

# Describing Fractures - Basics



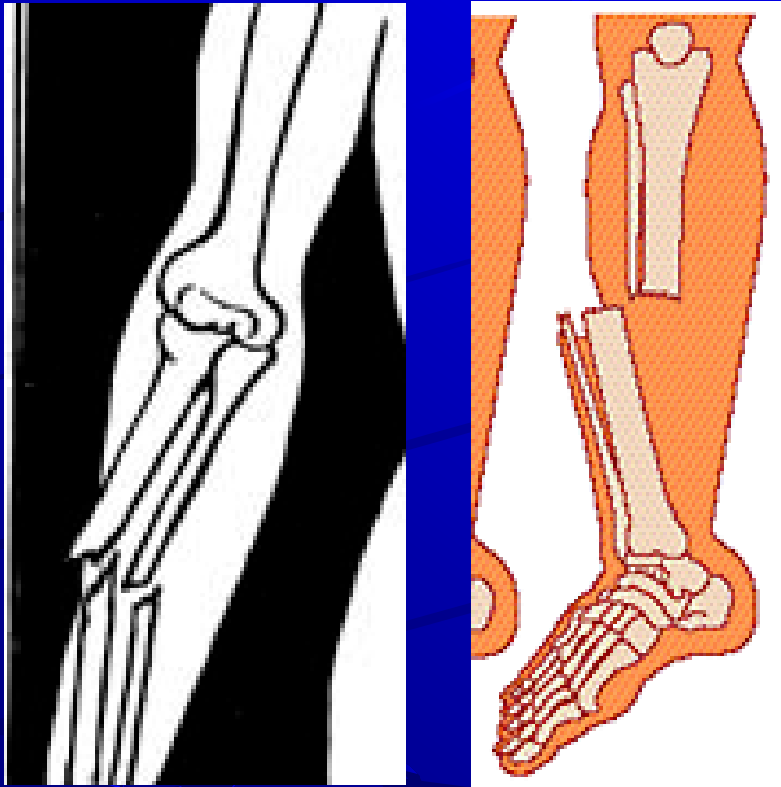
# Relevance

- ◆ Important to know how to describe fractures
  - Documentation
  - Communicate with other physicians
    - ◆ Colleagues
    - ◆ Specialists
- ◆ E.Q. How can you distinguish between the different types of fractures?

# Fracture Classifications

- ◆ O: Open vs. closed
- ◆ L: Location
- ◆ D: Degree (complete vs. incomplete)
- ◆ A: Articular
- ◆ C: Comminution / Pattern
- ◆ I: Intrinsic bone quality
- ◆ D: Displacement, angulation, rotation

# O: Open vs. Closed



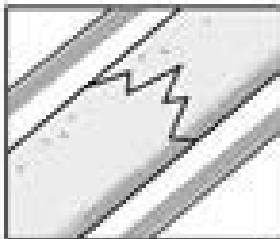
## ◆ Open fracture

– AKA: "Compound fracture"

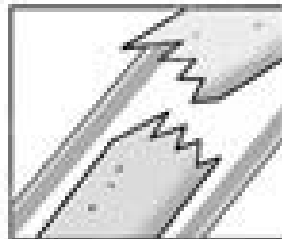
- A fracture in which bone penetrates through skin;
- "Open to air"

## ◆ Closed fracture

- Fracture with intact overlying skin



Closed or simple fracture.



Open or compound fracture.

# L: Location

- ◆ Which bone?
- ◆ Which Third? -Proximal, middle, distal third
- ◆ Is it broken through any Anatomic landmarks?
  - head, neck, body / shaft, base, condyle

