

# Depressed Skull Fractures & Cranioplasty

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- Depressed skull Fractures

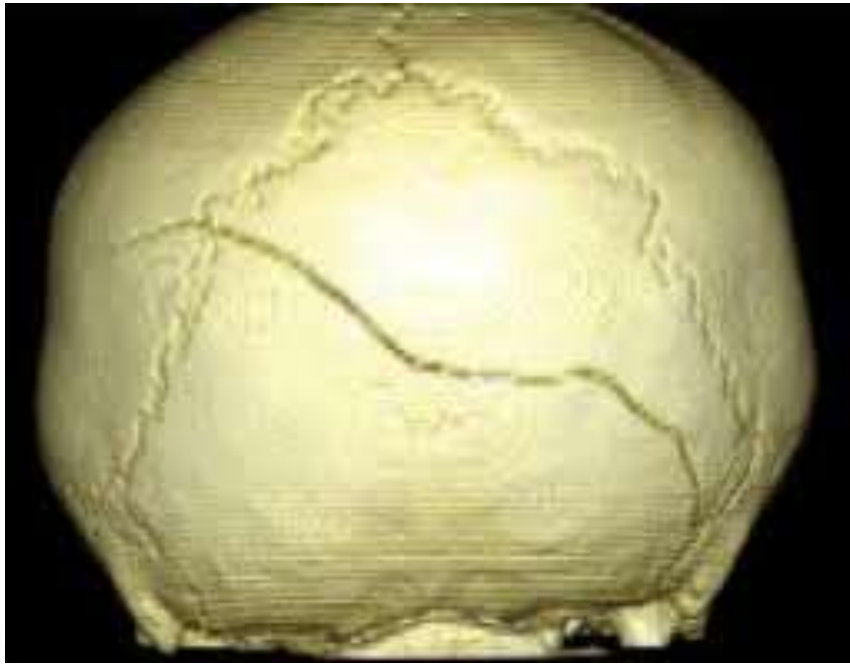
Vault



Base

- Caused by heavy **blunt** instrument with **wide striking** surface area and **big momentum**.

## Types of fractures by morphology

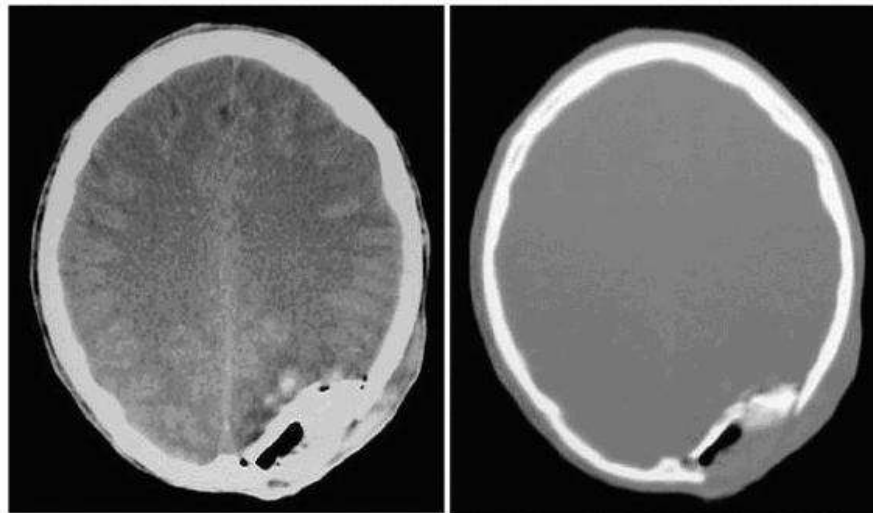
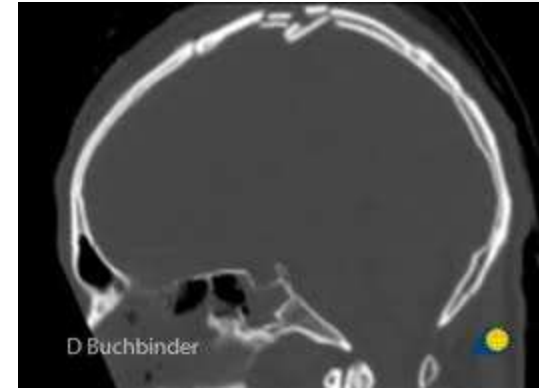
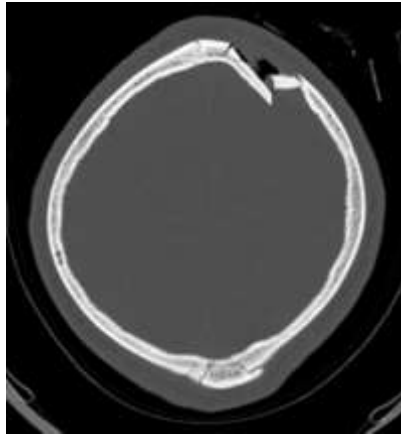


