fracture during recent 5 years

Incidence of zygomatic arch fracture

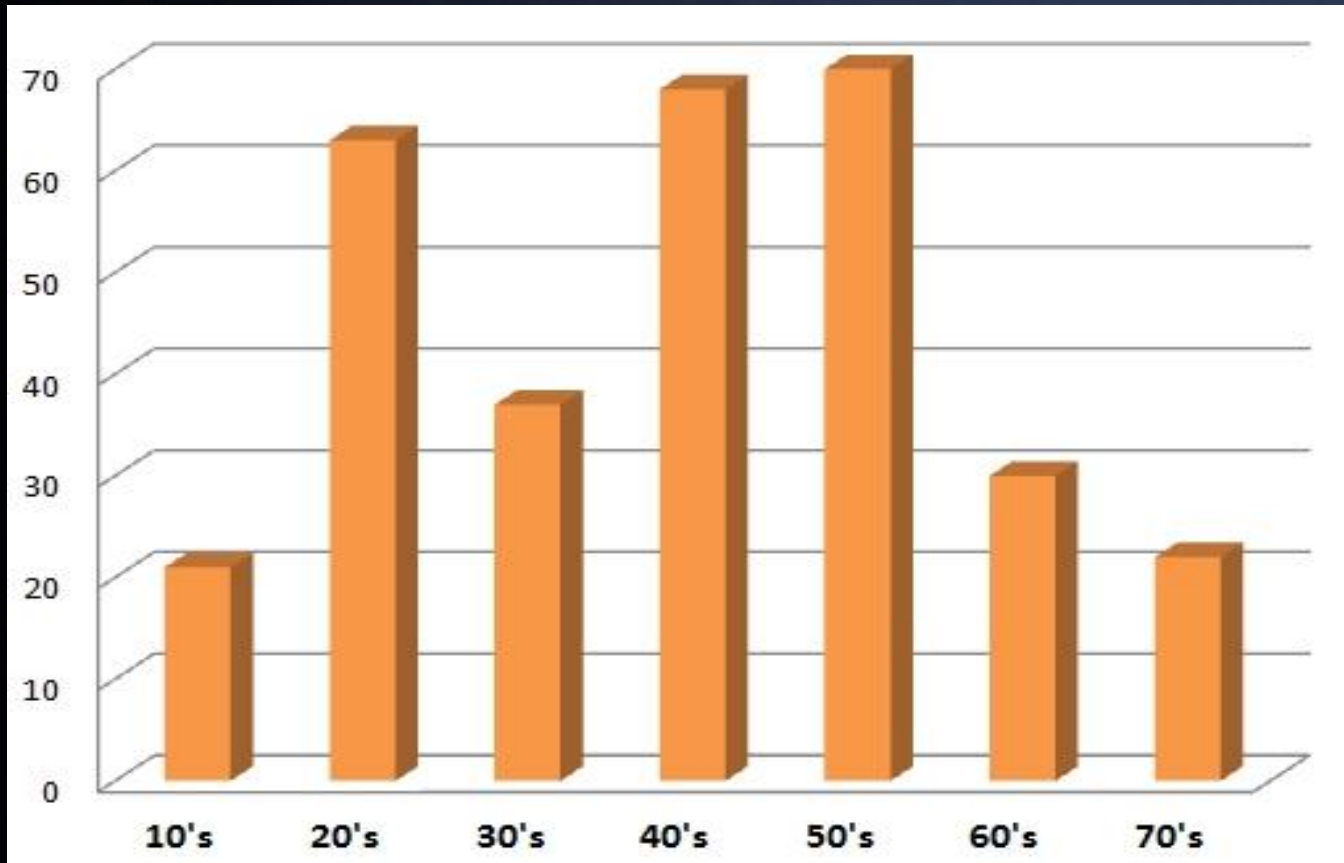


Years



Age distributions

Incidence of zygomatic arch fracture

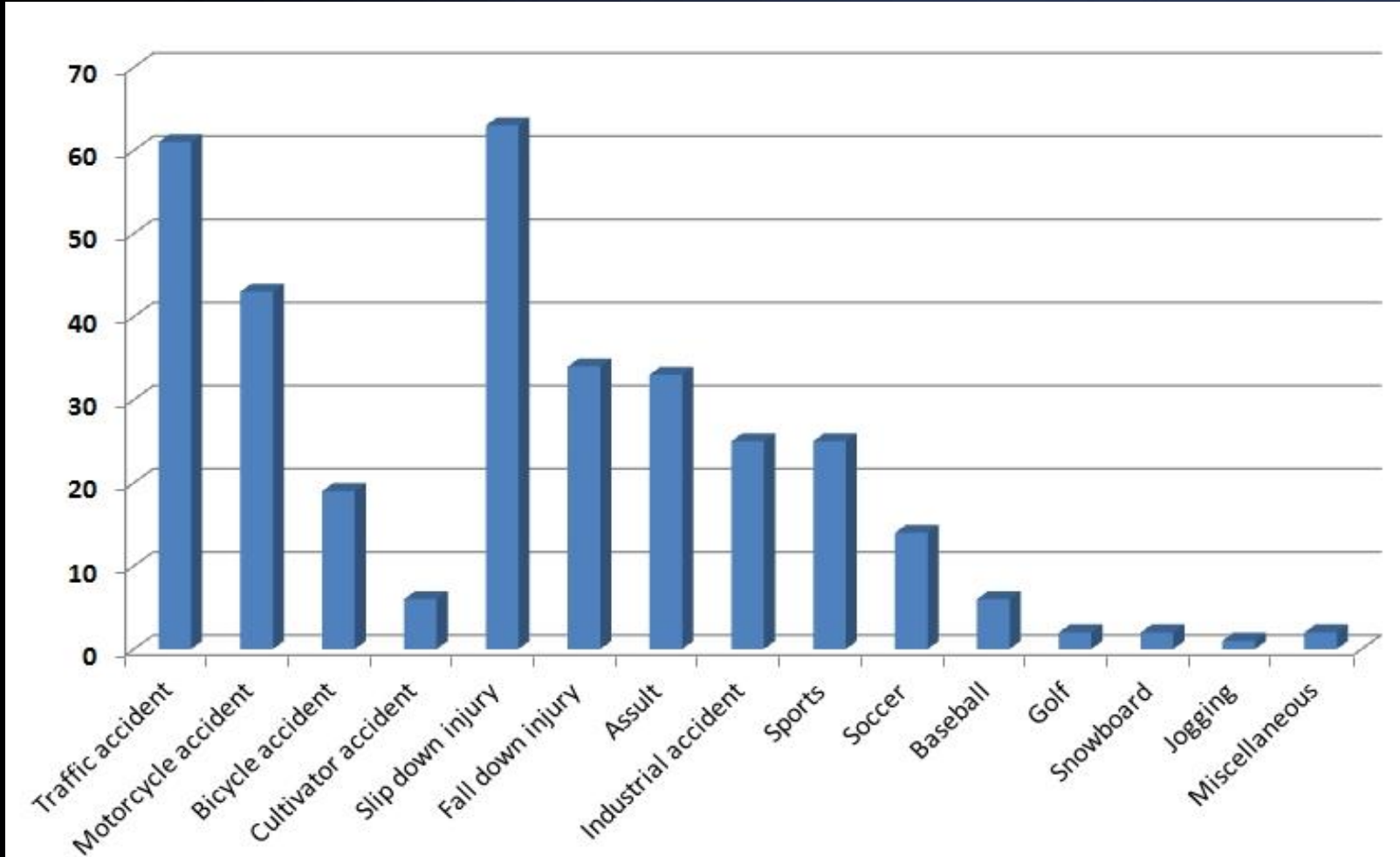


Age



Cause of Trauma

Incidence of zygomatic arch fracture



Cause of trauma



Conclusion

- Most of Zygomatic Arch fractures can be treated with Closed Reduction
- Comprehensive understanding about trauma vector can lead to
 - > reduce the extra efforts such as open reduction.



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