



# 55<sup>th</sup> Annual Conference of Orthopedic Surgeon Society of Andhra Pradesh

Date 6 – 8 February, 2026, Venue : Kurnool Medical College

Organized by : Department of Orthopaedics, Kurnool Medical College Kurnool



## **A PROSPECTIVE STUDY OF CLINICAL OUTCOMES OF SURGICAL MANAGEMENT OF DISTAL HUMERUS FRACTURES WITH INTRA ARTICULAR EXTENSION USING DUAL PLATING.**

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## INTRODUCTION

- Distal humerus fractures make up 0.5 to 2% of all fractures and up to 30% of fractures involving the elbow joint.
- Involve both medial and lateral column which are placed in inverted –Y configuration.
- Requires operative treatment with anatomic reduction, maintenance of articular congruity, stable rigid fixation.



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## AIM:

- To evaluate the functional and radiological outcome of surgically managed intercondylar fractures of distal end of humerus treated with dual plating.

## METHODS:

- All adult patients with distal humerus fractures who are willing for surgery, and admitted during the period of study.
- Patients were clinically and radiologically evaluated preoperatively and post operatively.
- The patients were assessed with help of Mayo Elbow Performance Score (MEPS) post-operatively.
- Laboratory investigations were carried out.



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**Source of the study:** Santhiram medical college and General Hospital, Nandyal

**Study design** : Prospective study

**Duration of study** : 10 months – March 2025 to December 2025

**Sample size** : Twenty Five of either sex

## INCLUSION CRITERIA

- Intra articular fractures of distal humerus
- Age > 18 years
- AO type C1 C2 and C3
- Consenting to study

## EXCLUSION CRITERIA

- With neurovascular injuries
- Compound open fractures
- Non co-operative patients for the rehabilitation and follow up
- Patients who are medically not fit for surgery

## SURGICAL APPROACHES

Posterior approach

- olecranon

osteotomy

- Paratricipital

approach

- Tricep

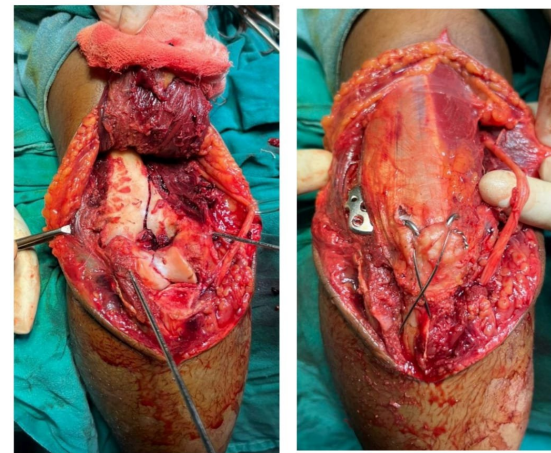
splitting/reflecting

approach

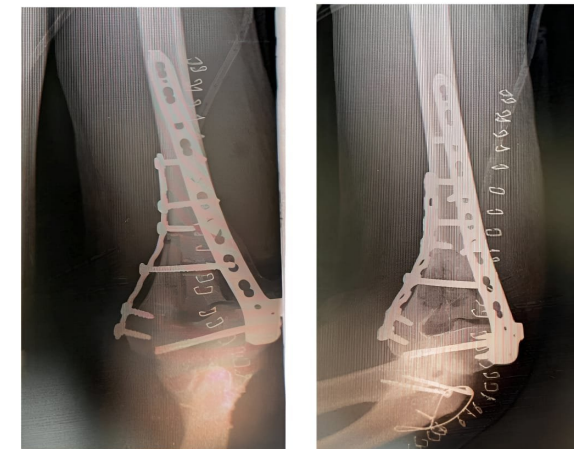
Pre-op x-ray



Intra-op



Immediate post-op



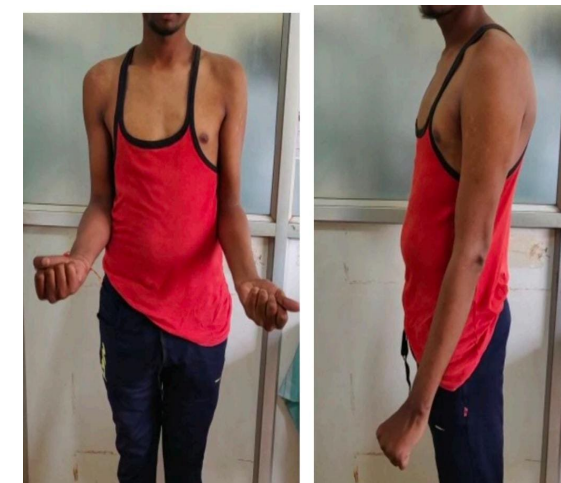
6 months follow up



10 months follow up



10 months follow up







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## GRADING OF RESULTS

### • Mayo Elbow Performance Scoring System (MEPS)

Function	Points
Pain	max 45 points
Daily functional activities	max 25 points
Motion	max 20 points
Stability	max 10 points