# Classification according to Scalp condition

- **Simple**
- **Compound**



# Investigation (CT SCAN)



# Management

## Compound

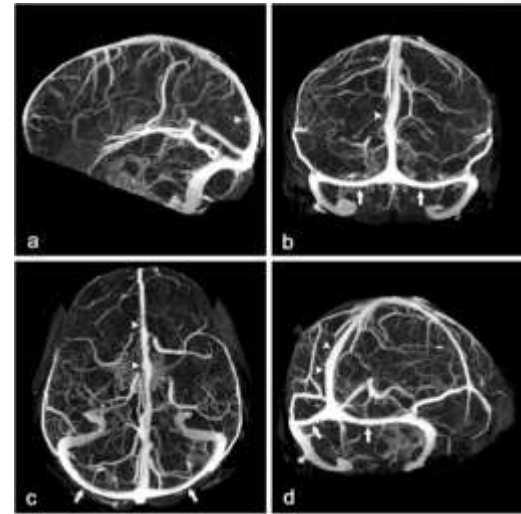
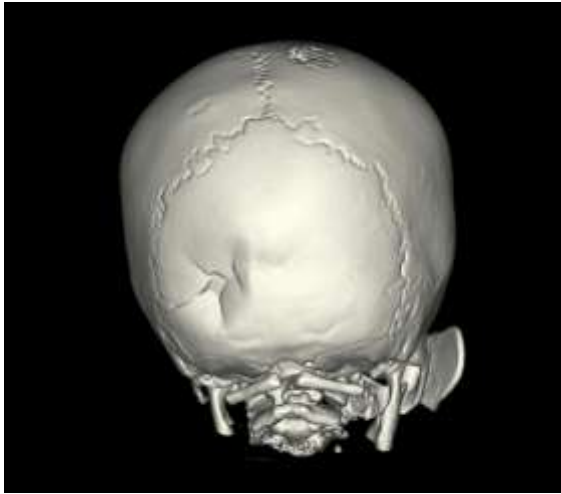
- Depressed out table more than inner table
- Cosmetic affection
- Associated underlying hematoma
- Evidence of dural injury and pneumocephaly
- Post wall of frontal air sinus involvement

