

## Multiple Epiphyseal Slips In An End Stage Renal Failure Adolescent

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### INTRODUCTION:

Renal osteodystrophy is a well known complication of end stage renal failure (ESRF). In adolescents, this condition not only causes skeletal changes but also affects the growth zone in long bones. In its most severe form, epiphysiolysis may occur. In this case study, we are presenting a case of an adolescent with ESRF that has multiple epiphyseal slips over the right humerus and bilateral femurs.

### CASE REPORT:

A 14-year-old boy, with underlying ESRF which resulted in hypocalcemia and hyperparathyroidism, had a fall in March 2016. After the fall, he was unable to ambulate due to bilateral hip pain. Screw fixation for bilateral slipped upper femoral epiphysis (SUFE) was done in April 2016. Since the surgery, he was still on wheelchair due to delayed union.

Unfortunately, in December 2016, he had an episode of generalized tonic clonic seizure resulting in him having a slipped upper humeral epiphysis (SUHE) of the right humerus.

Open reduction and right upper humeral pinning was planned for him. In addition, valgus osteotomy and internal fixation was planned to aid in union of the right hip.

Intra-operatively, the right upper humerus was displaced antero-inferiorly and button holed within the subscapularis muscle which made closed manual reduction impossible. The tendon of the long head of biceps was used as a landmark to orientate and reduce the head of humerus in relation to the glenoid. Instead of using screws, the SUHE was fixed with 1 Kirschner wire and 3 Schanz pin due to financial issues.

For the right hip, osteotomy was done at the level of the lesser trochanter. The distal segment was put in 45 degrees valgus and fixed with a pre-bend narrow locking plate.

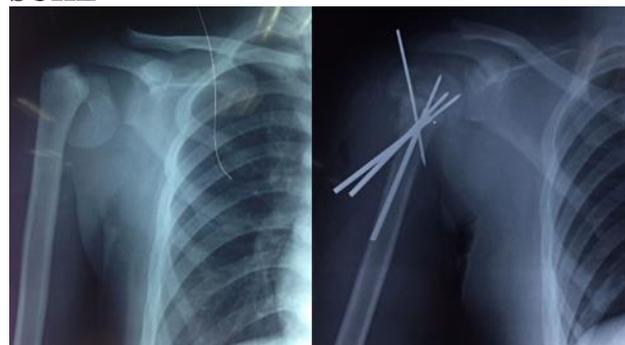
### RESULTS:

On his recent visit to the orthopaedic clinic, the range of motion of the right shoulder was

limited as the pins are within the deltoid muscle. He was planned for early removal of the pins on 16/2/2017.

The patient had no pain over the hip bilaterally. However, we still advised the patient to mobilize with a wheel chair to reduce the stress over the neck of femur.

### Figure 1: Pre and post fixation of right SUHE



### Figure 2 : Pre and Post Valgus Osteotomy



### DISCUSSIONS:

The pathophysiology of epiphysiolysis in chronic renal failure adolescents is different from 'idiopathic epiphysiolysis'. These children are prone to have multiple epiphysiolysis and the treatment for them much more challenging.

### REFERENCES:

1. Mehls O, Ritz E, Krempien B, Gilli G, Link K, Willich E, Schärer K. Slipped epiphyses in renal osteodystrophy. Archives of disease in childhood. 1975 Jul 1;50(7):545-54.