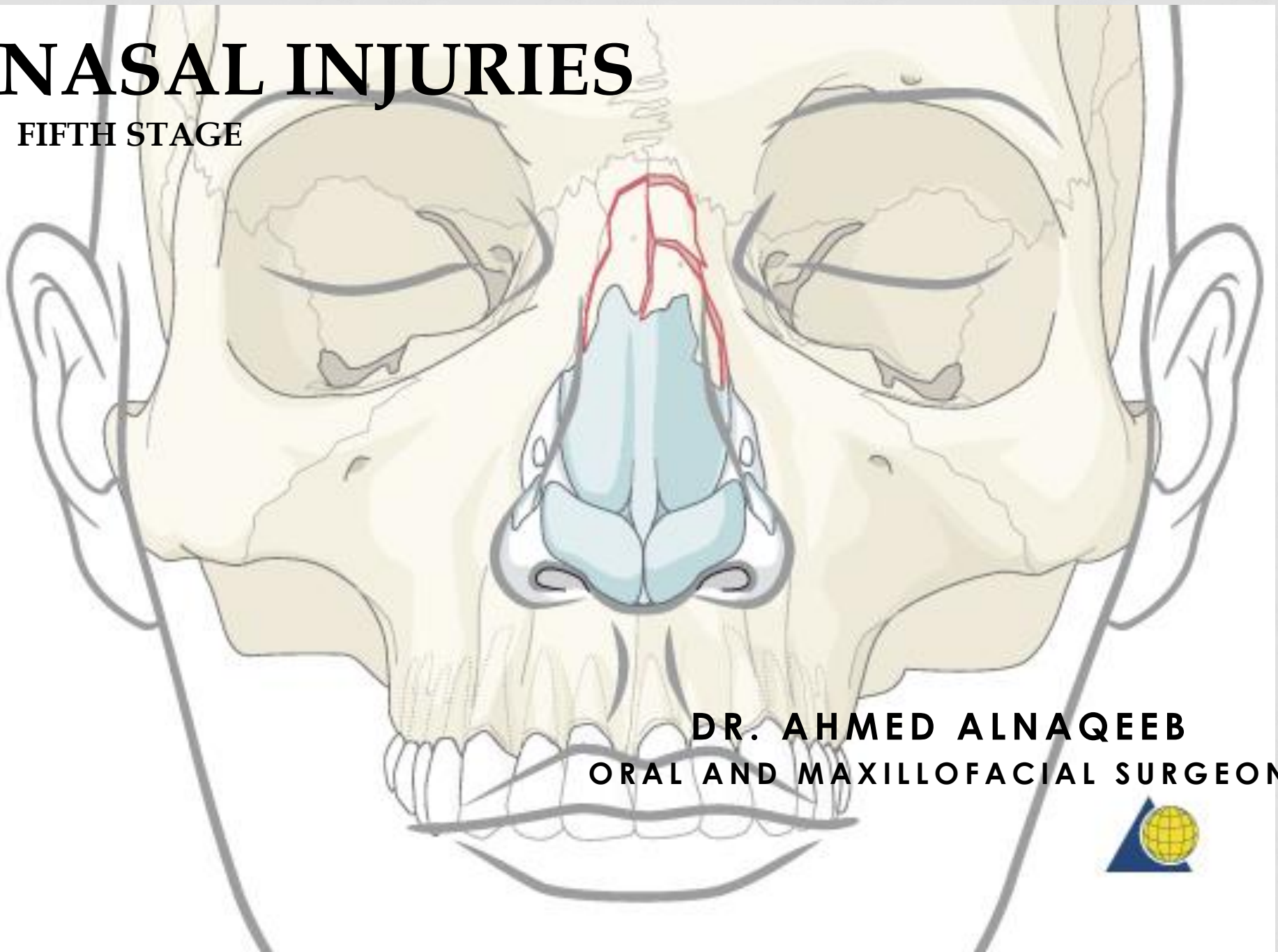


NASAL INJURIES

FIFTH STAGE



DR. AHMED ALNAQEEB
ORAL AND MAXILLOFACIAL SURGEON



ANATOMY

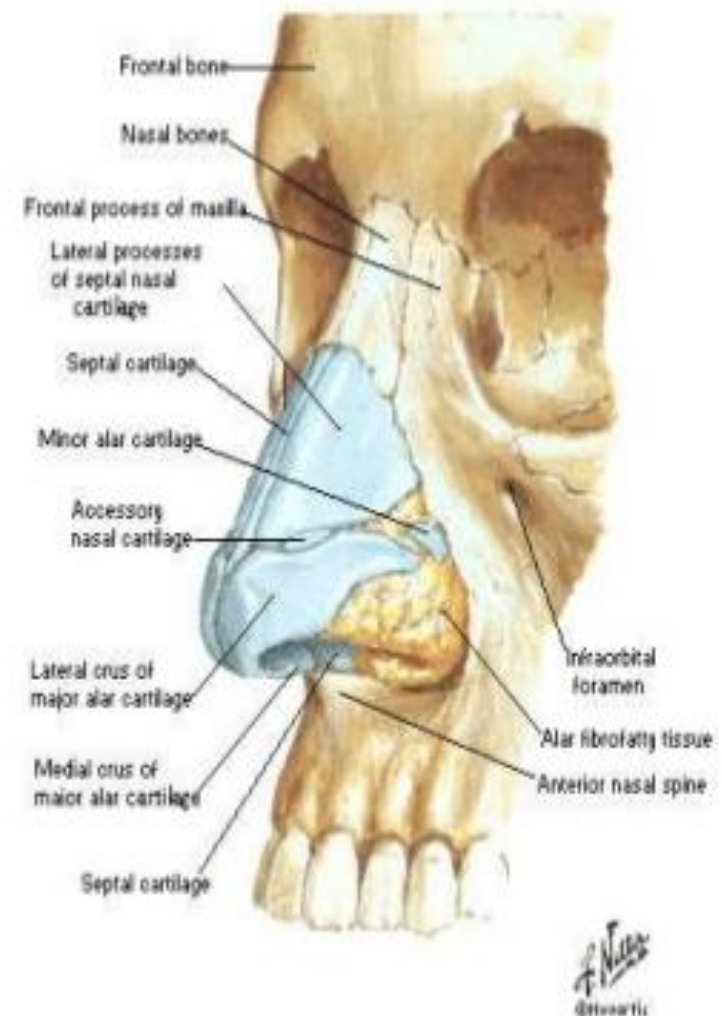
□ External nose

A. Upper bony part

