

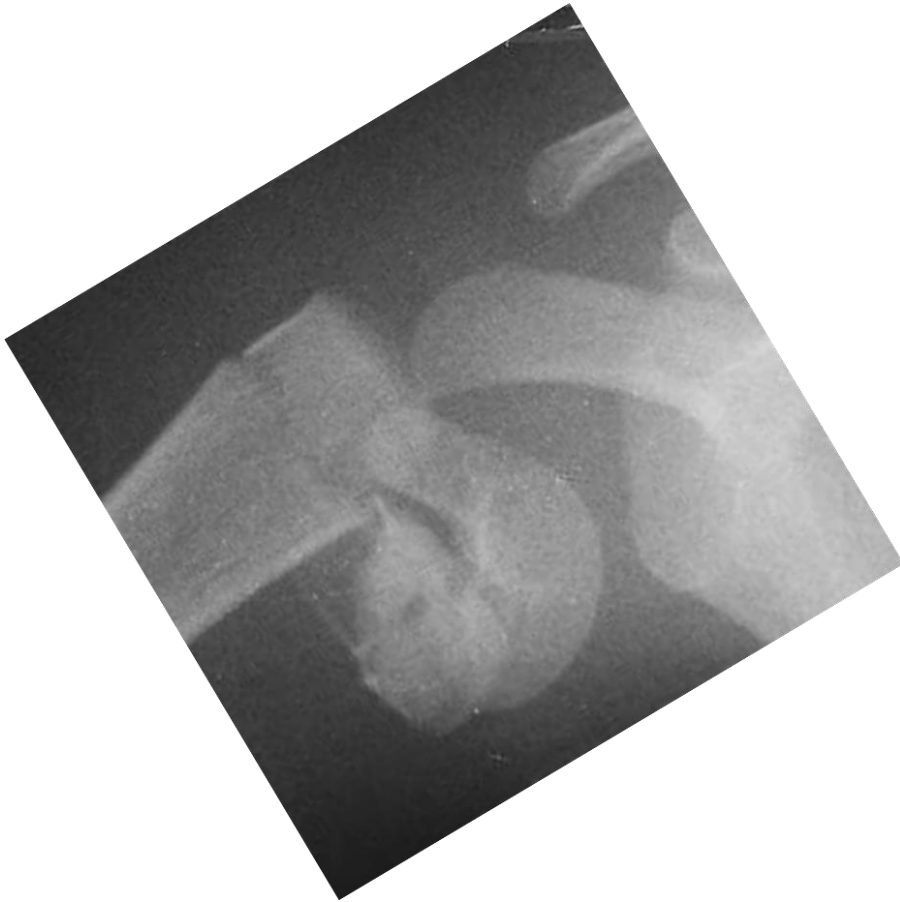
# **Pediatric Orthopedic Clinical Case Discussion (Upper limb)**

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## Case 6

3 yr old boy, RTA victim, presented 2 weeks later



## Case 6

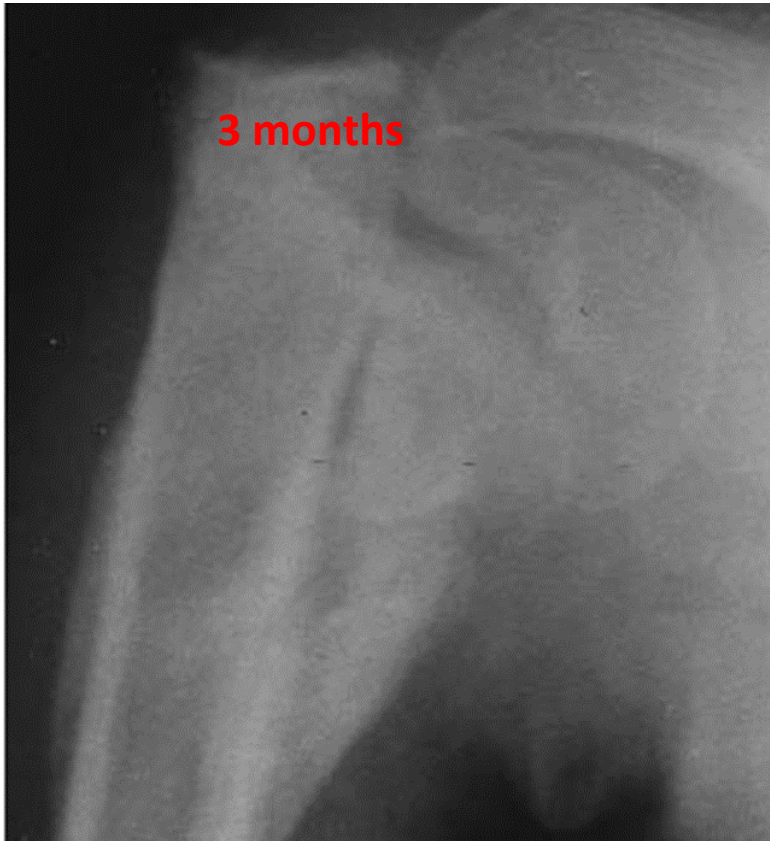
3 yr old boy, RTA victim, presented 2 weeks later