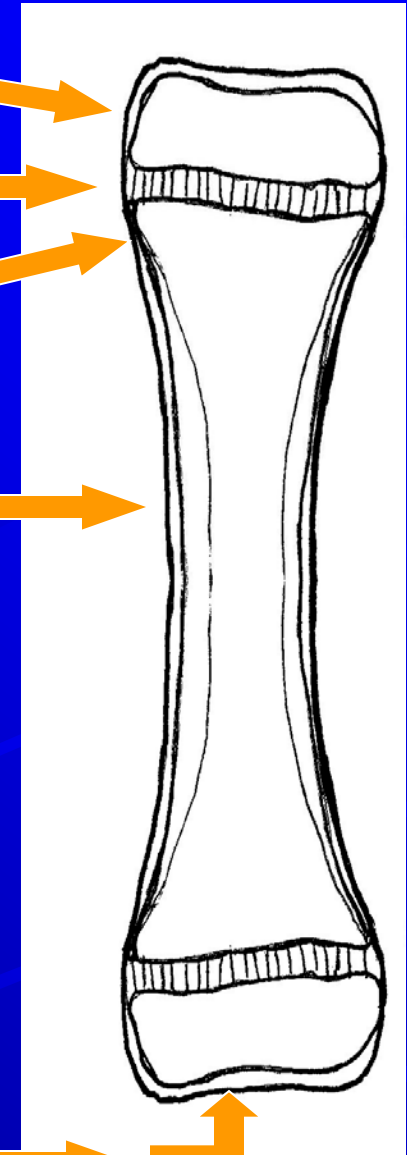
Epiphysis

Physis

Metaphysis

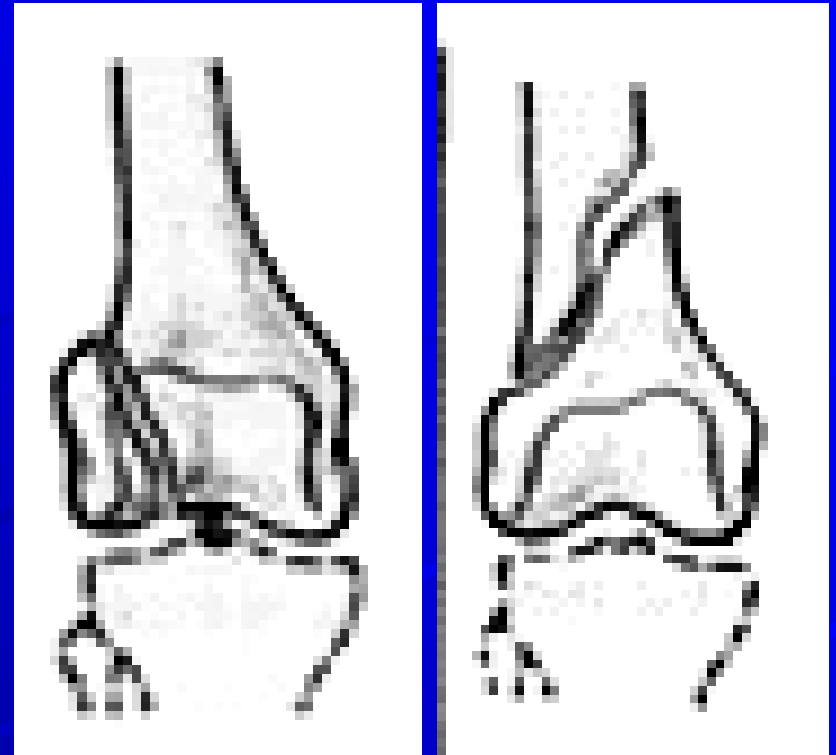
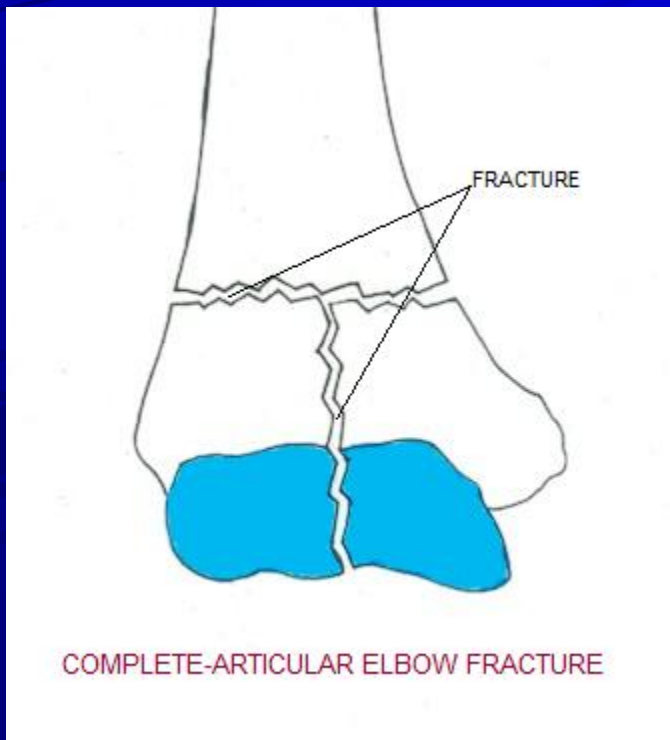
Diaphysis  
(Shaft)