## Simple

- Usually conservative
- Marked cosmetic affection
- Associated pathology

# Special conditions

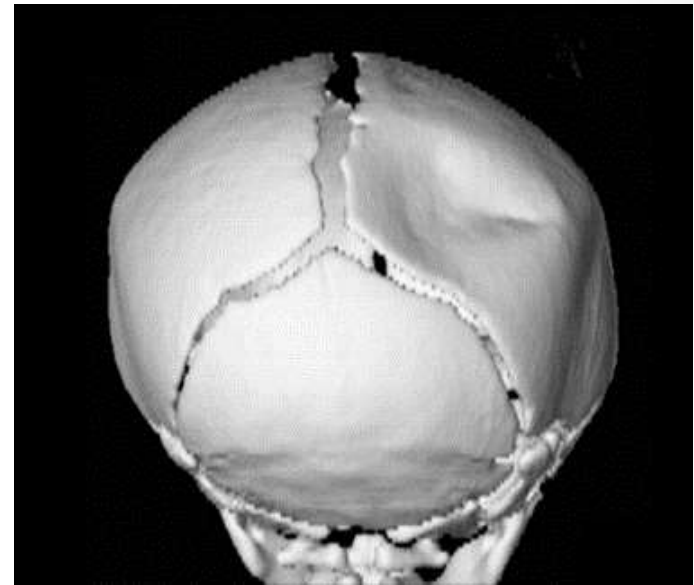
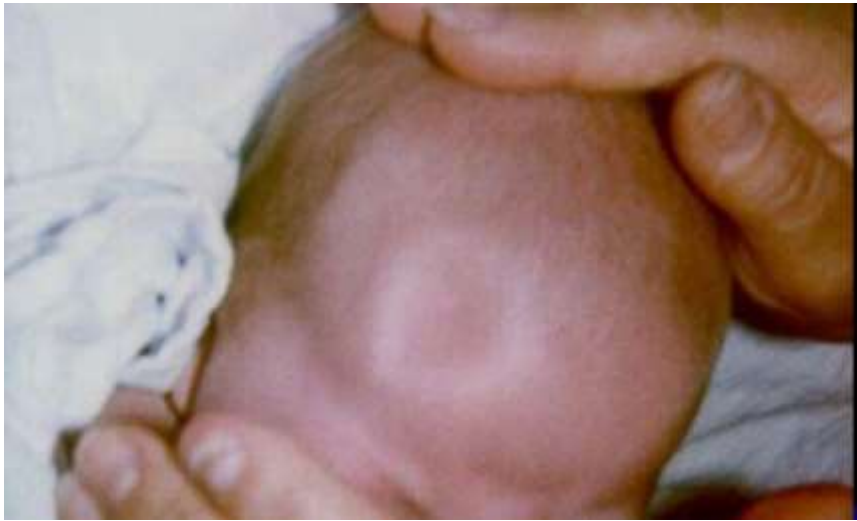
## Dural venous sinus involvement



- Simple fracture clinically intact: **conservative**
- Compound fracture clinically intact: **Debridement without elevation**
- Simple or compound and clinically affected (sinus involvement):  
**angiography or crangiography then if flow affected surgery with proper preoperative preparation**