**2 Weeks later  
after presentation**



## Case 6

3 yr old boy, RTA victim, presented 2 weeks later



## Case 1

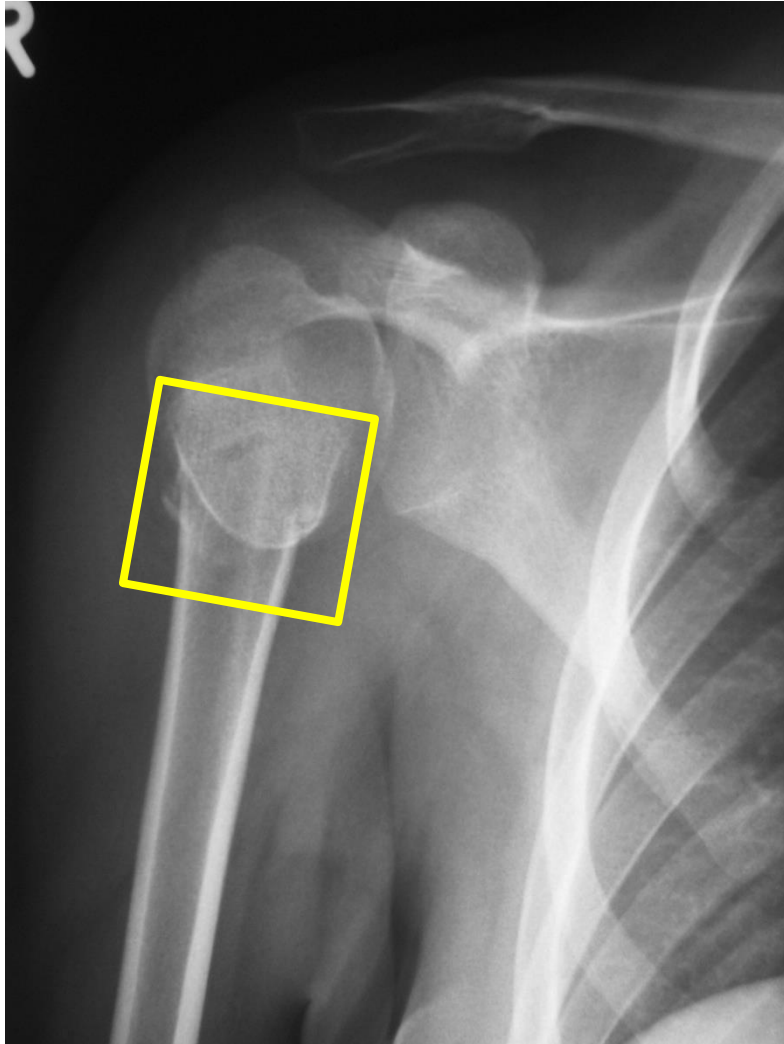
14-year-old girl (competitive gymnastics) ; hx of falling down on Rt shoulder



What do you see?



# Case 1



## Classification

Where is the lesion?

Do we need more investigation?



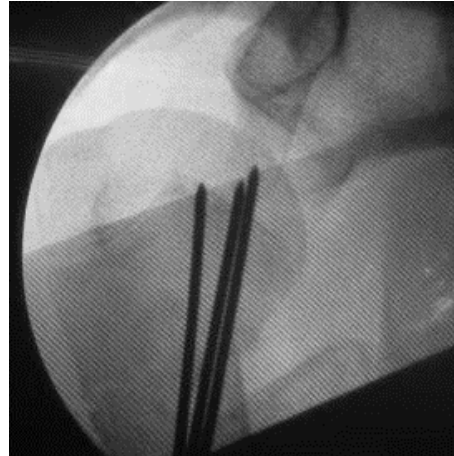
## Case 3

13-year-old girl; no patient history available



How would you treat this?

