

MAXILLOFACIAL INJURIES
From “Head to Toe”
(Scalp to Trachea)

Stephen Gelfman D.D.S., M.D.

Associate Professor

Albert Einstein College of Medicine



Skin

Connective Tissue and Vessels

Aponeurotic layer

Loose Connective Tissue

Pericranium (Periosteum of Skull)

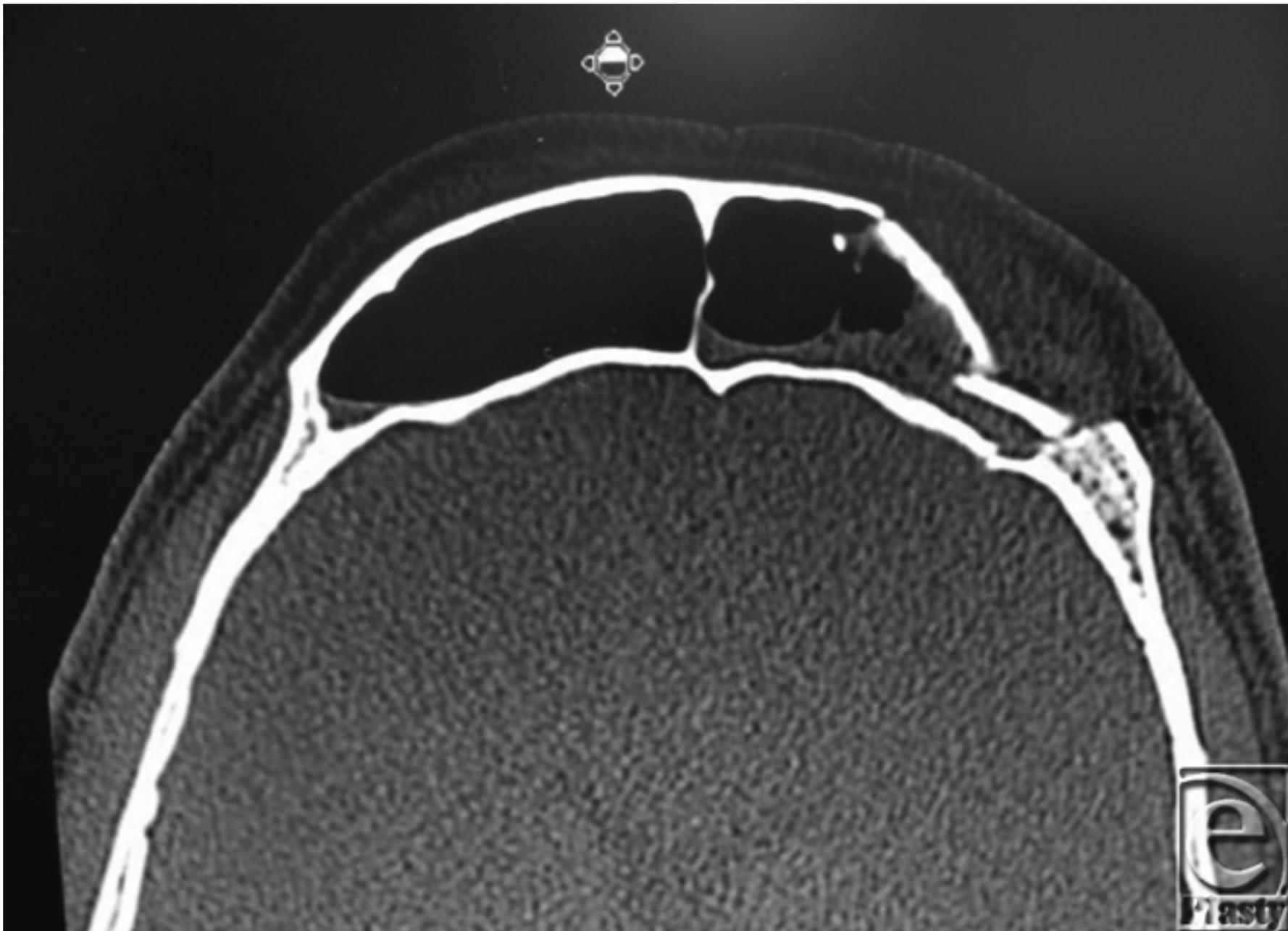


Laceration healing

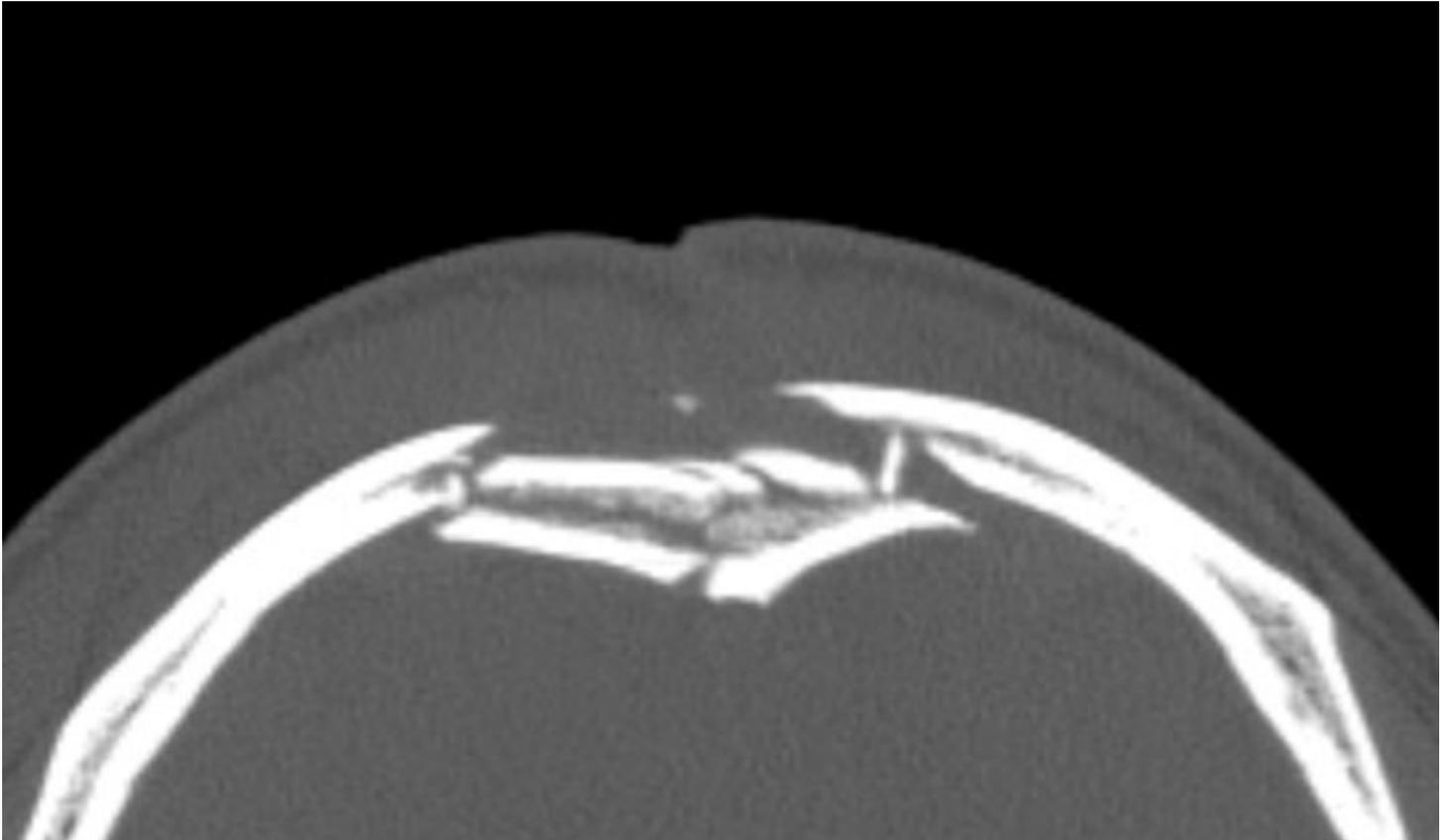
- Tensile strength
- 30 days: 50%
- 60 days: 75%
- 90 days: 90%
- Approaches 99% at one year, never reaches 100%



