

## Bone Transport Using Semicircular Ilizarov Ring Fixator In Treatment Of Infected Nonunion Of Humerus: A Case Report

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### INTRODUCTION:

Bone transport using ilizarov technique has been a well established method in treating fracture with significant bone defect. However the use of traditional full ring ilizarov system due to its increased stability has been associated with complications including heavy apparatus, pain and discomfort, as well as joint stiffness

### CASE REPORT:

A 23 year old gentleman sustained closed left humeral diaphyseal fracture following traffic accident underwent plating of left humerus which later complicated with infected nonunion.

Removal of implant, sequestrectomy and external fixation of left humerus was done and subsequently treated with bone transport by using semicircular ilizarov ring fixator. Bone transport started on day 14 post fixation at the rate of 1mm/day (0.25mm QID) for total of 50 days until docking of the fracture ends.

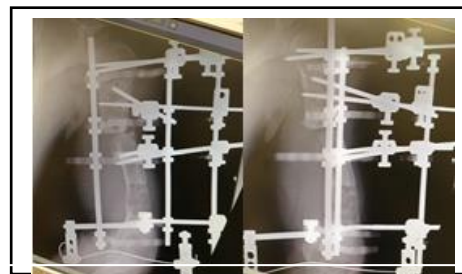
### RESULTS:

Distraction osteogenesis of 30mm was successfully achieved within period of 50 days. Good callus consolidation over the callotaxis portion of the bone was observed. Mild superficial pin tract infection noted over 2 pins but not complicated with pin/wire loosening and resolved following antibiotics and dressings. Satisfactory range of motion of the elbow was maintained (10 - 90 degree of flexion). No other complications such as radial nerve palsy or callus fracture was observed.

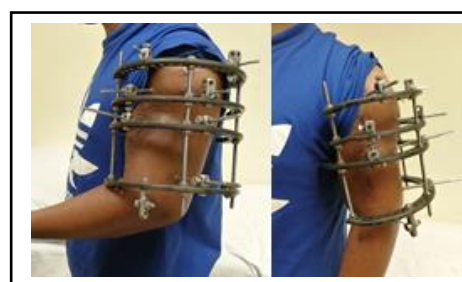
### DISCUSSIONS:

Ilizarov has been a very effective and widely used technique in treating nonunion of humerus. However its benefits and usage are limited by various complications mainly due to the bulkiness of the fixator, persistent pain and discomfort, pin tracts infection and prolonged joint immobilization. The implementation of semicircular ring fixation in this case has been shown to yield comparable results while able to minimize the potential

complications seen with conventional full ring ilizarov fixation.



Good consolidation seen at 3 months



Photographs of semicircular ilizarov ring fixator

### CONCLUSION:

Bone transport in humerus using semicircular ilizarov ring fixator is an equally effective method and is able to produce excellent results whilst eliminating the undesirable bulkiness and discomfort potentially caused by full ring fixator.

### REFERENCES:

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