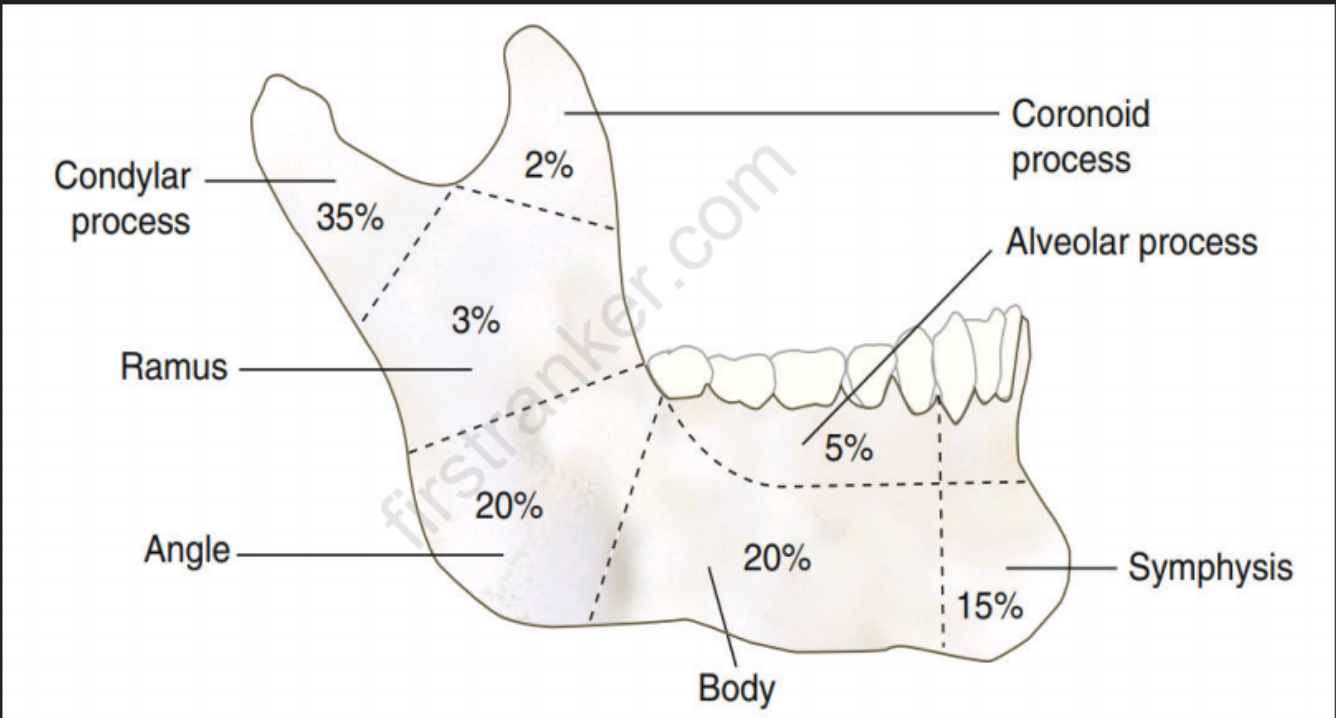


# FRACTURES OF MANDIBLE

Anagha K Karun  
Roll number: 13

- Classified according to their location
- Occurrence : **Condylar** fractures > fractures of the **Angle** > **Body** > **Symphysis**  
, (mnemonic CABS).
- Most of the mandibular fractures are the result of direct trauma;
- however, **Condylar** fractures are caused by **indirect** trauma to the chin or opposite side of the body of mandible.
- **Displacement of mandibular fractures** is determined by
  - (i) the pull of muscles attached to the fragments,
  - (ii) direction of fracture line
  - (iii) bevel of the fracture



## CLINICAL FEATURES

- In **fractures of condyle**, **if fragments are not displaced**, pain and trismus are the main features and tenderness is elicited at the site of fracture.
- **If fragments are displaced**, there is in addition Malocclusion of teeth and deviation of jaw to the opposite side on opening the mouth.
- Most of the **fractures of angle, body and symphysis** can be diagnosed by intraoral and extraoral palpation.
- Step deformity, malocclusion of teeth, ecchymosis of oral mucosa, tenderness at the site of fracture and crepitus may be seen.

## DIAGNOSIS

X-rays useful in mandibular fractures are

- PA view of the skull (for condyle),
- right and left oblique views of mandible and
- the panorex view

## TREATMENT

- In **closed methods**, interdental wiring and intermaxillary fixation are useful. External pin fixation can also be used.
- In **open methods**, fracture site is exposed and Fixed by direct interosseous wiring. This is further strengthened by a wire tied in a figure of eight manner.
- Compressions plates are available to fix the fragments.
- With their use, prolonged immobilization and intermaxillary fixation can be avoided.