Don't "Cut Me"







B Strong



a

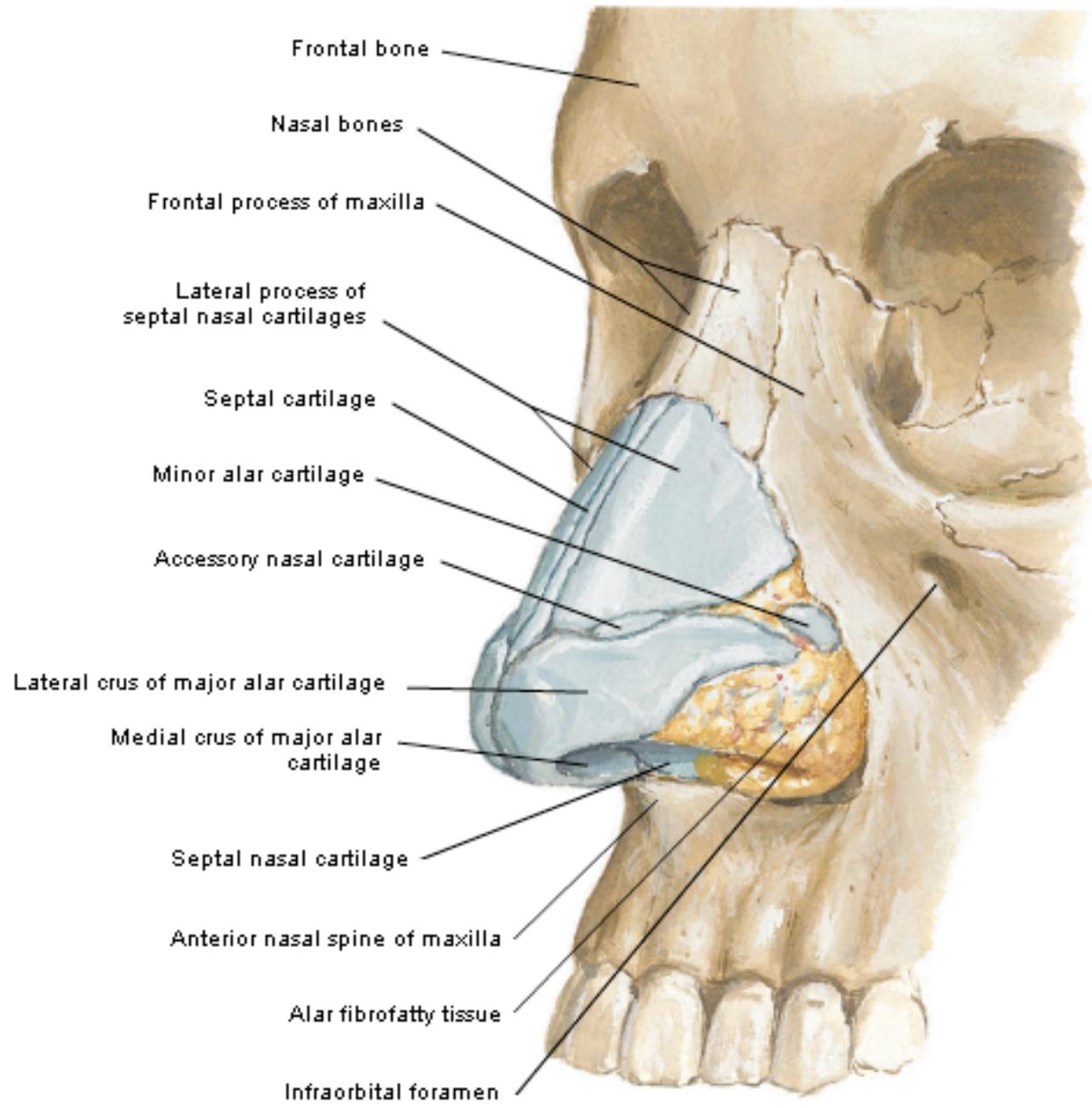


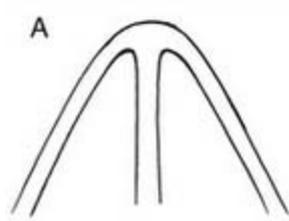
b



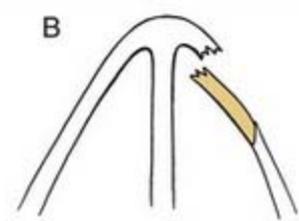
Facial Fractures

- Most common: nasal bones, orbital floor blow out fractures, zygomatic complex, maxilla and mandible
- Need a CT scan for best diagnosis (panoramic for mandible)
- Mandible and dentoalveolar fractures require more immediate treatment compared to other facial fractures (infection)