## Results

Mode of injury- RTA(18), Direct fall(05), Assault(02)

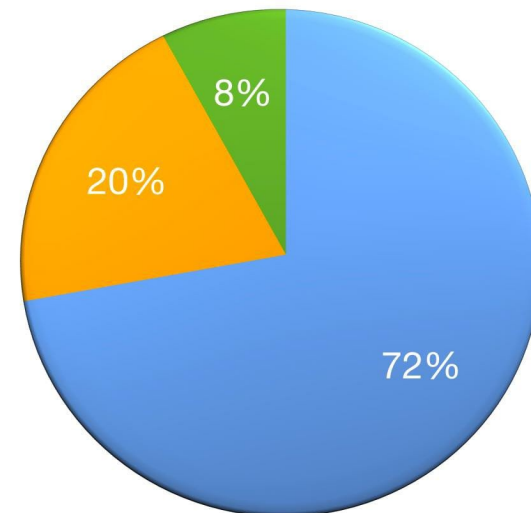
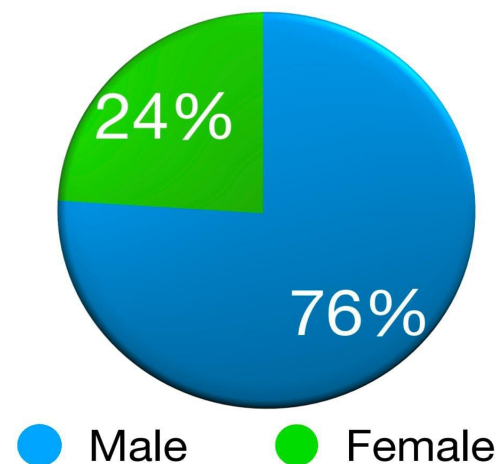
Side distribution - Right (18), left (07)

Sex distribution - Male (19), Female (06)

Complications – Infection (01), Delayed union (01)

● RTA  
● DIRECT FALL  
● ASSAULT

Sex  
Distribution





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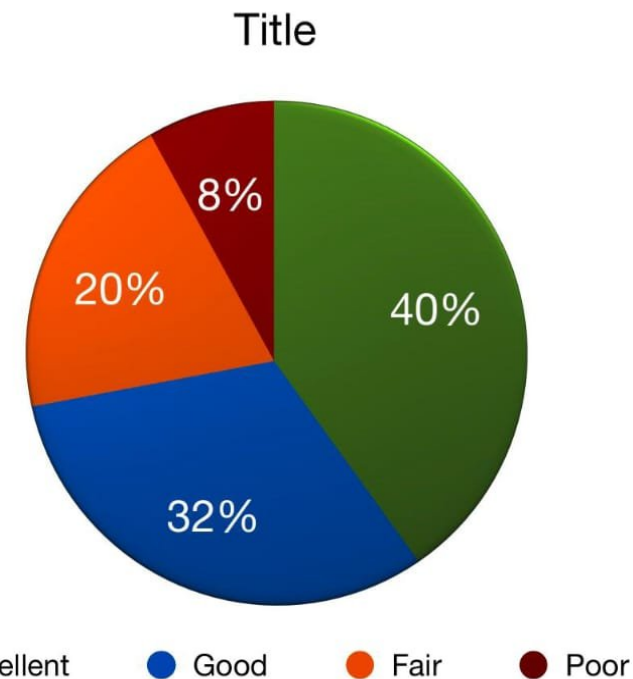
-In our study 18(72%) cases were due to RTA 5(20%) cases were due to direct fall.

-Average MEP score was 82

-The complications noted in our study are implant infection, hardware protrusion at tension band wiring site in one patient and we managed with early removal of protruding k wires from tension band wiring site after union at osteotomy site.

## RESULTS

	MEP score	Number	Percentage
Excellent	91-100	8	32%
Good	75-90	10	40%
Fair	60-74	5	20%
Poor	<60	2	8%





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## CONCLUSION

- Distal end humerus fractures known for their complex nature and technical difficulty in surgical management.
- Proper anatomical articular reconstruction, stable fixation and early post-operative physiotherapy help in restoring painless and functional elbow.

## REFERENCES

1. Bhuktar et al. (2025) – Evaluation of Functional Outcome in Intra-Articular Distal Humerus Fractures Treated by Dual Plating– Prospective observational clinical study reporting MEPS, ROM, union times, and complications in dual-plated intra-articular distal humerus fractures.
2. Lokpal CS et al. (2025) – Functional Outcome of Distal End Humerus Fracture Fixed by Dual Plating– Prospective study with statistical analysis of functional recovery in AO/OTA Type B & C fractures treated with dual plating.
3. Bahroun S et al. (2024) – Comparative Analysis of Two Double-Plate Fixation Techniques for Intercondylar Fractures (Scientific Reports)– Bi-columnar plating technique comparison; suitable for discussing biomechanical and clinical outcomes of parallel vs. orthogonal dual plating.