

# Football Follies: First Malaysian Rare Paediatric Distal Radius Non-Union

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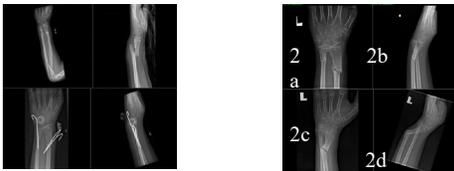
## INTRODUCTION

Aseptic non-union of paediatric distal forearm fractures is rare. Mercer Rang stated that ‘non-union is an adversary almost unknown to the children’s orthopaedic surgeon’ in 1974<sup>1</sup>, a statement republished verbatim in the 2018 edition of his famous textbook. Fewer than ten paediatric case series and reports exist.

## REPORT

A healthy right-handed 9-year-old boy was rushed to the Emergency Department, following a left wrist injury sustained stopping a football. Examination revealed a deformed forearm with no open wounds. He had no systemic signs of neurofibromatosis, dysmorphism nor immunocompromise. Radiographs confirmed distal left radius and ulna fracture. Failure to achieve good bone contact by closed manual reduction due to soft tissue interposition dictated open reduction, internal stabilisation with Kirschner wires, and application of a protective back slab (Figure 1).

*Figure 1: initial treatment. Figure 2: non-union.*



At seven weeks, a painless mobile angular deformity was discovered. Angular deformity worsened despite further treatment on below elbow cast for a month (Figure 2a,2b). Conservative management was prescribed to permit remodelling. Throughout follow-up, he did not sustain intervening trauma nor infection. Hypertrophic non-union was discovered at six months post-trauma (Figure 2c,2d). Examination elicited a painless mobile left wrist deformity. Open reduction, and dynamic compression plating with autologous bone graft harvested from the ipsilateral radius lead to successful union and restoration of function at six months post-trauma (Figure 3).

*Figure 3: Plating and successful union*



## DISCUSSION

Major orthopaedic texts describe paediatric non-union as rare<sup>1</sup>. Weber surmised in 1980 that ‘considerable skill is required to induce non-union in a child, and its occurrence always results from a serious error in management’<sup>2</sup>. Closed distal forearm fractures are the most common childhood fracture, with 1.5/100 incidence.<sup>3</sup> Malaysian males are predominantly affected, 17.4% during sports.<sup>4</sup> Increasing reports of healthy paediatric distal radius non-union occurred in the last two decades.<sup>6</sup> Pertaining to our patient, indication for initial open reduction and stabilisation was clear<sup>3-6</sup>. Factors implicated in his radial non-union: distal fracture site, transverse fracture configuration, open surgery, rotationally unstable fixation, and ulnar union before radius<sup>3-6</sup>.

## CONCLUSION

When faced with the rare adversary of non-union in paediatrics, a return to basic principles is vital. Stable surgical intervention heralds promising rates of satisfactory healing.

## REFERENCES

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