Articular  
Surface



# A: Articular Involvement

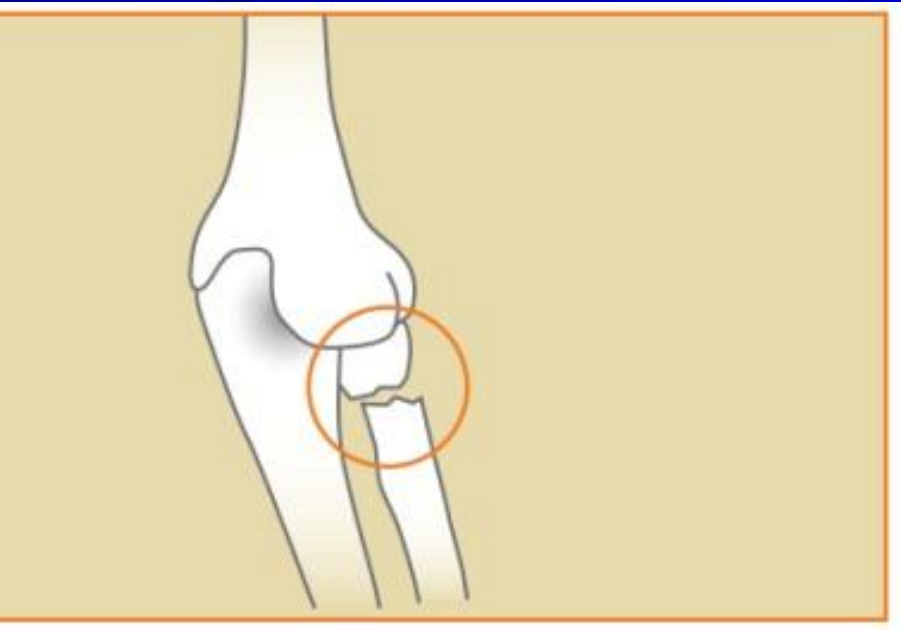
- ◆ Does it involve the articular surface?



