Proximal Humerus ORIF — Rehabilitation Protocol

Overview

- Open reduction and internal fixation for displaced proximal humerus fractures
- Sling for 4–6 weeks post-operatively
- Rehabilitation pace dictated by fracture pattern, bone quality, and fixation stability
- Avascular necrosis risk monitored at regular follow-up intervals
- Physiotherapy commences within 1–2 weeks of surgery

Rehabilitation Phases

Phase 1 — Protection	Weeks 0–6
Goals: • Protect surgical fixation • Minimise pain and swelling • Maintain distal joint mobility	**Exercises & Interventions:** • Pendulum exercises (gravity-assisted) • Elbow, wrist, and hand ROM • Passive/active-assisted shoulder flexion (surgeon-directed range) • Scapular retraction • Ice and elevation
Precautions: ■ Sling at all times except exercises and hygiene ■ No active shoulder movement until fracture healing confirmed ■ No lifting with affected arm	

Phase 2 — Active Motion	Weeks 6–12
Goals: • Restore active shoulder ROM • Initiate rotator cuff activation • Improve scapular control	**Exercises & Interventions:** • Active-assisted and active shoulder flexion and abduction • External and internal rotation (pain-free range) • Rotator cuff activation — isometrics progressing to theraband • Scapular stabilisation exercises • Hydrotherapy if available
Precautions: ■ No heavy lifting (> 1–2 kg) for 3 months post-operatively ■ Avoid aggressive stretching until radiographic healing confirmed	

Rehabilitation Phases (continued)

Phase 3 — Strengthening	Weeks 12–20
Goals: • Progressive shoulder strengthening • Restore functional independence • Proprioception and endurance	**Exercises & Interventions:** • Progressive resistance training — shoulder and scapular girdle • Closed-chain upper limb exercises • Functional strengthening for ADL and work tasks • Overhead activity as tolerated
Phase 4 — Return to Function	Months 5–12
Goals: • Full return to activities of daily living and occupation • Return to sport and manual work as appropriate	**Exercises & Interventions:** • Sport-specific or occupation-specific conditioning • Maintenance strengthening programme • Ongoing physiotherapy as required

Clinical Notes

- Avascular necrosis surveillance — regular radiographic follow-up mandatory
- Fracture pattern (2-part, 3-part, 4-part) dictates rehabilitation pace
- Head-splitting and 4-part fractures carry higher AVN risk — monitor closely
- Hardware prominence symptomatic in some patients — discuss with surgeon if concern

References

1. Neer CS. Displaced proximal humeral fractures. J Bone Joint Surg Am. 1970.
2. Vallier HA. Treatment of proximal humerus fractures. J Orthop Trauma. 2007.
3. Südkamp N, et al. Open reduction and internal fixation of proximal humeral fractures with use of the PHILOS plate. J Bone Joint Surg Am. 2009.
4. Olerud P, et al. Proximal humeral fractures — results of surgical treatment versus non-surgical treatment. J Bone Joint Surg Am. 2011.
5. Misra A, et al. Proximal humeral fractures in adults — ten years of experience. Injury. 2001.

This rehabilitation protocol is intended as a general guide for qualified physiotherapists and healthcare professionals. It should be adapted to individual patient presentation, surgical findings, tissue quality, and progress. All progression decisions should be made in consultation with the treating surgeon.