# Special conditions (cont.)

## Ping pong fractures



Self correctable

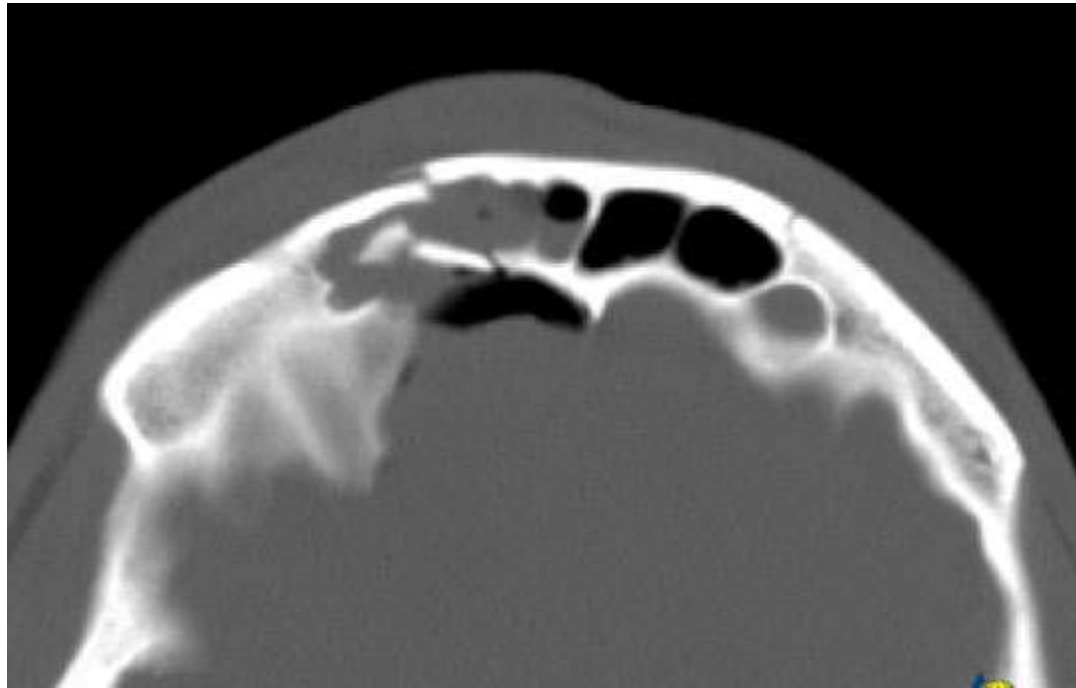
Indications: increased ICP

Associated hematoma (eg extradural)



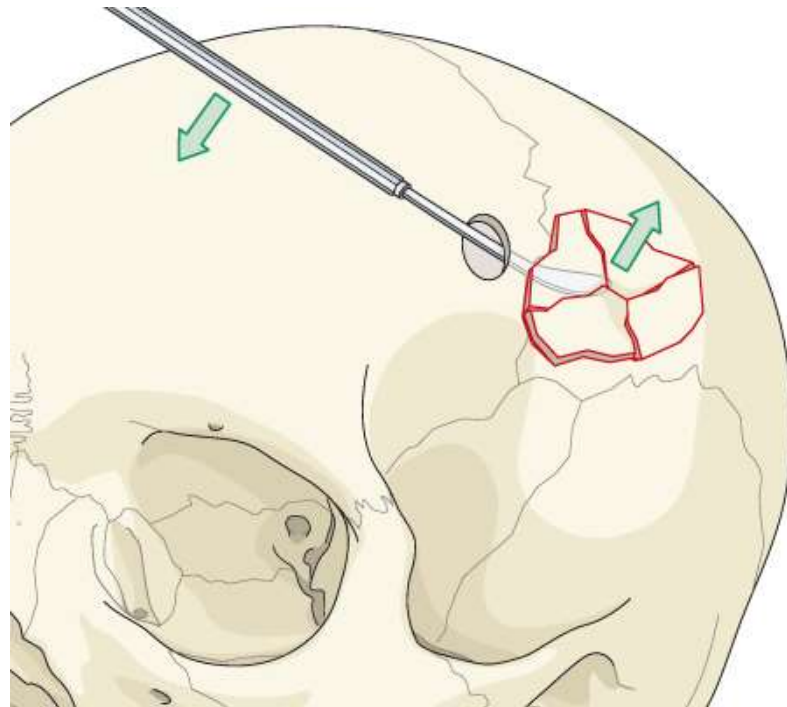
# Special conditions (cont.)

