



## 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 aatomic 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



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## SURGICAL APPROACHES

Posterior approach

- olecranon

osteotomy

- Paratricipital

approach

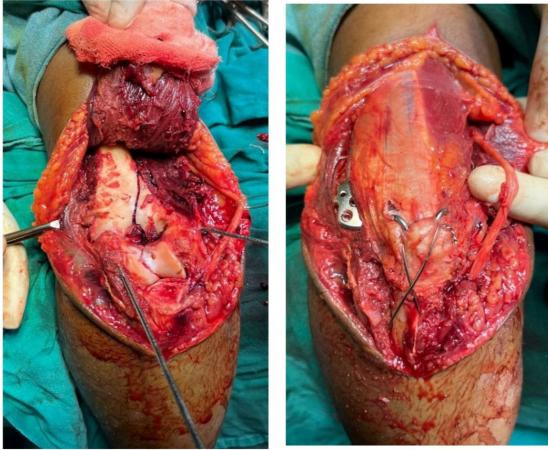
- Tricep

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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RTA  
DIRECT FALL  
ASSAULT

## 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

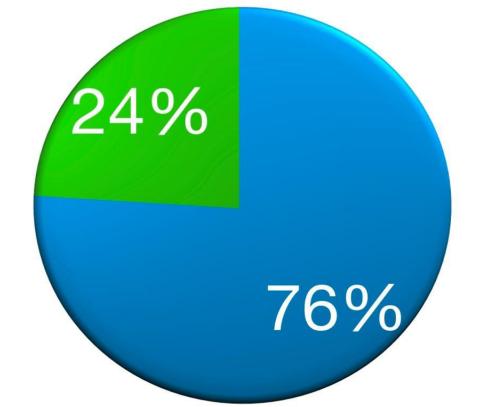
Mode of injury- RTA(18), Direct fall(05), Assault(02)

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

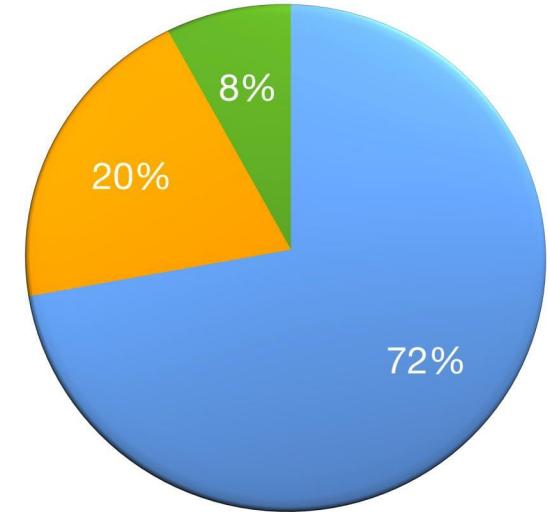
Sex distribution - Male (19), Female (06)

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

Sex Distribution



Male      Female





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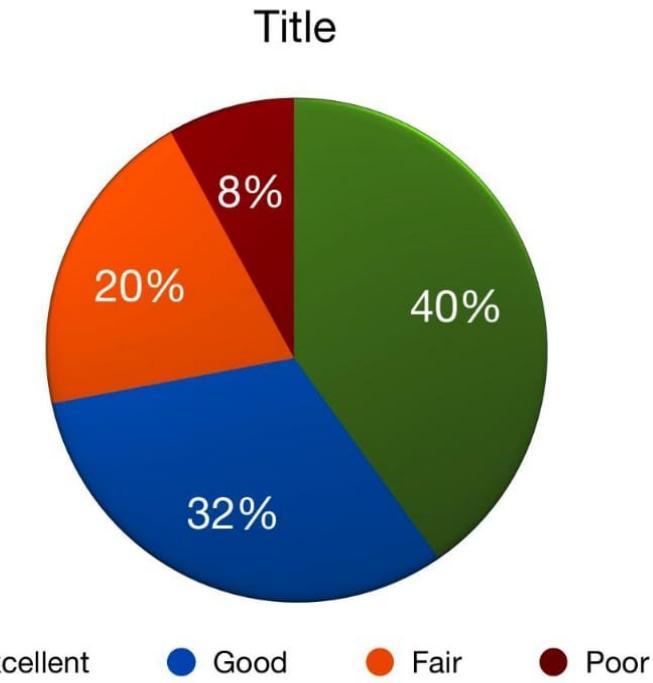
-In our study 18(72%) cases were due to RTA 5(20%) cases were due to direct fall.

-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 difficult 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.