# Case 1



This is what was done

Are you happy?

What's not so optimal?



## Proximal humerus fracture

- \* The proximal humeral growth plate accounts for about 80 % of the growth of the entire bone .
- \* It closes between 16 and 19 years of age.
- \* For these reasons, the remodeling potential in the proximal humerus is extraordinary, allowing even the most displaced fractures to be treated conservatively.
- \* Surgery is exceptional

## Case 2

1-day-old new born boy



What are your thoughts about this fracture?

## Case 2

1-day-old new born boy



How would you treat this?

## Case 2

1-day-old new born boy



How would you treat this?

1. Leave it alone
2. Closed reduction & cast
3. Only immobilization
4. Closed reduction & retrograde ESIN
5. ORIF & plate

## Case 2

1-day-old new born boy



12 days

This is what was done

Are you happy?



## Case 2

1-day-old new born boy



Follow up

Are you happy?



5 months



## Case 3

6-year-old boy, fall from a tree, swollen elbow



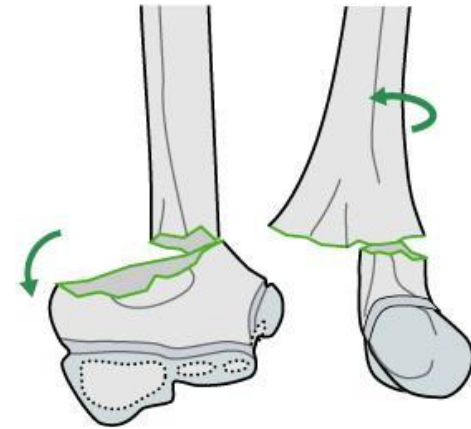
**What are your thoughts about this fracture?**