## Frontal air sinus fractures



- **Cranialization**

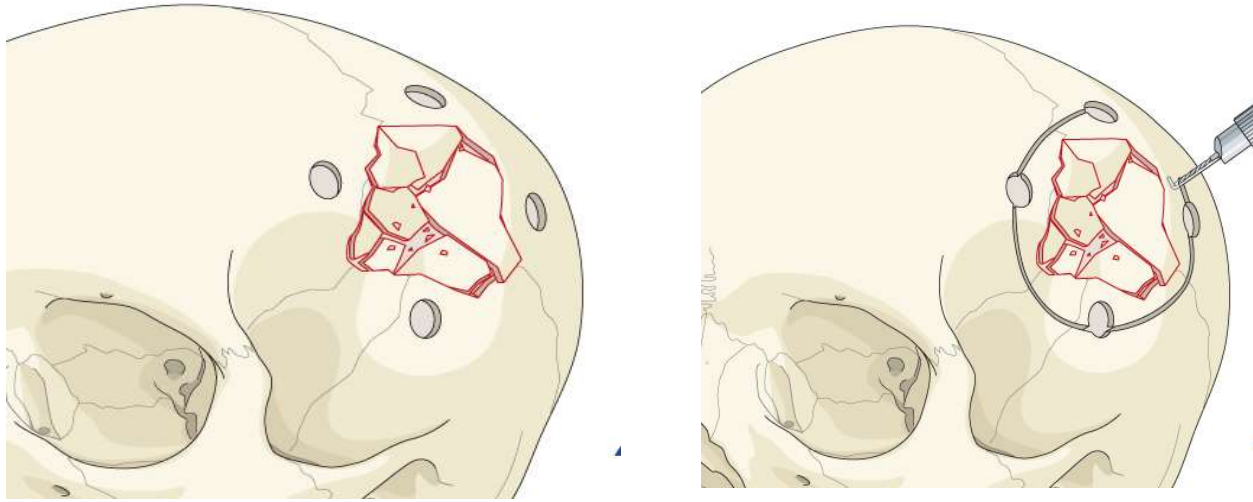
# Surgical repair



Advantages

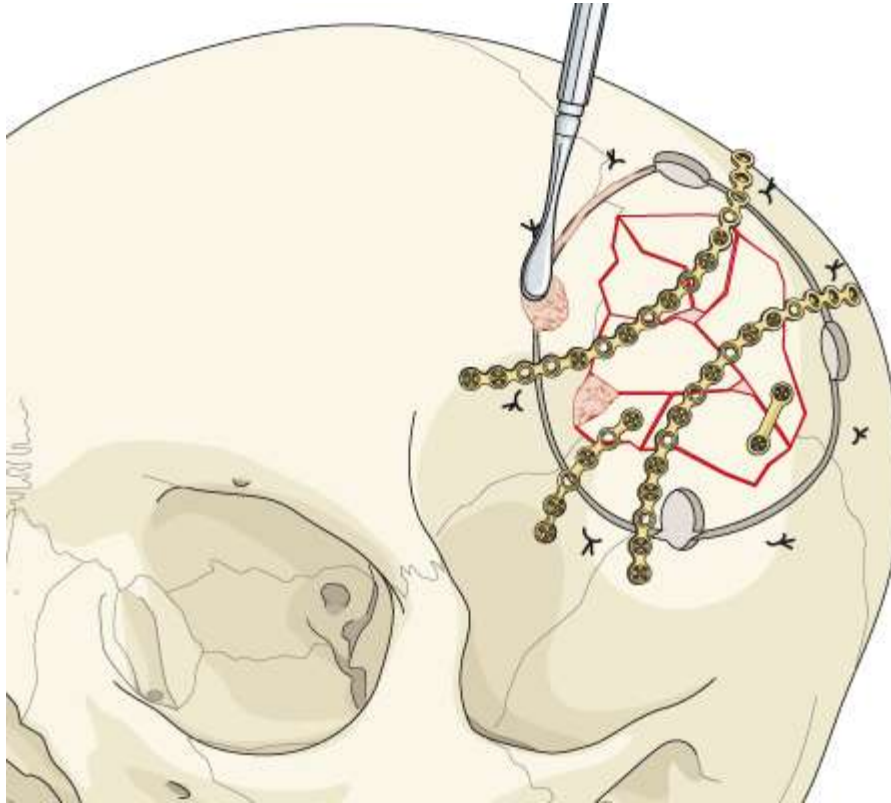
Disadvantages

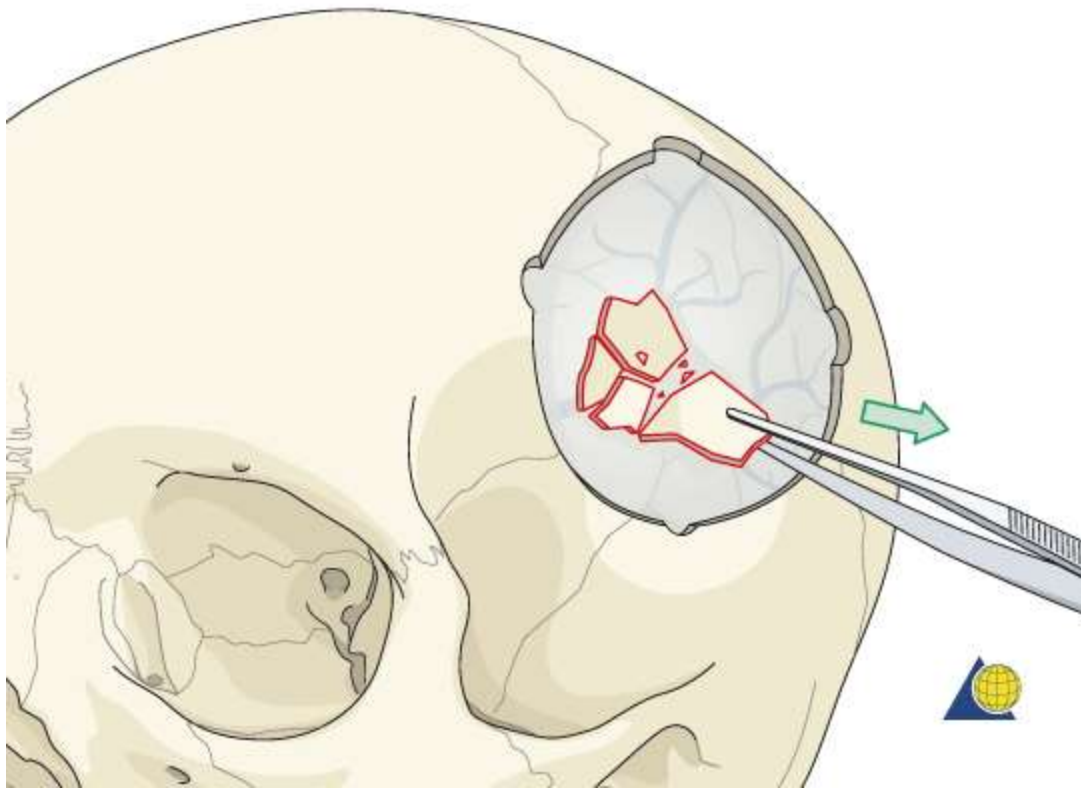
# Surgical repair (cont.)



Advantage

# Surgical repair (cont.)





# Delayed Cranioplasty

- Initially Lost bone (comminuted)