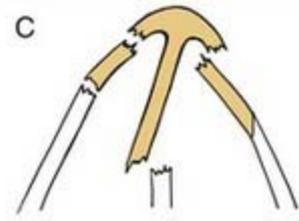




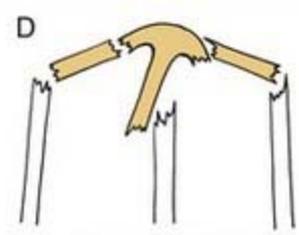
Normal



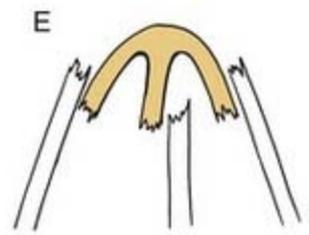
Unilateral



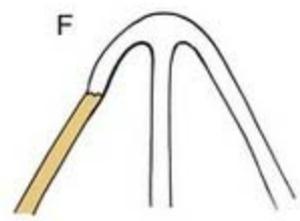
Bilateral



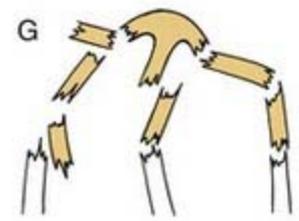
Open-book (splayed)



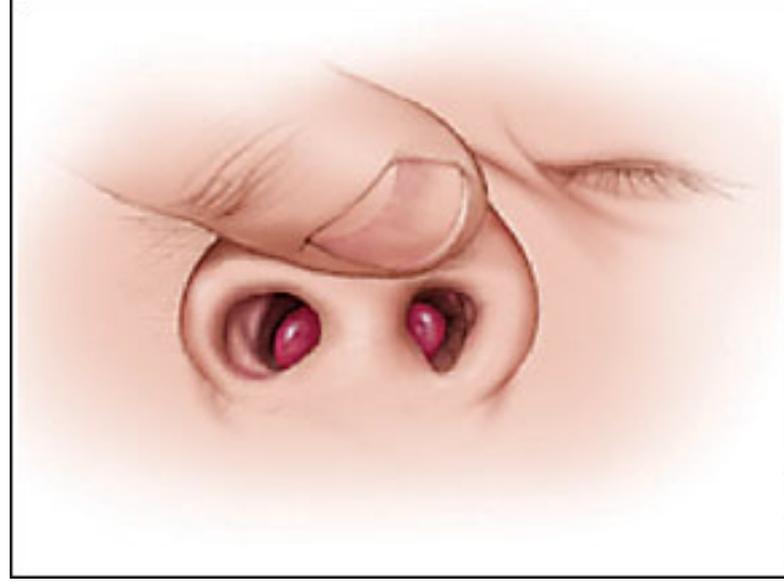
Impacted



Greenstick



Comminuted



© 2004 CHRISTY KRAMES



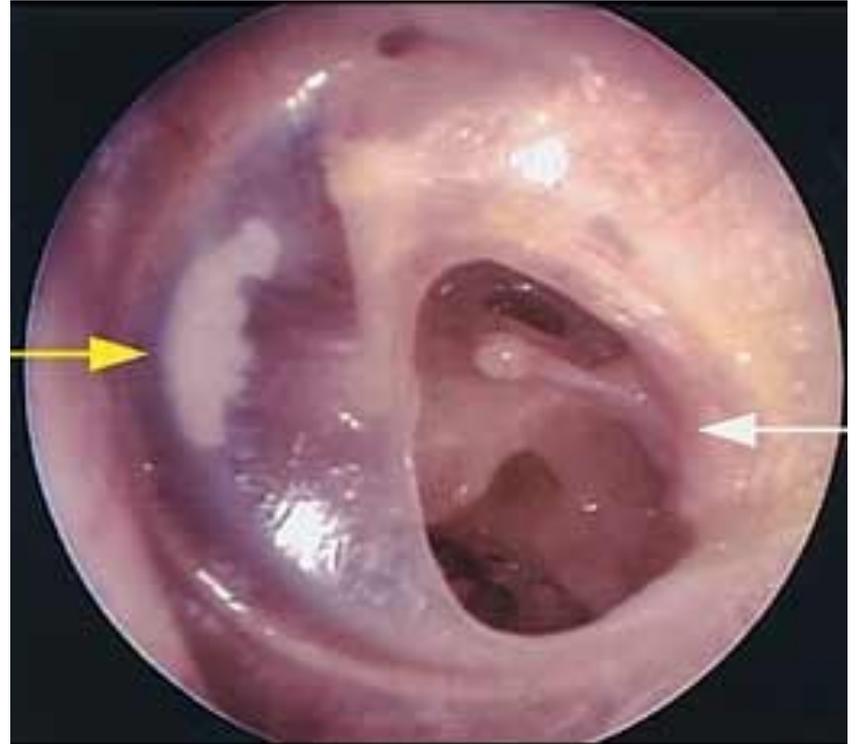
Blood in the Ear Canal

- Usually a result of blood from another location/or the other boxer
- At worst represents a perforated tympanic membrane
- Only able to evaluate the tympanic membrane with an otoscope

