

## Olecranon Bone Grafting In A Case Of Clavicle Non-Union With Implant Failure

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### INTRODUCTION:

Bone grafting had been widely used in reconstructive surgery in traumatic osseous defects, defects after tumour excision, arthrodesis, and osteotomy procedure.

### REPORT:

21-years-old gentleman sustained closed comminuted fracture right distal third clavicle after a road-traffic-accident. Primary fixation with clavicle locking plate done. Unfortunately, he complaining of pain over operation site upon clinic review a month later. Plain radiograph revealed implant failure. Revision surgery done and intra-operatively noted screw cut-out over distal clavicle with no callus formation. Autologous bone graft was obtained from ipsilateral olecranon. A 4cm skin incision made 1cm distal to dorsal tip of olecranon followed by subcutaneous dissection. 4cmx1cm cortical window made and cortical-cancellous graft harvested. Donor site void was packed with 10cc artificial bone chips. Clavicle fracture stabilised with distal clavicle locking plate and fracture gap filled with the olecranon autograft. Both donor and fracture site achieved bony union 6 months later and patient regained full function.



Figure 1 : X-ray pre and post revision surgery.



Figure2: Fracture gap over previous fracture site.

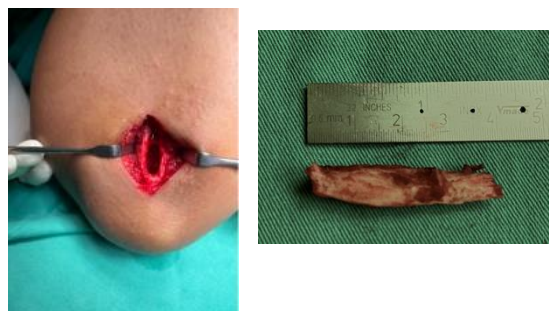


Figure3 : 4cmx1cm olecranon cortical cancellous bone graft harvested.

### DISCUSSION:

Olecranon bone autograft is relatively new compared with other graft sources such as iliac crest, tibia, fibula and cranium. Cortical-cancellous grafts provide greater structure for bone failures and more resistant to external forces<sup>1</sup>. Regional block such as inter-scalene block can be done in ipsilateral upper limb surgery without need for general anaesthesia<sup>2</sup>. Hematoma formation and contour deformity can be prevented in case of cancellous bone grafting as its bone window can be filled back with cortical bone. There is less risk of neurovascular injury as neurovascular bundle is away from surgical field and less donor site scarring as it often heals in good fashion. Moreover, patient will require only simple arm sling immobilization after the procedure.

### CONCLUSION:

Olecranon remained one of the excellent options for bone autograft as it is easily obtainable and cause little morbidity.

### REFERENCES:

1. Samuel *et al.*(2022) Bone graft harvested from olecranon-an anatomic study.
2. Mersa *et al.*(2010) Olecranon Bone Graft: Revisited.