Association Between Radiographic Parameters and Clinical Outcomes Following Distal Radial Fractures.

A Prospective Cohort Study with 1-Year Follow-up in 366 Patients

Schmidt et al. (2023) | DOI: 10.2106/JBJS.22.01096

The final degree of fracture displacement following immobilization or surgery influences the clinical outcomes of distal radial fractures.

Clinical outcomes begin to deteriorate after a distal radial fracture at around 5° of dorsal tilt, and the MCID is reached at around 20° of dorsal tilt.

Outcome measures:
- Radiographic assessment at 3 months after the injury (posteroanterior and lateral radiographs of the wrist)
- Clinical assessment at 1 year after the injury for:
  - Disabilities of the Arm, Shoulder and Hand (QuickDASH) score
  - Range of motion
  - Grip strength

Results of radiographic and clinical assessments:
- 84% patients Clinical and radiographic follow-up
- 58% patients Treated nonoperatively
- Increase in dorsal tilt
  - Associated significantly at:
    - ≥4° Decreased range of motion 7% on the injured side
    - ≥6° Increase in disability/QuickDASH score
    - ≥10° Decreased grip strength 11% on the injured side

Clinical and radiographic follow-up:
- 58% patients Treated nonoperatively

Outcome measures:
- Radiographic assessment at 3 months after the injury (posteroanterior and lateral radiographs of the wrist)
- Clinical assessment at 1 year after the injury for:
  - Disabilities of the Arm, Shoulder and Hand (QuickDASH) score
  - Range of motion
  - Grip strength

Results of radiographic and clinical assessments:
- 84% patients Clinical and radiographic follow-up
- 58% patients Treated nonoperatively
- Increase in dorsal tilt
  - Associated significantly at:
    - ≥4° Decreased range of motion 7% on the injured side
    - ≥6° Increase in disability/QuickDASH score
    - ≥10° Decreased grip strength 11% on the injured side

Clinical outcomes begin to deteriorate after a distal radial fracture at around 5° of dorsal tilt, and the MCID is reached at around 20° of dorsal tilt.