# D: Degree of Fracture

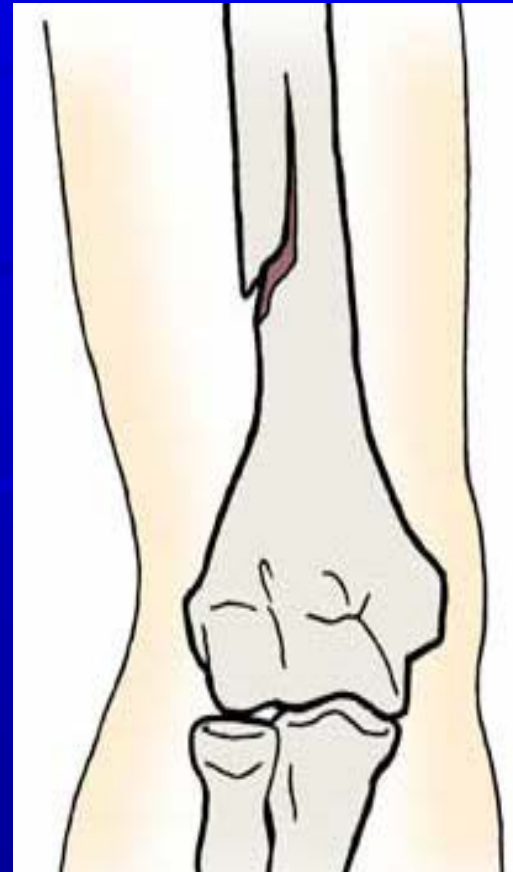
## ◆ Complete

- Fragments are completely separated



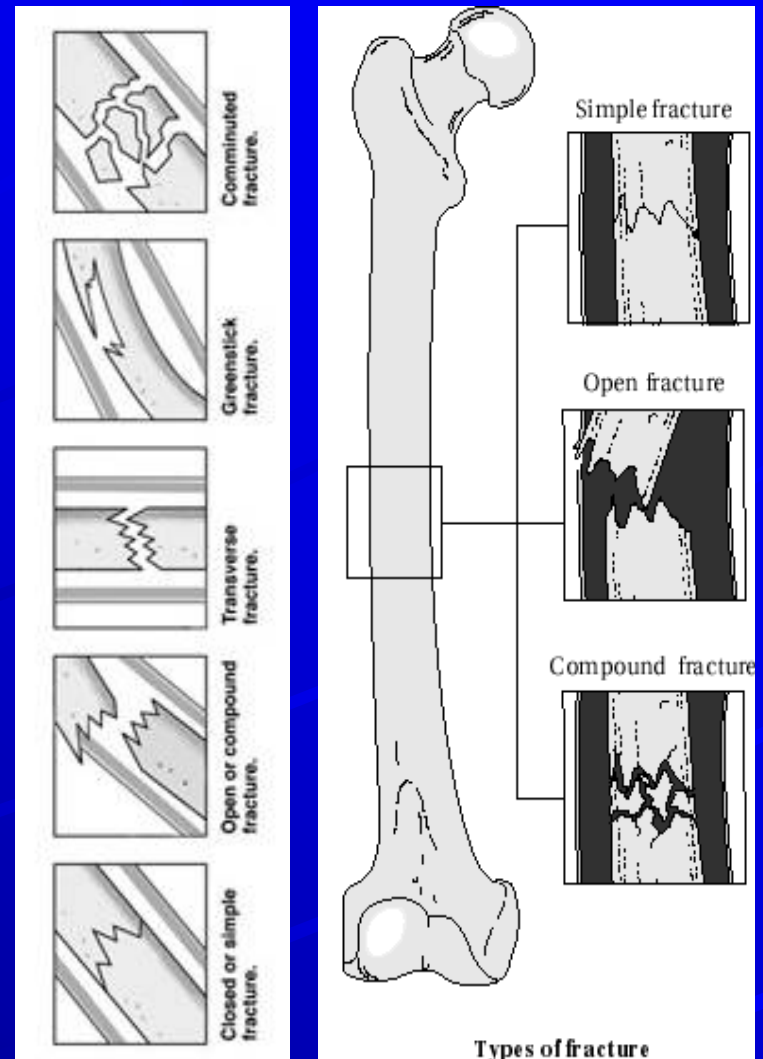
## ◆ Incomplete

- Not fractured all the way through



# C: Comminution / Pattern

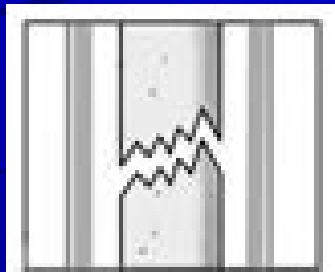
- ◆ Transverse
- ◆ Oblique
- ◆ Spiral
- ◆ Segmental
- ◆ Comminuted
- ◆ Compression
- ◆ Greenstick
- ◆ Avulsion