- Immobilization of mandible beyond 3 weeks, in Condylar fractures, can cause **Ankylosis** of temporomandibular joints. Therefore, intermaxillary wires are removed and jaw exercises started
- If occlusion is still disturbed, intermaxillary wires are reapplied for another week and the process repeated till the bite and jaw movements are normal



# FRACTURES OF ZYGOMA (TRIPOD FRACTURE)

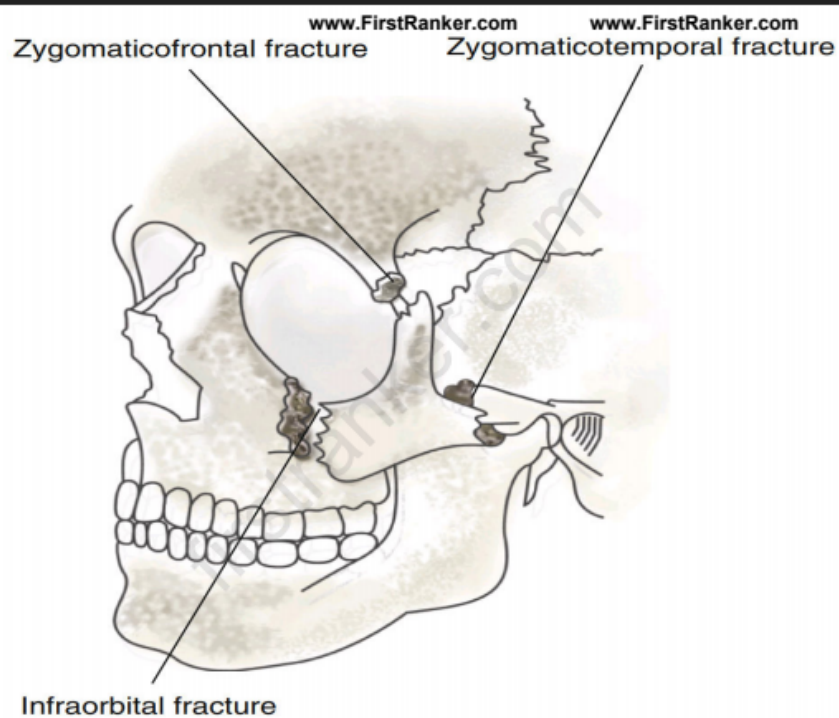


- After nasal bones, zygoma is the second most frequently fractured bone.
- Cause : direct trauma
- Lower segment of zygoma is pushed medially and posteriorly resulting in flattening of malar prominence and a step deformity at the infraorbital margin .
- Zygoma is separated at its 3 processes.
- Fracture line passes through zygomaticofrontal suture, orbital floor, infraorbital margin and foramen, anterior wall of maxillary sinus and zygomaticotemporal suture.
- Orbital contents may herniate into maxillary sinus.



## CLINICAL FEATURES

- 1. Flattening of malar prominence
- 2. Step deformity of infraorbital margin
- 3. Anaesthesia in the distribution of infraorbital nerve
- 4. Trismus, due to depression of zygoma on the underlying coronoid process
- 5. Oblique palpebral fissure, due to the displacement of lateral palpebral ligament
- 6. Restricted ocular movements, due to entrapment of inferior rectus muscle. It may cause diplopia.
- 7. Periorbital emphysema, due to escape of air from the maxillary sinus on nose blowing



**Figure 34.3** Fracture zygoma left.

## DIAGNOSIS

- **Waters' or exaggerated Waters' view**
- Maxillary sinus may show clouding due to the presence of blood.
- Comminution with depression of orbital floor and herniation of orbital contents cannot be seen on plain X-rays.
- **CT scan** of the orbital will be more useful



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## TREATMENT

Only displaced fractures require treatment. [Open reduction and internal wire fixation](#) gives best results.

Fracture is exposed at the frontozygomatic suture through **lateral brow incision** and reduced by passing an elevator behind the zygoma. Wire fixation is done at frontozygomatic suture and infraorbital margin. The latter is exposed by a separate **incision in the lower lid**. Fracture of orbital floor can also be repaired through this incision.



**Transantral approach** is less favourable.

Antrum is exposed as in Caldwell–Luc operation, blood is aspirated, fracture reduced and then stabilized by a pack in the antrum. Fractures of orbital floor can also be reduced. Antral pack is removed in about 10 days through the buccal incision, which is left open at the end of operation, or through the intranasal antrostomy route.

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