- Surgical removal of bone primary or secondary

## Indication

- Cosmesis (evident defect e.g forehead)
- Relief of symptoms
- Protection of brain (large defect)

## Timing



# Delayed Cranioplasty (cont)

## **Material**

**Patients bone :**

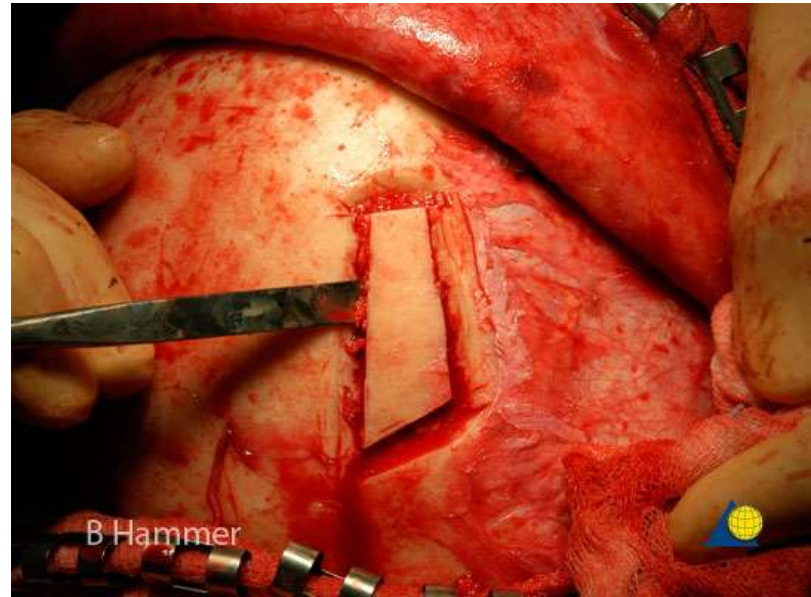
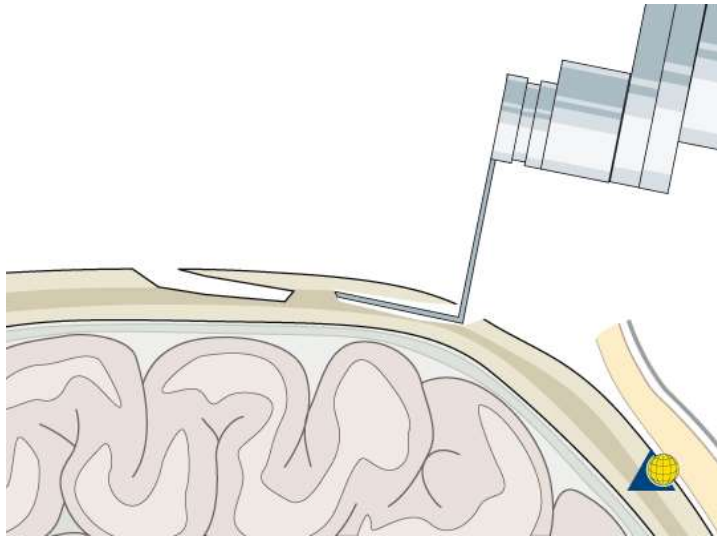
**Split thickness calvaria**