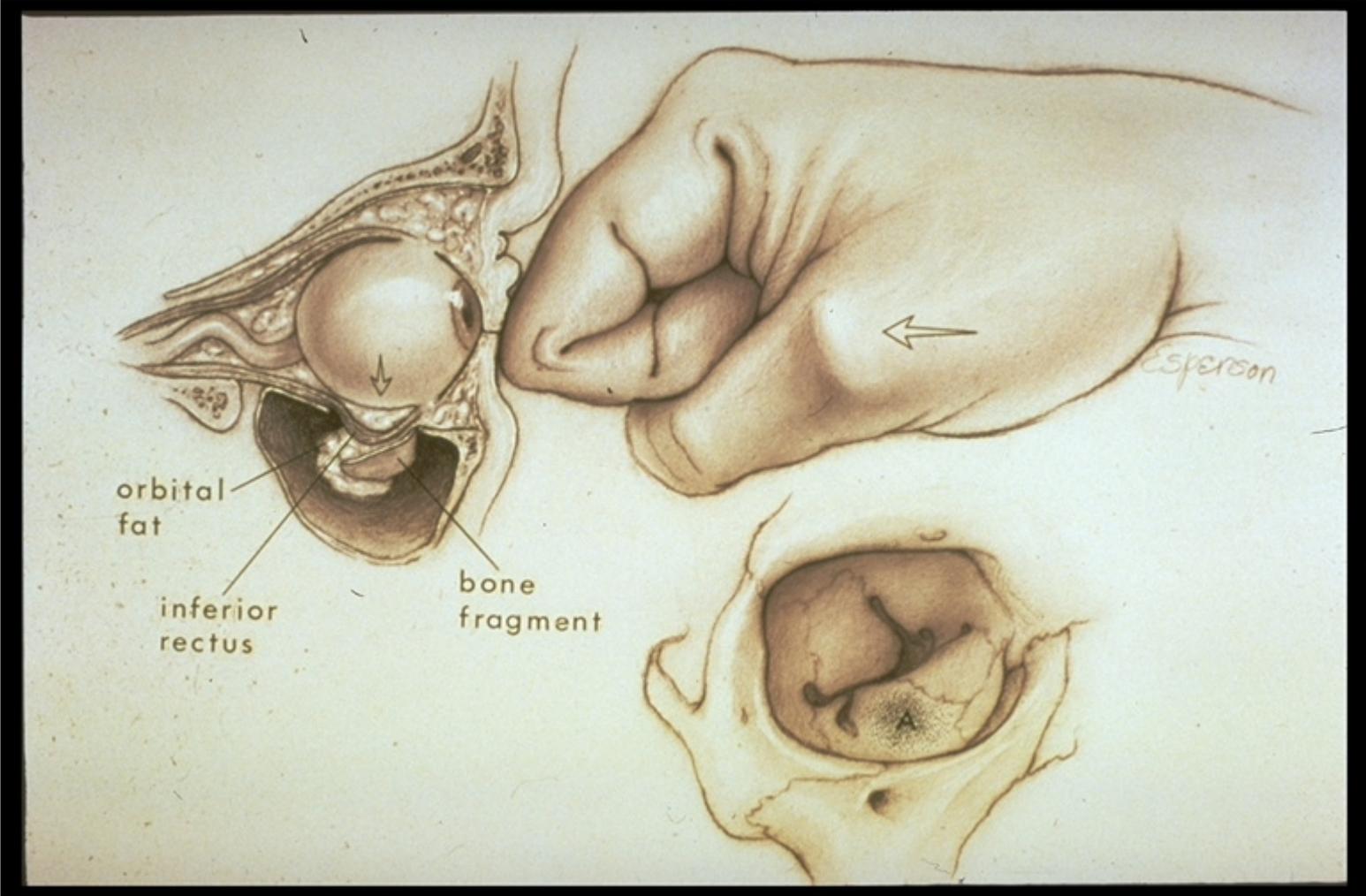
Perforated Tympanic Membrane

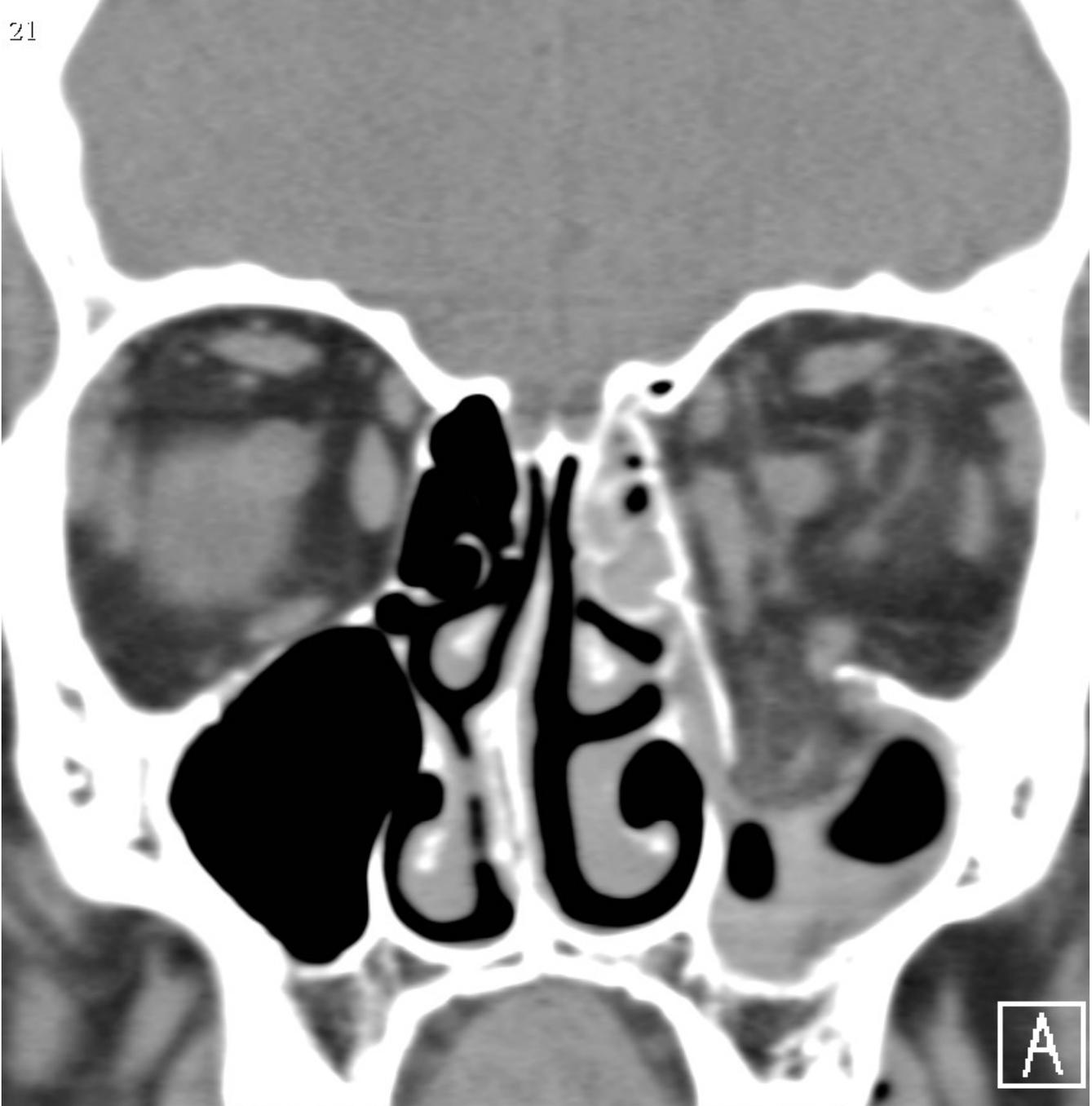


Intact tympanic membrane