## Case 3

6-year-old boy, fall from a tree, swollen elbow



## Classification



## Case 3

6-year-old boy, fall from a tree, swollen elbow



**How would you treat this fracture?**

## Case 3

6-year-old boy, fall from a tree, swollen elbow

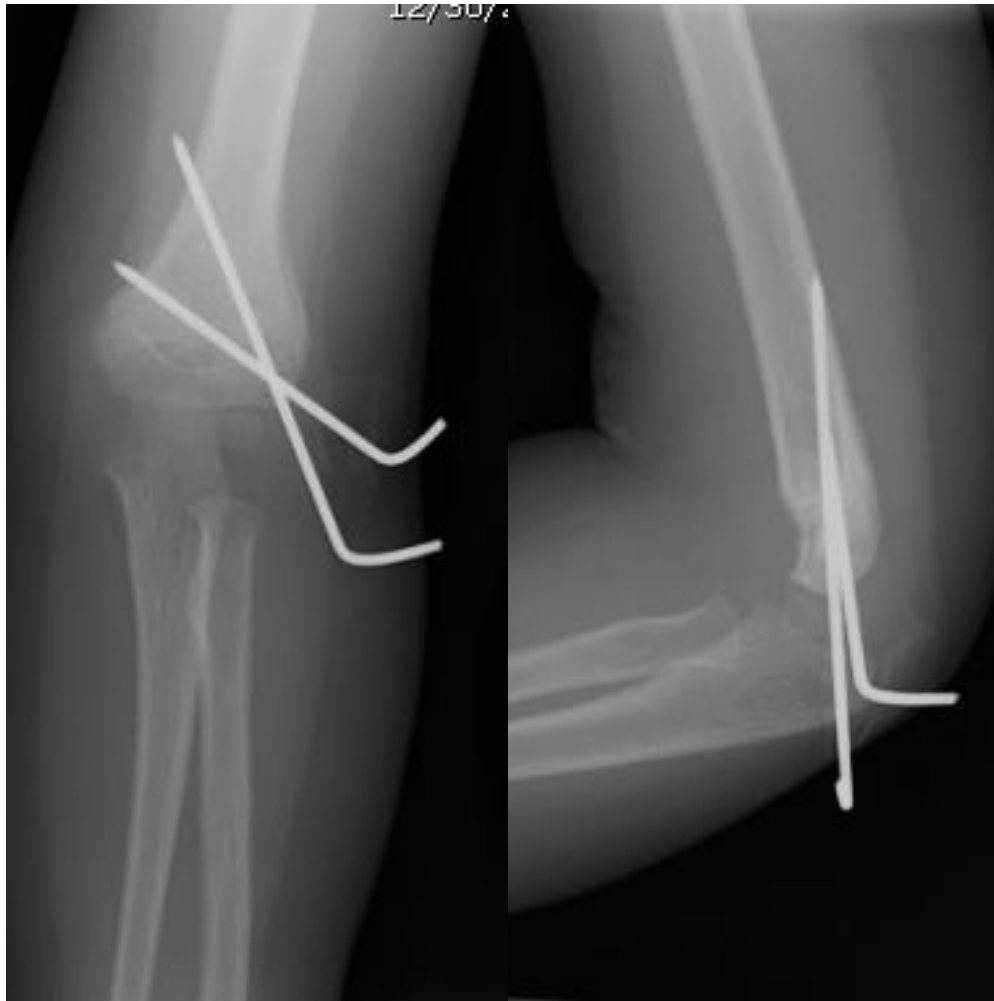


### How would you treat this fracture?

- Open reduction any kind of wiring
- Closed reduction and crossed K-wires
- Closed reduction and radial divergent K-wires
- Closed reduction and cast
- ESIN
- Radial ExFix

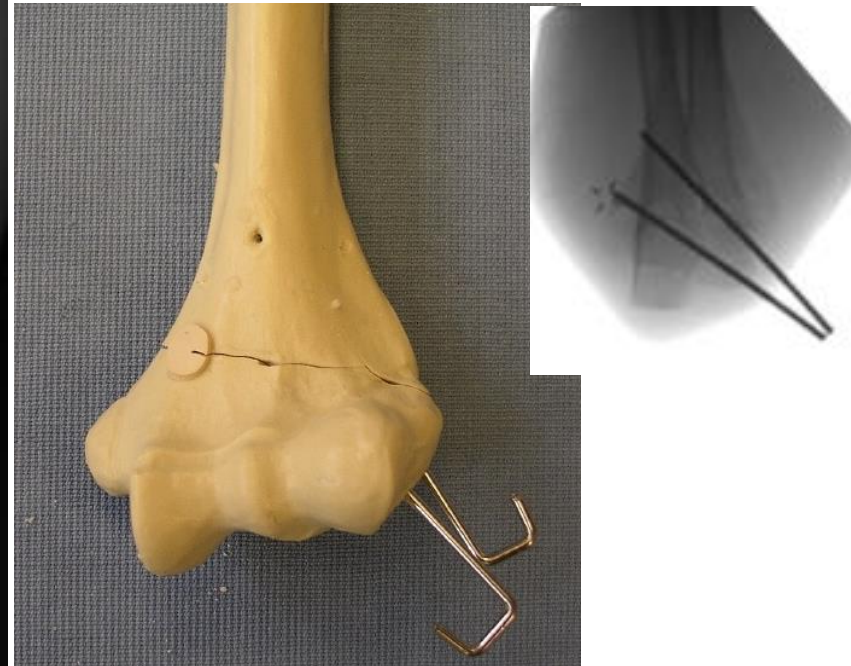
## Case 3

6-year-old boy, fall from a tree, swollen elbow



**This is what  
was done**

Closed reduction and divergent  
radial wiring



## Supracondylar elbow fracture

- Young children, ages 3 years to 7 years most common.
- **Neurovascular** compromise upon presentation in less than 10%
- Elbow pain, tenderness, swelling, decreased range of motion are standard findings
- Look for antecubital ecchymosis, skin puckering, forearm swelling to indicate a more severe injury
- A detailed neurologic examination is performed in all patients to include both motor and sensory function
- The perfusion status of the extremity should be noted.
- Things to look for on **imaging studies**:
  - AP radiograph – Baumann's angle, assess medial comminution
  - Lateral radiograph – anterior humeral line, posterior fat pad sign