**Rib**

**Artificial Methylacrylate**

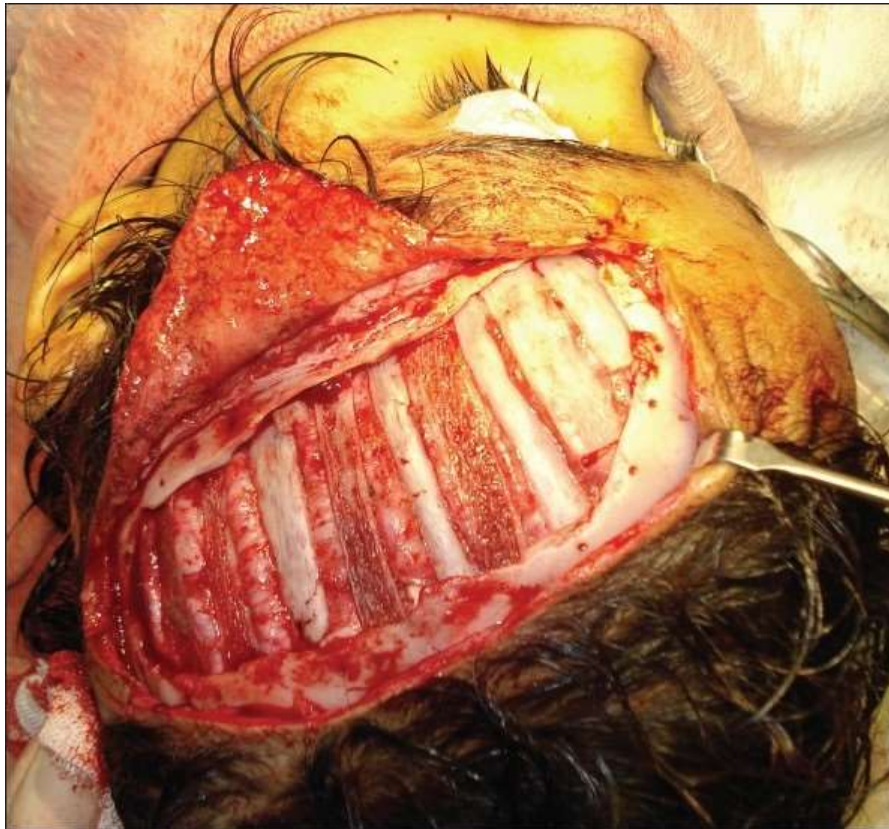
**Titanium mesh**

# Delayed Cranioplasty (cont)

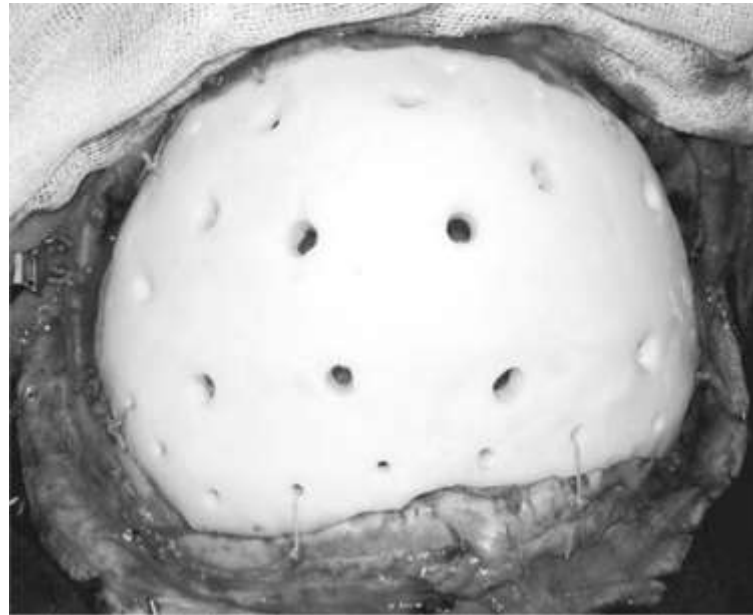