1. 2 nasal bones
2. Frontal processes of maxillae
3. Nasal part of frontal bone

B. Lower cartilaginous part

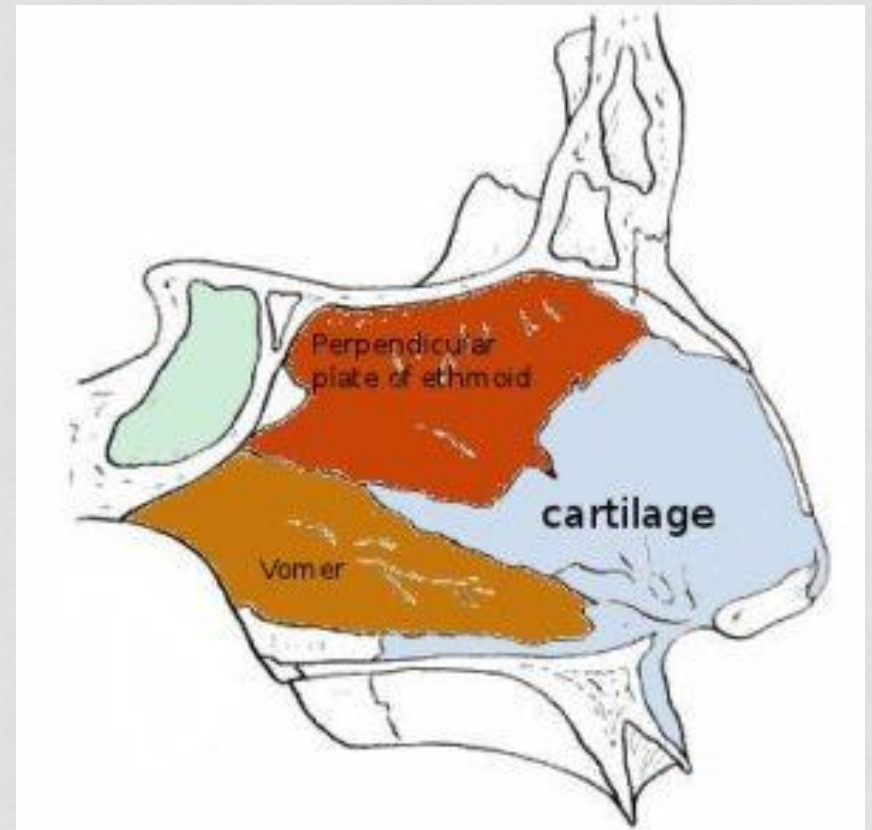
1. Septal cartilage
2. Upper nasal cartilage
3. Lower nasal cartilage