Perforated tympanic membrane





A



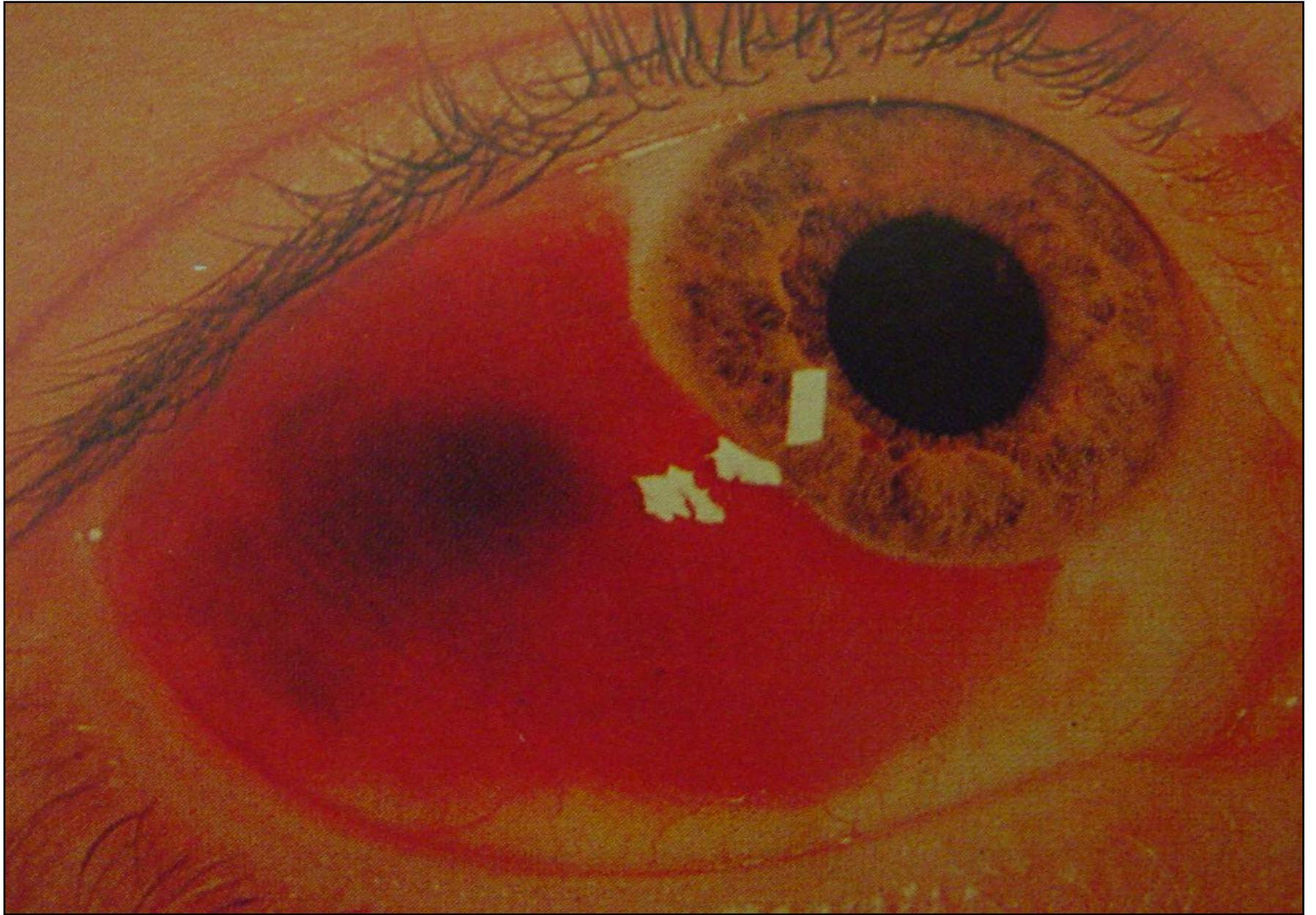


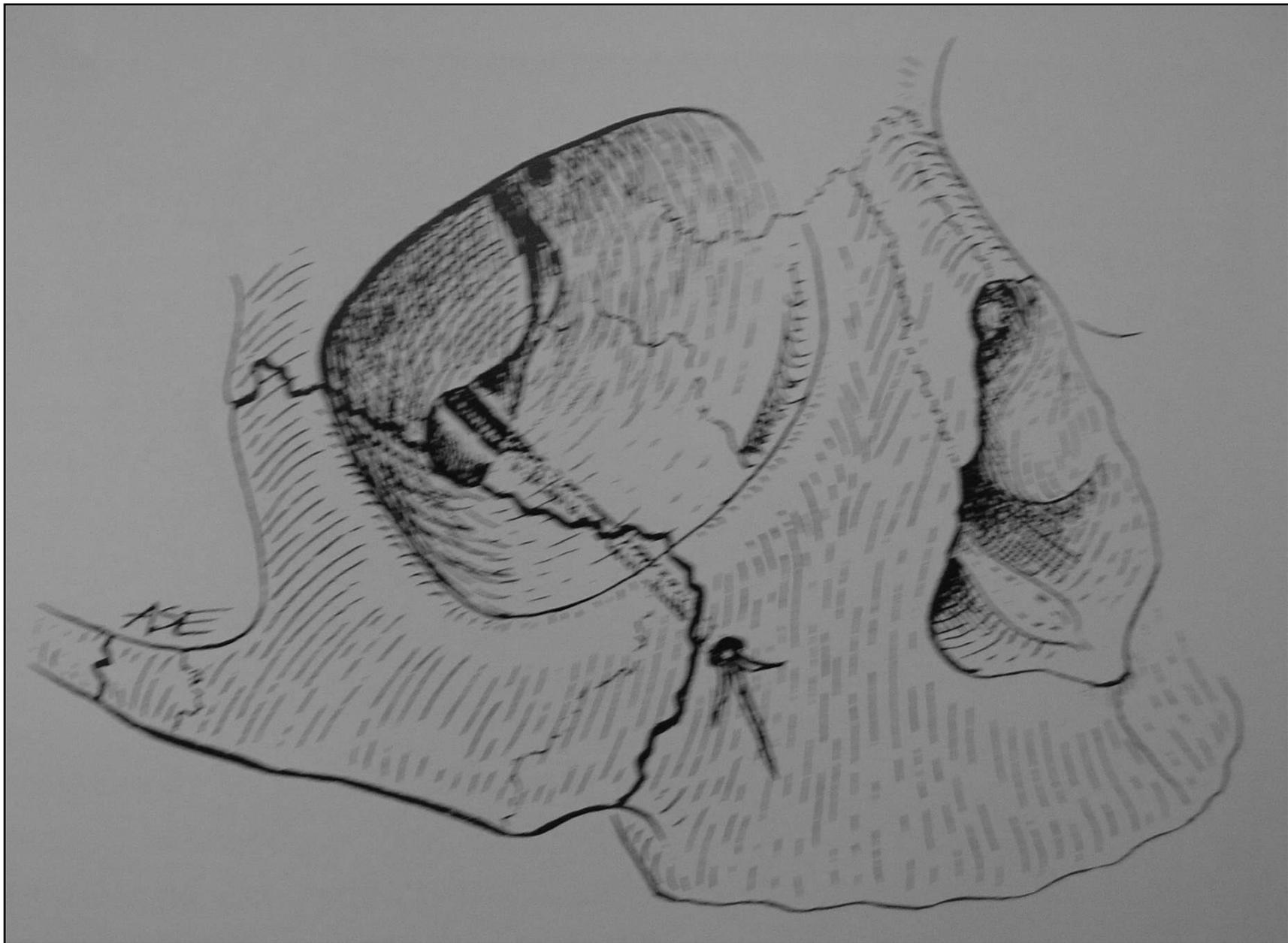
Signs and symptoms of zygomatic fractures