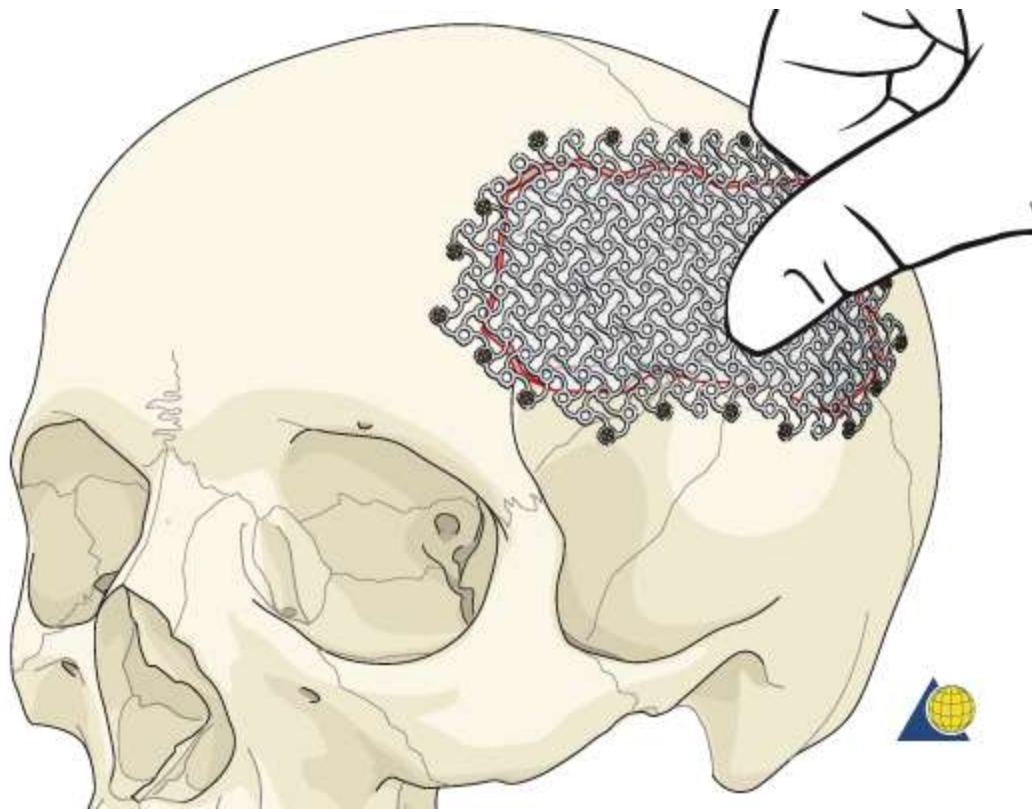
# Delayed Cranioplasty (cont)



# Delayed Cranioplasty (cont)



# Delayed Cranioplasty (cont)



Thank you