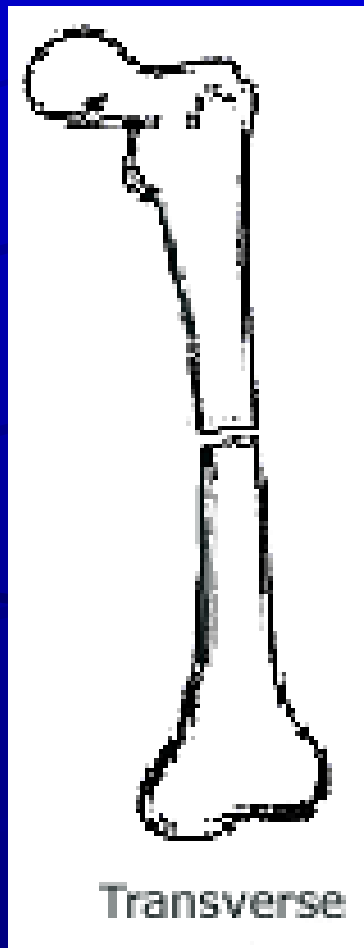
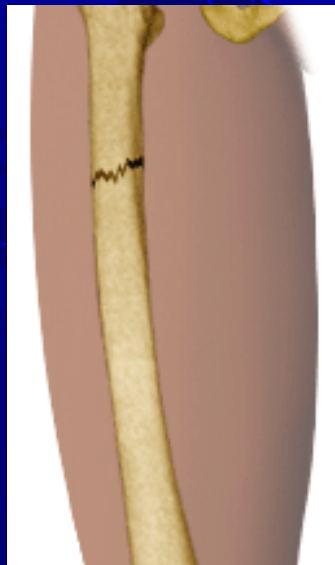


# C: Comminution / Pattern

## ◆ Transverse (Simple)



Transverse fracture.

