Scapholunate Repair & Reconstruction — Rehabilitation Protocol

Overview

- Applies to: acute scapholunate (SL) ligament repair, chronic SL reconstruction (tendon graft, RASL, 3-ligament tenodesis)
- Immobilisation duration varies by procedure: acute repair 8 weeks; reconstruction 10–12 weeks
- Radioscapholunate fusion in advanced SLAC: use four corner fusion protocol
- Hand therapy is essential — OT with hand therapy expertise strongly recommended

Rehabilitation Phases

Phase 1 — Strict Immobilisation	Weeks 0–8 (repair) / 0–10 (reconstruction)
Goals: • Protect scapholunate repair/reconstruction • Prevent SL gapping • Control swelling	**Exercises & Interventions:** • Thumb spica cast (wrist neutral, thumb immobilised): 8–10 weeks • Finger AROM (IP, MCP 2–5) immediately • Shoulder and elbow AROM • Edema management: elevation, finger compression • Grip exercises (fingers only, no wrist/thumb CMC) • Cryotherapy

Precautions:
- ■ Absolute immobilisation of wrist and thumb CMC
- ■ No wrist movement or loading
- ■ No cast removal until surgeon review

Phase 2 — Initiate Wrist Motion	Weeks 8–12
Goals: • Begin gentle wrist and forearm ROM • Monitor scapholunate alignment (imaging) • Restore tendon gliding and hand function	**Exercises & Interventions:** • Transition to removable thermoplastic thumb spica splint • Gentle active wrist flexion/extension (avoid ulnar deviation initially) • Active forearm pronation/supination • Wrist radial deviation exercises • Tendon gliding (finger full fist, hook fist, tabletop) • Light grip (putty) • Scar massage and desensitisation

Precautions:
- ■ No ulnar deviation loads (stresses SL repair)
- ■ Verify radiological alignment before progressive motion
- ■ No resisted wrist extension

Rehabilitation Phases (continued)

Phase 3 — Progressive Loading	Weeks 12–20
Goals: • Functional wrist ROM • Progressive grip and wrist strengthening • Neuromuscular wrist stability	**Exercises & Interventions:** • Wean from splint (continue for heavy activities) • Wrist flexion/extension strengthening (theraband, progressive) • Resisted radial and ulnar deviation (progressive) • Grip strengthening (progressive dynamometer) • Proprioception drills (weight-bearing through hand, perturbation) • Functional ADLs: cooking, driving, writing • OT for adaptive strategies
Precautions: ■ No axial loading >2 kg before Week 16 ■ No forceful wrist extension or deviation loading	

Phase 4 — Return to Function	Weeks 20–26
Goals: • Functional grip and ROM for ADLs • Work/sport reintegration • Long-term wrist stability maintenance	**Exercises & Interventions:** • Progressive resistance (1–3 kg) • Sport-specific reintegration (golf — from 5 months, modified grip) • Manual work adaptation with OT • Wrist proprioception maintenance exercises • Protective splinting for heavy activities long-term
Precautions: ■ SL gap recurrence: early imaging if pain recurs ■ Heavy manual work requires surgeon clearance at 6 months ■ SLAC progression possible — annual imaging review recommended	

Clinical Notes

- SL widening >3mm or SL angle >70° on stress views = inadequate repair — surgical review urgent
- Proprioceptive training critical: SL injury disrupts wrist mechanoreceptors
- Night splinting for 6 months post-reconstruction is recommended

References

1. Geissler WB et al. Intracarpal soft-tissue lesions associated with an intra-articular fracture of the distal end of the radius. J Bone Joint Surg Am. 1996;78(3):357-365.
2. Garcia-Elias M et al. Three-ligament tenodesis for the treatment of scapholunate dissociation: indications and long-term results. J Hand Surg Am. 2006;31(1):125-134.
3. Chee KG et al. Scapholunate interosseous ligament reconstruction using the extensor carpi radialis longus tendon graft: a biomechanical study. J Hand Surg Am. 2007;32(7):990-997.
4. Michelotti B, Chung KC. Scapholunate ligament disruption. J Hand Surg Am. 2014;39(11):2268-2282.
5. Andersson JK. Treatment of scapholunate ligament injury: current concepts. EFORT Open Rev. 2017;2(9):382-393.
6. Moritomo H. The distal interosseous membrane: current concepts in wrist anatomy and biomechanics. J Hand Surg Am. 2012;37(7):1501-1507.

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.