A 12 year old boy was presented to us with an injury to his right elbow following a fall from height two days back. He was taken to a local practitioner before coming to us with a make do splint of wooden sticks. There was swelling, pain and difficulty in using the affected limb. There was tenderness present and swelling more over the posterior aspect but no raised temperature and intact distal neurovascular status. There was no appreciable crepitus or frank abnormal mobility present and a proper elbow examination including range of motion status was limited by swelling and pain. The radiograph of the affected elbow showed an apophyseal-metaphyseal combination injury with displacement. The olecranon apophysis with a rim of metaphysis was avulsed. There was no associated injury present. There was neither any history of frequent or multiple bony injuries in the past related or remote to present condition nor presence of blue sclera or abnormal dentition. The parents of the boy were explained and advised operative intervention of the injury. Following an informed consent of parents in view of patient being minor and under aseptic precautions open reduction and internal fixation was planned and carried out.

### Case Report

A 12 year old boy was presented to us with history of injury to his right elbow following a fall from height two days back. He was taken to a local practitioner before coming to us with a make do splint of wooden sticks. There was swelling, pain and difficulty in using the affected limb. There was tenderness present and swelling more over the posterior aspect but no raised temperature and intact distal neurovascular status. There was no appreciable crepitus or frank abnormal mobility present and a proper elbow examination including range of motion status was limited by swelling and pain. The radiograph of the affected elbow showed an apophyseal-metaphyseal combination injury with displacement. The olecranon apophysis with a rim of metaphysis was avulsed. There was no associated injury present. There was neither any history of frequent or multiple bony injuries in the past related or remote to present condition nor presence of blue sclera or abnormal dentition. The parents of the boy were explained and advised operative intervention of the injury. Following an informed consent of parents in view of patient being minor and under aseptic precautions open reduction and internal fixation was planned and carried out.

### Introduction

Upper extremity is common site of bony injuries in children with reported incidence of 65% to 75% in the literature. 7% to 9% of these injuries are elbow injuries[1]. Apophysis is a term usually applied to an epiphysis that is subjected to traction by muscle insertion and its physiological pull[2]. The injury to the region if displaced can cause serious morbidity and functional limitation and thus warrants appropriate treatment. Non operative management is limited to only undisplaced injuries while injuries with more than 3-5 mm. of displacement warrants open reduction followed by fixation with varying methods. Open reduction and compressive fixation has widely been tried successfully with various implants like screws, tension band wiring or resorbable sutures. There has not been significant growth related problem with compression forces as a result of internal fixation[2].

### Abstract

**Background:** Apophyseal injuries of olecranon have limited number of case reports and series owing to its rarity. Pure apophyseal avulsions are very rare and so are apophyseal- metaphyseal combination injuries. No guidelines exist for the uniformity of the treatment and various modalities have been tried in sporadic reports. A keen clinical observation is required to suspect the possibility of these injuries followed by good imaging confirmation. Concordance of associated disorders like osteogenesis imperfecta with such injuries underlines the importance of ruling out this clinical entity in such cases.

**Keywords:** Fracture, Apophysis, Olecranon, Injury. Tension band wiring.

## Apophyseal- Metaphyseal combination injury to Olecranon in a healthy Adolescent – A rare injury and review of literature

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### Background

Apophyseal injuries of olecranon have limited number of case reports and series owing to its rarity. Pure apophyseal avulsions are very rare and so are apophyseal- metaphyseal combination injuries. No guidelines exist for the uniformity of the treatment and various modalities have been tried in sporadic reports. A keen clinical observation is required to suspect the possibility of these injuries followed by good imaging confirmation. Concordance of associated disorders like osteogenesis imperfecta with such injuries underlines the importance of ruling out this clinical entity in such cases.

**Keywords:** Fracture, Apophysis, Olecranon, Injury. Tension band wiring.
It has been advised that hardwares should be
maintained even after union in cases of
osteogenesis imperfect due to this risk\[5,7\].
The elbow has rich vascularity with
extraosseus network as well as intraosseus
one\[8,9\]. The undisplaced fractures are
amenable to conservative treatment with
plaster of paris slab or cast and fracture unite
well if length, angulation and rotation is
properly taken care of. The displaced
fractures has been managed with tension
band wiring in most instances with fair to
excellent results\[3,7,10\]. Some authors have
used trans- osseous suture fixation for the
fractures with good results\[11\]. Use of
absorbable wires as supplemental fixation
have also been reported.\[12\] As most of
these injuries occur in children near skeletal
maturity, no significant growth related
problem is seen as compressive fixation
across physes. The presented case is an
uncommon variant of apophyseal olecranon
injury in a normal child managed
satisfactorily with appropriate techniques.
References


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Source of Support: NIL

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