What is the best way to manage chronic scapholunate dissociation?

Evidence-Based Answer
Available literature suggests that surgical treatment improves wrist function in patients with chronic scapholunate dissociation. (SOR C, based on a narrative review of case series.)

Scapholunate injuries are the most common cause of symptomatic wrist instability. Scapholunate dissociation refers to a complete tear of the scapholunate interosseous ligament (SLIL), the main stabilizer of the scapholunate joint, with an additional tear of 1 or more of the secondary ligament restraints. Injuries to the scapholunate joint usually result from a fall on an outstretched hand and clinically present with pain in the snuffbox, popping or clicking in the wrist, and decreased wrist strength. Scapholunate injuries can range from mild instability to scapholunate dissociation and, finally, scapholunate advanced collapse (SLAC). Untreated, this progression is associated with increasing wrist pain, decreased wrist motion, and osteoarthritis.

Most literature supports surgical treatment once any dynamic instability or dissociation occurs. A recent narrative review article examined several case series and developed an algorithm for treatment based on the stage of scapholunate instability. This review did not provide search criteria. The review stressed that scapholunate dissociation involves altered kinematics in both the coronal and sagittal planes of the wrist. The authors stressed that treatment needs to address both of these components to be successful. The stages of scapholunate instability were described as follows:

Stage I – occult instability. The review determined that conservative management with a thumb spica splint or casting may be appropriate for mild instability without a complete tear of the SLIL. More severe injuries led to progressive pain and instability without surgical repair. One case series showed improvement in 85% of patients (11/13) who underwent arthroscopic debridement of partial scapholunate tears. The same series compared debridement for complete tears, and only 67% of patients (10/15) reported improvement.

Stage II – dynamic instability and scapholunate dissociation with repairable SLIL. Treatment for this stage involves dorsal capsulodesis. The Blatt capsulodesis does limit flexion, but in 1 series 88% of patients (15/17) were satisfied with the outcome. The other technique, dorsal intercarpal ligament capsulodesis, also leaves decreased wrist flexion and had a 58% satisfaction rate.

Stage III – scapholunate dissociation without repairable SLIL. One series that attempted scapholunate fusion showed success in 1 of 7 cases. Generally this procedure is not done; instead, tendon grafts are attempted. One series of triligament tenodesis showed a 30% decrease in flexion, 65% to 80% maintenance of grip strength, and a 79% satisfaction rate.

Stage IV – dorsal intercalated segment instability. The review found few studies describing treatment for this stage. Case reports of arthrodesis of the scaphotrapezio-trapezoidal joint, scaphocapitate joint, and scaphocapitotrapezolunate joints show 50% reduction in wrist motion.

Stage V – SLAC. No good case series were identified by the review, but expert opinion holds that this stage may benefit from excision of the scaphoid and then additional surgery, depending on condition of the capitolunate joint.

An evidence-based review from 2003 compared soft tissue reconstruction with limited intercarpal fusion for treatment of scapholunate dissociation. Authors analyzed 27 reports published between 1978 and 2000. All of the studies were noncontrolled, nonrandomized case series, and the authors concluded that evidence was insufficient to recommend 1 surgical approach over another.

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“Evidence based medicine is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients. The practice of evidence based medicine means integrating individual clinical expertise with the best available external clinical evidence from systematic research.”  