## Case 4

10 year old boy, fall from a tree, swollen forearm



## Case 4

10 year old boy, fall from a tree, swollen forearm



## Case 4

10 year old boy, fall from a tree, swollen forearm

- At 5 weeks



## Case 4

10 year old boy, fall from a tree, swollen forearm

One year  
after removal



## Case 5

10 year old boy, football injury



## Case 5

10 year old boy, football injury





## Case 5

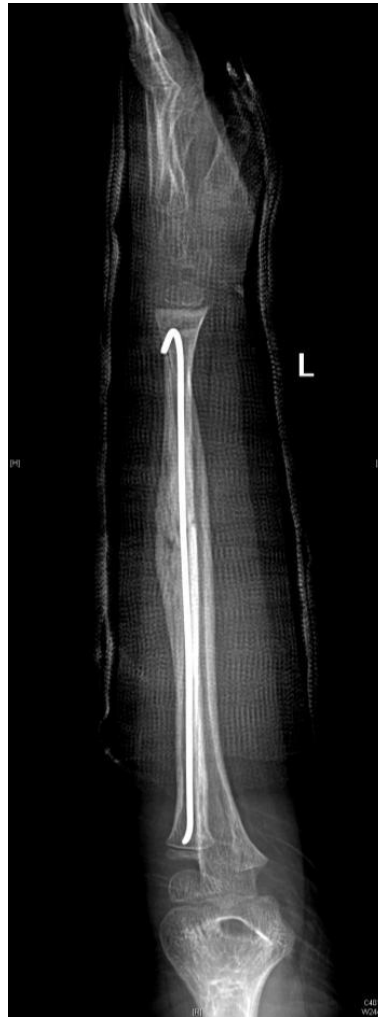
10 year old boy, football injury



## Case 5

10 year old boy, football injury

- X-ray 4 weeks later



## Case 5

### Fractures of the radius and ulna

- \* Fractures of the radius and ulna account for the most common fractures in children under 14 years old.
- \* Fractures of the radial shaft are the **third most common fracture in children**, after distal radius and supracondylar humerus fractures.
- \* The distal radial and ulnar physes account for **approximately 80% of longitudinal forearm growth**.
- \* On average, the distal radial and ulnar physes close at age 17 in girls and 19 in boys, however, physiologic growth is likely complete prior to radiographic physeal closure.

## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

2 yr old girl, Fall on outstretched hand

*Follow Up 3 weeks  
from fracture*





## Case 6

2 yr old girl, Fall on outstretched hand

**Missed for 3 months**



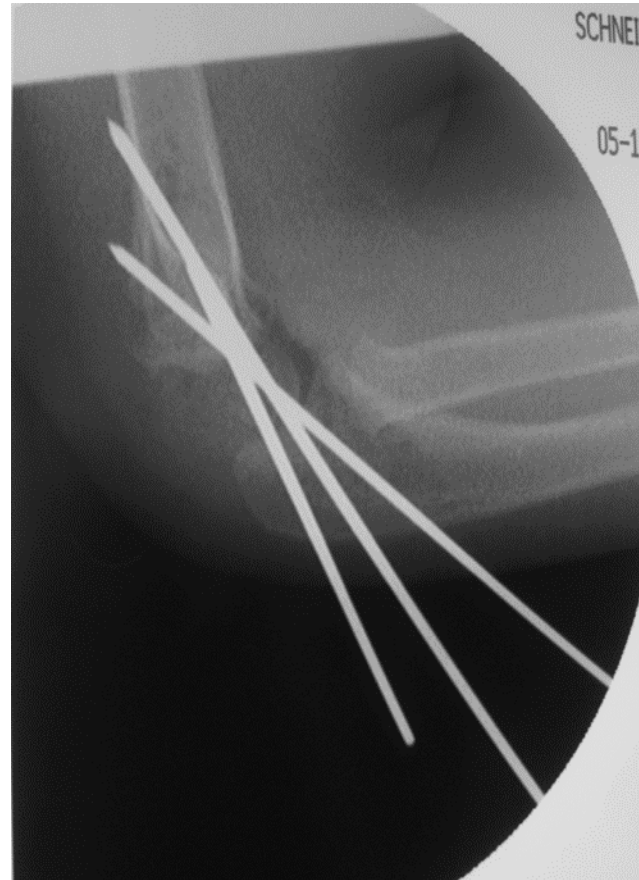
## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

2 yr old girl, Fall on outstretched hand



## Case 6

### Lateral condylar fracture

- Second most common fracture pattern about the elbow in pediatrics
- Most commonly due to fall from height onto outstretched arm
- Can often be missed on radiographs, **internal oblique elbow x-rays are critical**
- Non-operative treatment must be followed closely to monitor for further displacement
- **Articular reduction is the primary goal in surgical intervention of displaced fractures**
- Complications can be relatively common and may be significant