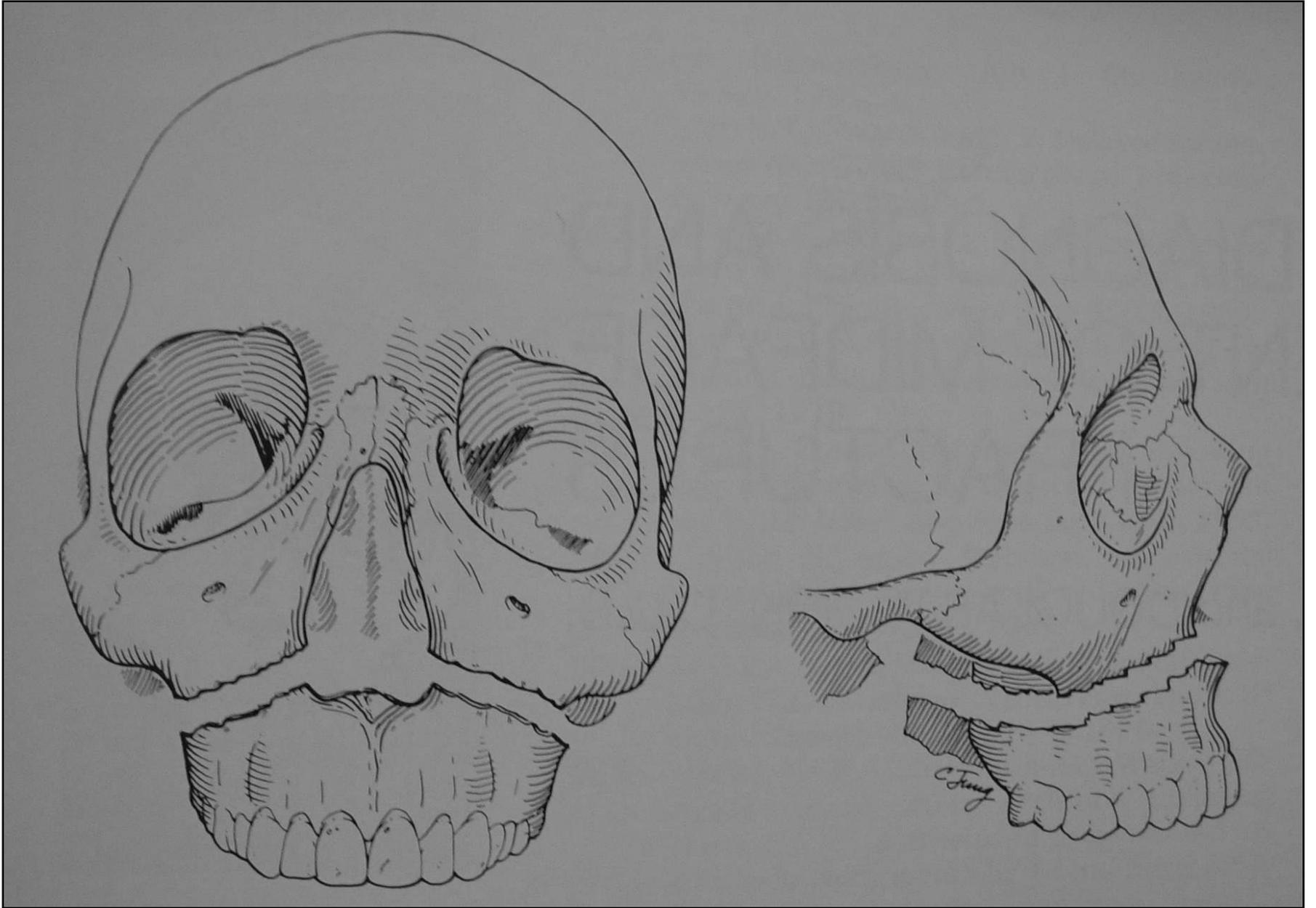
Orbital signs and symptoms:

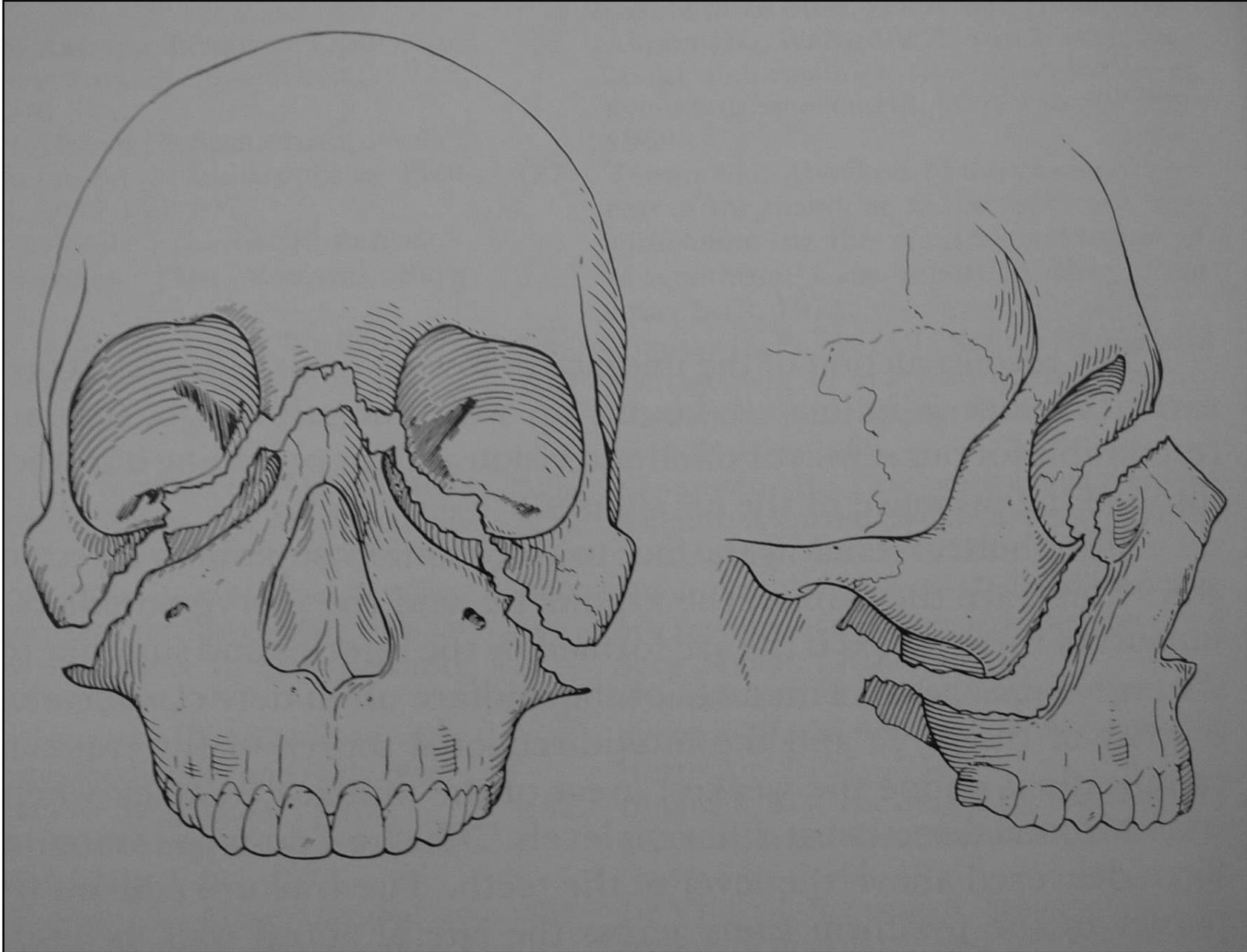
- ◆ Proptosis
- ◆ Enophthalmos
- ◆ Double vision
- ◆ Scleral show
- ◆ Subconjunctival hemorrhage
- ◆ Periorbital oedema.