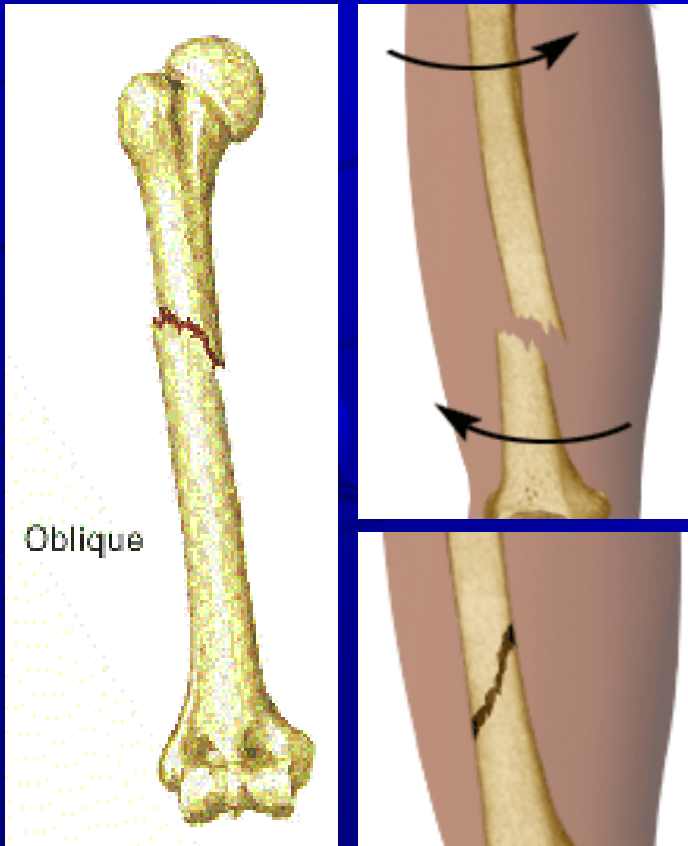


Transverse



# C: Comminution / Pattern

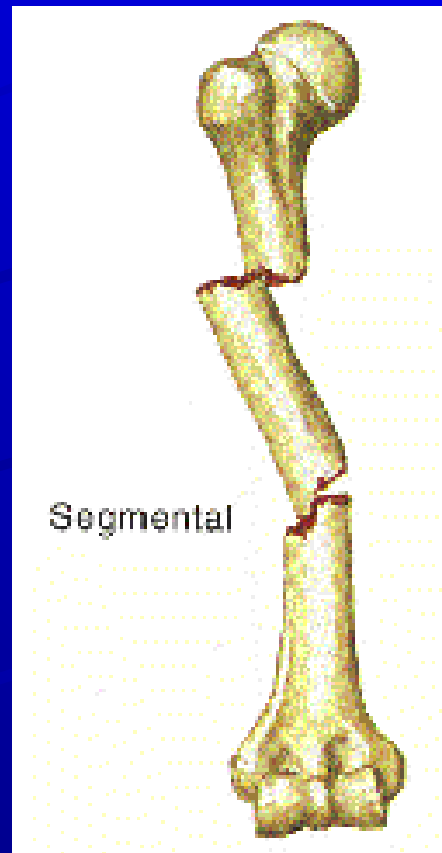
- ◆ Oblique -At an angle
- ◆ Spiral - twisted



# C: Comminution / Pattern

## ◆ Segmental

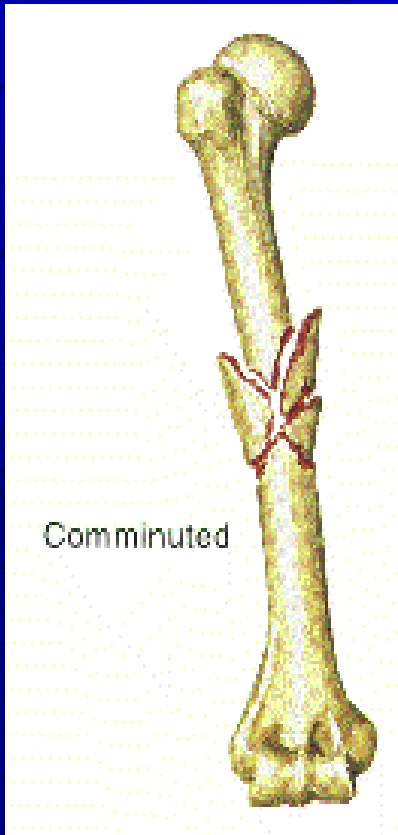
- Bone broken in 2+ separate places; Fx lines do not connect