ANATOMY

□ Nasal septum

1. Perpendicular plate of ethmoid
2. Vomer
3. Septal cartilage



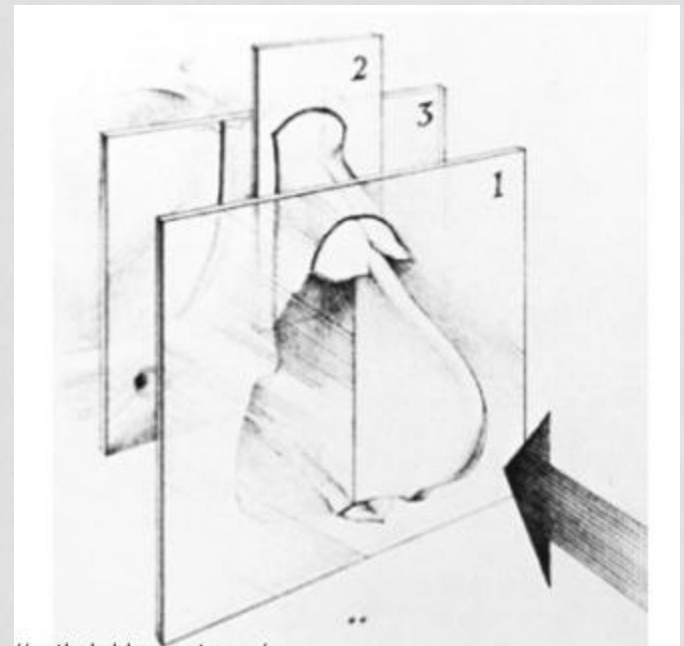
CLASSIFICATION OF NASAL INJURIES

1. Frontal injuries

- a. Plane 1 – lower end of nasal bone & ant nasal spine
- b. Plane 2 – external nose
- c. Plane 3 – NE injury

2. Lateral injuries

- a. Without septal #
- b. With septal #



CLINICAL FINDING

❑ External

- Nasal deformity
- Bruising & swelling
- Nasal bone crepitus

❑ Intranasal

- Mucosal tear
- Septal damage
- Septal hematoma



TREATMENT

❑ Timing

- Within 24 hrs (preferable)
- After 7 days (edema subside)

❑ Reduction

A. Closed manipulation

1. Walsham forceps (nasal bones)
2. Asche forceps (septum)



TREATMENT

B. Submucous resection

- if there is airway obstruction due to septal distortion
- The buckled septal cartilage should be removed

C. Intranasal immobilization

1. Ribbon gauze

disadvantages

- a. Obstruct airway
- b. Potential infection – CSF rhinorrhea
- c. Overpacking causes telecanthus