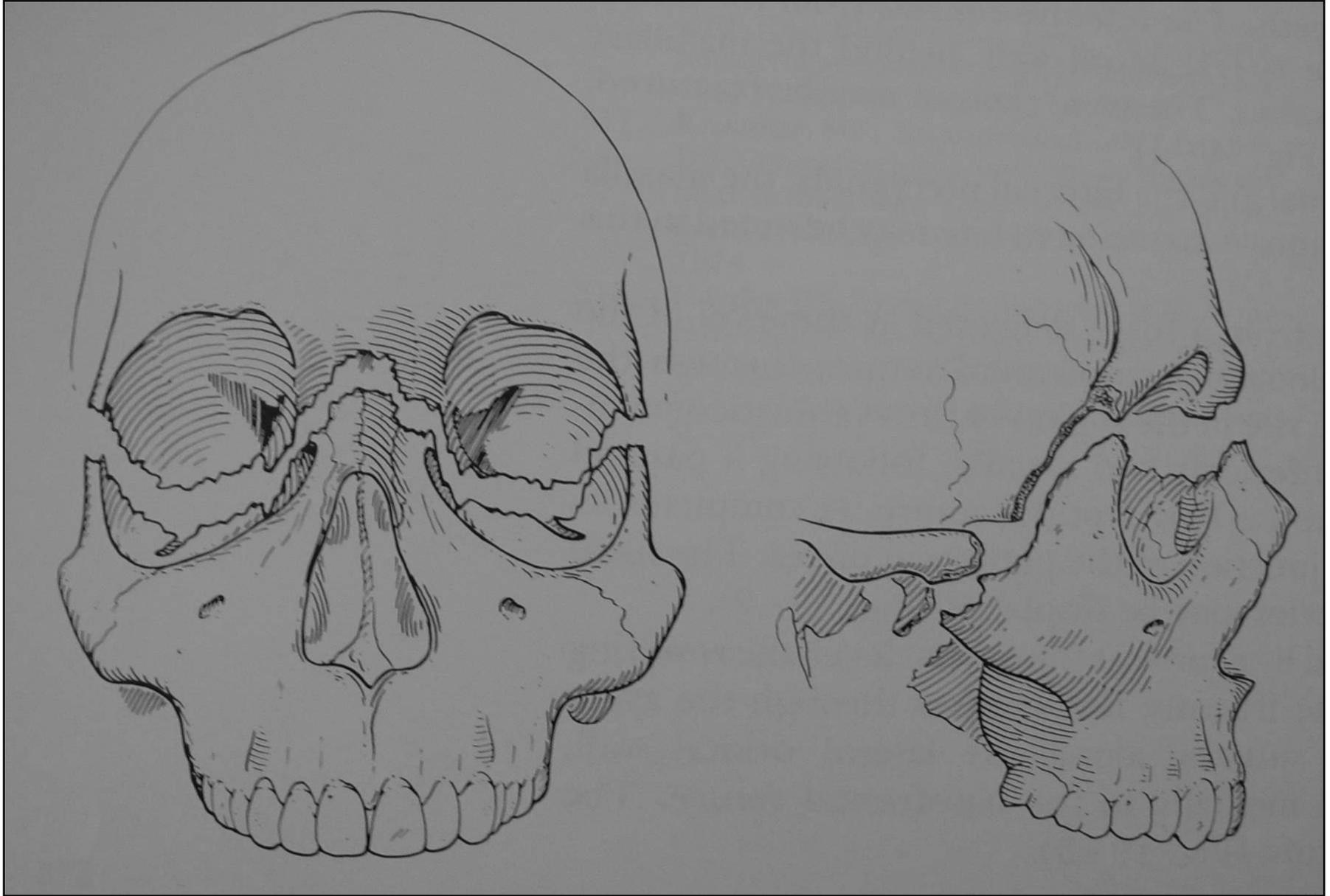


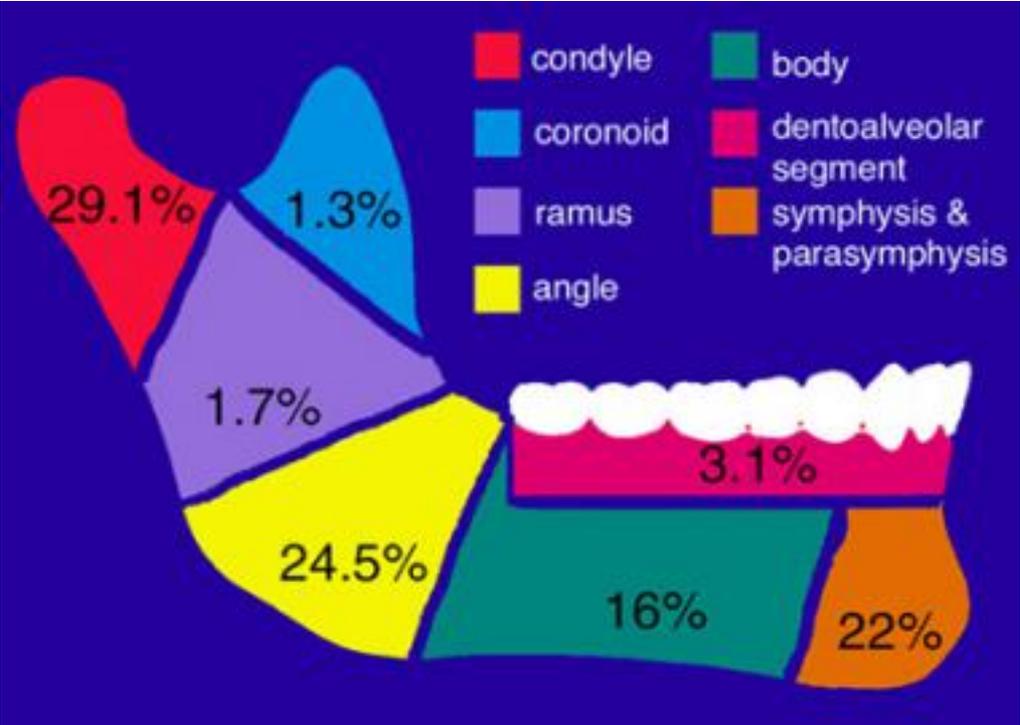






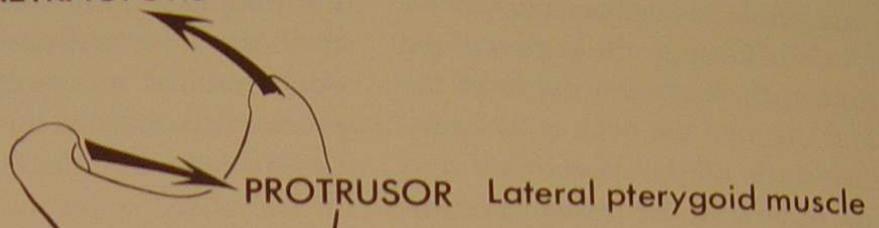






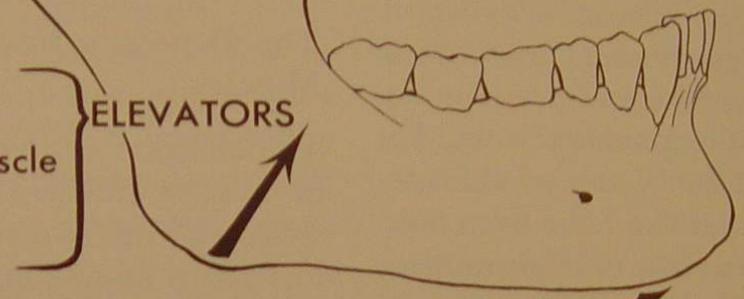
Posterior part of temporal muscle }
Deep part of masseter muscle }

RETRACTORS



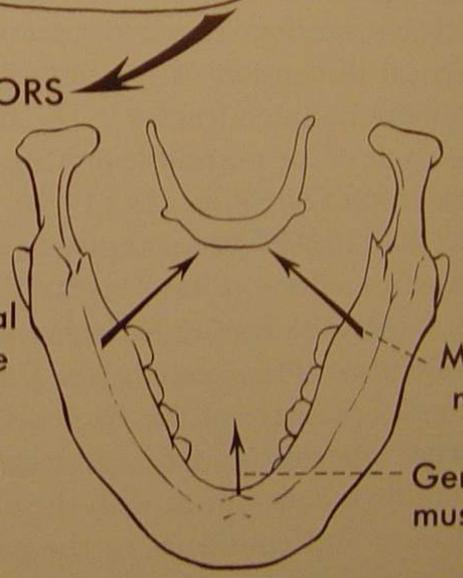
Masseter muscle }
Medial pterygoid muscle }
Anterior part of temporal muscle }

ELEVATORS



Digastric muscles }
Geniohyoid muscles }

DEPRESSOR-RETRACTORS



Temporal muscle

Temporal muscle

Lateral pterygoid muscles

Mylohyoid muscle

Geniohyoid muscles

Medial pterygoid muscle

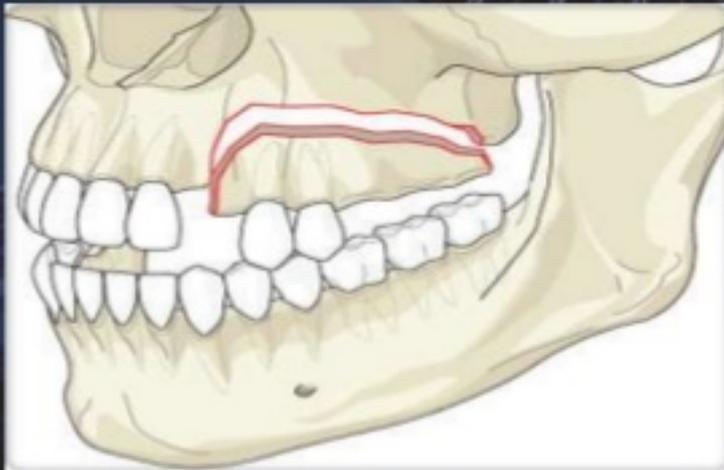
Medial pterygoid muscle