# C: Comminution / Pattern

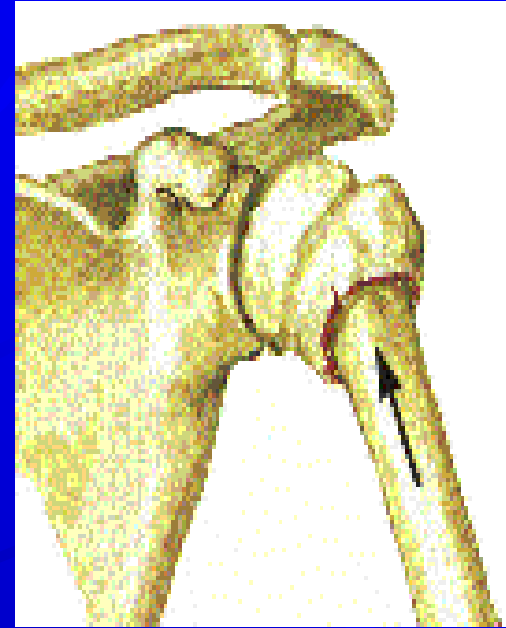
## ◆ Comminuted

– Broken, splintered, or crushed into >3 pieces



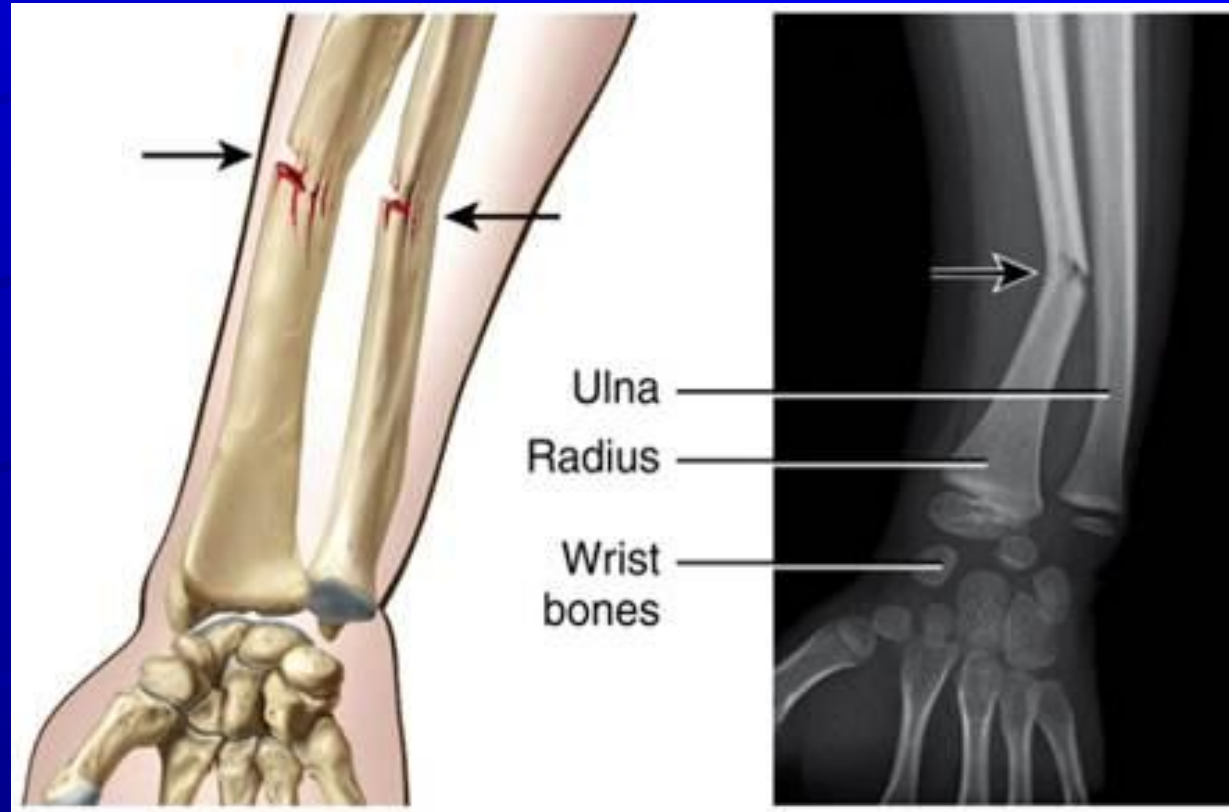
# C: Comminution / Pattern

- ◆ Compression - crushed
- ◆ Impacted Bone pushed into bone.



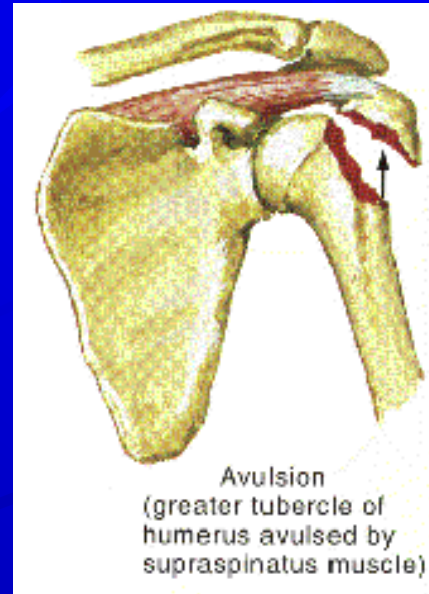
# C: Comminution / Pattern

- ◆ Greenstick Fracture – Usually in children, bone is partially fractured and partially bent (like bending a green stick).





# C: Comminution / Pattern



- ◆ Avulsion – a piece of bone is torn, usually by a muscle tendon or a ligament.