

## TRANSEPIPHYSEAL SEPARATION OF DISTAL HUMERUS IN CHILDREN: A CASE REPORT COMPARING NEONATE AND TODDLER

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### INTRODUCTION:

Transepiphyseal separation of distal humerus in children is a rare entity.

### REPORT:

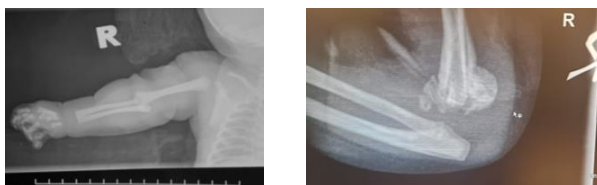
#### Case 1:

A 10-day old neonate female was noted to have incomplete Moro with swollen right elbow. X-ray of her right upper limb shows no fracture but the forearm is displaced posteromedially in relation to the distal humerus. She was treated with closed manual reduction and casting. Two weeks after surgery, X-rays showed callus formation at fracture site. At 30 days of life, patient able to move her affected elbows without pain and there is full range of motion.

#### Case 2:

A 2-year-old healthy male toddler complain of painful swollen left elbow after he fell down from a highchair. His X-ray of left elbow shows no fracture with medial displacement of forearm. He was treated with percutaneous guide wire with elbow arthrogram. After one month, wire was removed and he has gained full range of motion after two months from surgery.

**Figure 1:** X-ray of case 1. (left; preoperative, right; after two weeks)



**Figure 2:** Case 1 after a month



**Figure 3:** Case 2 (pre and post surgery)



### DISCUSSION:

The mechanism of injury for transepiphyseal separation of distal humerus is mostly from FOOSH, during a difficult delivery, and non accidental injury. Child will present with pseudoparalysis and classical sign is “muffled crepitus” when moved. X-rays should be first line of investigation aside from ultrasound, elbow arthrogram or MRI. As neonates have superior remodeling capabilities, complication from this injury is uncommon including varus deformity and avascular necrosis. (1)

### CONCLUSION:

Transepiphyseal separation injury is frequently missed due to lack of ossified bones in the distal humerus. A longer follow up is needed to ascertain that only closed manual reduction and casting is adequate in neonates.

### REFERENCES:

1. Supakul, N., Hicks, R. A., Caltoun, (2015). Distal humeral epiphyseal separation in young children: An often-missed fracture—radiographic signs and ultrasound confirmatory diagnosis. *American Journal of Roentgenology*, 204(2). <https://doi.org/10.2214/ajr.14.12788>