2. Silastic

3. **Stainless steel intranasal splint** – stable rigid intranasal support



TREATMENT

D. External fixation

1. POP splint:

- a. Left in situ for 7-10 days
- b. Replaced every 3-4 days

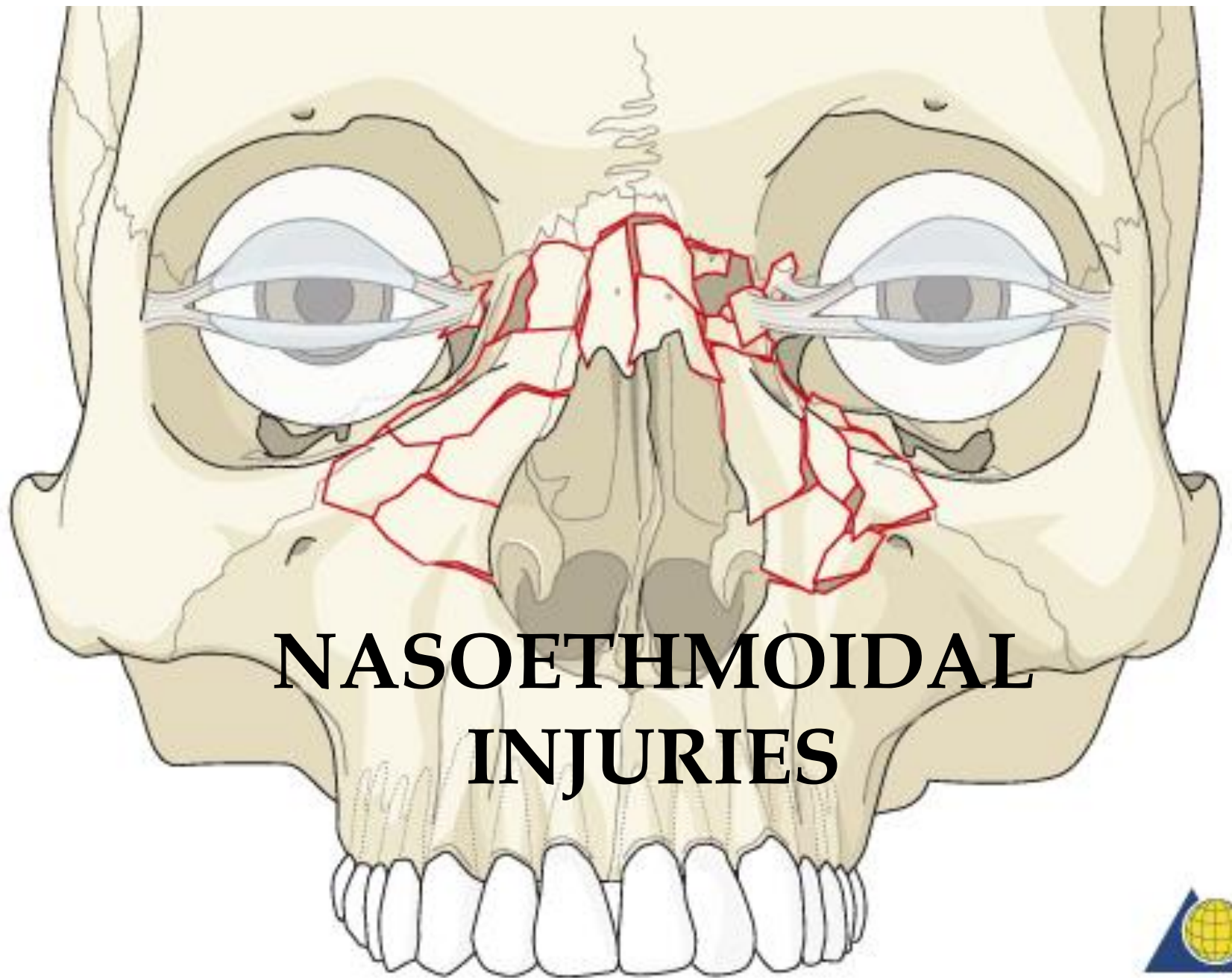
2. Gauze & soft metal sheet

- a. Several layers applied & contoured to nose
- b. Soft metal sheet cut to shape, applied & contoured

3. Thermoplastic splint: become malleable when heated & adapted to nose

4. Compression splint (lead plate) fixed by transnasal wire





NASOETHMOIDAL INJURIES



CLASSIFICATION

□ Isolated NE injury

1. Bilateral

- Direct blow to nasal bridge
- Base of nose driven backward into interorbital space
- Nasal tip upturned
- Skin at base of nose frequently lacerated
- CSF rhinorrhea

2. Unilateral

- Unilateral nasal deformity
- Side of nose is depressed
- # of ethmoid bone



CLASSIFICATION

❑ **Combined NE injury + midface #**

1. Bilateral

- NE complex # combined with LeFort II or III #
- Causes traumatic telecanthus & elongation of midface

2. Unilateral

- NE complex # + severe comminution of orbit or zygomatic complex
- Unilateral displacement of medial canthus
- Displacement of eye downward & laterally

CLINICAL FEATURES

1. Frontal bone depression
2. Nasal deformity
3. Traumatic telecanthus
4. CSF rhinorrhea
5. Diplopia
6. Hemorrhage



TRAUMATIC TELECANTHUS

- Increase ICD > 35 mm (normal 25-35 mm)
- Causes
 1. Severance of canthi
 2. Avulsion of canthi
 3. Lateral displacement of medial lig while still attached to bone .
- May result in
 - Narrow palpebral fissure
 - Prominent epicanthal fold
 - Diplopia



TREATMENT

Closed reduction

- Use transnasal wires & compression plates

Open reduction

- Realignment of bony fragments under direct vision
- Early repair give better result

Surgical approach

1. Existing laceration
2. H- shaped incision
3. Bilateral Z incision
4. Midline vertical incision
5. W incision
6. Bicornal flap

TREATMENT

Repair of bony skeleton

- Nasal bridge reattached to frontal bone
- Preserve & align bony fragments
- Fixation by direct wiring or microplates

Medial canthal ligament

- Must be identified, repositioned & stabilized by transnasal wires
- In case of severe comminution- the area should be bone grafted
- Overcorrection of telecanthus is desirable

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Thank you...