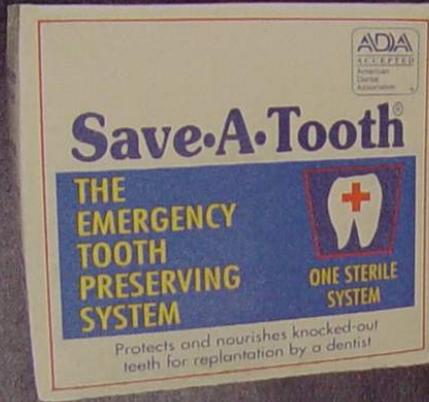
Digastric muscles }
Geniohyoid muscles }



Dentoalveolar fractures

- *Damage to the teeth*
- *Damage to the lip*
- *Alveolar fracture*





Classification of laryngeal injury

- **Group 1** → ○ Minor endolaryngeal hematoma :
 - Minimal airway compromise
- **Group 2** → ○ Endolaryngeal hematoma/oedema associated with compromised airway/non-displaced fracture
- **Group 3** → ○ Massive endolaryngeal edema with airway obstruction/mucosal tears with exposed cartilage/immobile vocal cords
- **Group 4** → ○ Same as group 3 with more than two fracture lines on imaging/massive dearangement of endolarynx
- **Group 5** → ○ Laryngotracheal separation