Reconstruction for Chronic Scapholunate Dissociation with DIC Stabilized by RASL vs SwieveLock as Internal splint

Intrinsic ligament
Dorsal distal part is important!

Approach and Graft
• Berger’s approach
• Spare dorsal intercarpal ligament
• Expose through windows at radiolunate and lunocapitate joint
• Partial DIC is transferred to dorsal portion of SL

RASL – our result
- 12 patients
- 10/12 patients returned to previous occupation
- Average follow-up 32.4 months (range 8 - 114)
- 2 cases converted to Swieve Lock internal split
- 1 Breakage of double thread screw
- No carpal collapse or progression to SLC


SwieveLock with DIC
– The Study
- 6 patients
- Average follow-up 10 months (range 5 - 13)
- No progression of SL gap except for 1 case

Results - Scapholunate Angle & Gap
SL Angle
Preop: 69° (DISI)
Postop: 40°
(p<0.05)
SL Gap
Preop gap 4.1mm
Postop gap 1.8mm
(p<0.05)

Case 1
35 M Self-Defense Force

Case
Case
19 y.o. American football player
19 y.o. American football player

RASL - The Concept: Like an Axle
Smooth shank of Herbert Screw Allows motion around the center of the lunate

Results - Scapholunate Angle & Gap
SL Angle
Preop: 72° (DISI)
Postop: 40°
(p<0.05)
SL Gap
Preop gap 5.3mm
Postop gap 1.2mm
(p<0.05)

SwieveLock with DIC
– Cadava

Results - Scapholunate Angle & Gap
SL Angle
Preop: 67° (DISI)
Postop: 40°
(p<0.05)
SL Gap
Preop gap 3.5mm
Postop gap 1.0mm
(p<0.05)

Case
Case
19 y.o. American football player
19 y.o. American football player

Conclusion
1.12 cases of RASL were analyzed averaged followed up for 32.4 months (mean 32.4 months). Patients returned to previous occupation. 3 cases were converted to Swieve Lock system. 1 case occurred breakage of double thread screw.

Scaphoid motion axis
based on lunate

1.2 According to 3D kinematic analysis, center axis of normal scaphoid motion is dorsal scaphoid. Distance between scaphoid axis and center axis are different among normal, RASL, and fiber tape with SwieveLock system. Fiber tape with SwieveLock is closer to normal compared to RASL, and clinical result is better compared to RASL as internal split.