Facial Trauma

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Topics Covered

- Etiology / Concomitant injuries
- Facial Trauma Emergencies
- Diagnosis / Approaches to specific injuries

Facial Trauma Etiology and Concomitant Injuries

- **Motor vehicle collision** > assault, bicycle, home, industrial, athletic
- male : female 2:1
- Mortality 5.9% overall, 17% if head injury
  - of 73,000 patients admitted with craniofacial injuries; Lee, et al J Craniofac Trauma 2000

Facial Trauma Etiology and Concomitant Injuries

- 11% of facial trauma patients have concomitant injuries
  - 8% extremities
  - 5% neurosurgical
  - 4% eye
  - 1% spine

- **Motor Vehicle Collisions**
  - > 50% head, face and c-spine

Lee, et al J Craniofac Trauma 2000
Lim et al, Br J Plastic Surgery, 1993
Facial Trauma: Emergencies / Life Threatening Injuries

- Airway
  - oral intubation
  - nasal intubation
  - tracheostomy

- Hemorrhage

- Occult
  - eye
  - brain
  - c-spine
Facial Trauma: Emergencies / Life Threatening Injuries

- Hemorrhage

Facial Trauma: Diagnosis

- History / Physical
- CT scan

Facial Trauma: Soft Tissue

- Facial Nerve
- Parotid Duct

Ho et al., JPRAS, 2006
• Diagnose bone and soft tissue injuries
• Judicious debridement
• Repair nerve / duct when indicated
Facial Nerve Injuries
Laceration / Avulsion

Parotid Duct Injury

Parotid Duct Injury
Facial Fracture Management: General Principles

- Diagnosis / Plan
- Timing
  - Adults 2 weeks
  - Children 1 week
- Exposure
- Anatomic reduction / Occlusion
- Immediate bone grafting when indicated
- Rigid fixation with plates and screws
- Proper soft tissue repositioning

Parotid Duct Repair

Incisions
Upper Face / Frontal Sinus

Anterior Table Only
Frontal Sinus / NOE

- CSF Leak?
- Nasofrontal Duct Transected?
Maxillary Fractures

Le Fort I
Le Fort II
Le Fort III
Facial Buttresses

Assault

Zygoma, Le Fort I, Mandible
Hemi Le Fort I, II, III
Gunshot Injuries
GSW Face

GSW Face – 4 weeks post injury
Summary

- Motor Vehicle Accident
- Recognize and address life threatening injuries
- Accurate Diagnosis of soft tissue and bone injury
- Early, definitive treatment