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 splint
- 1 Breakage of double thread screw
- No carpal collapse or progression to SLAC

**Results - Scapholunate Angle & Gap**

Case 1 35 M Self-Defense Force
- SL Angle
  - Preop: 69° (DISI)
  - Postop: 40°
  - p<0.05
- SL Gap
  - Preop gap: 4.1mm
  - Postop gap: 1.8mm
  - p<0.05

Case 2 19 y.o. M American football player
- SL Angle
  - Preop: 72° (DISI)
  - Postop: 40°
  - p<0.05
- SL Gap
  - Preop gap: 5.3mm
  - Postop gap: 2.2mm
  - p<0.05

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**

Case 1 19 y.o. M American football player
- SL Angle
  - Preop: 72° (DISI)
  - Postop: 40°
  - p<0.05
- SL Gap
  - Preop gap: 5.3mm
  - Postop gap: 2.2mm
  - p<0.05

Case 2 19 y.o. M American football player
- SL Angle
  - Preop: 72° (DISI)
  - Postop: 40°
  - p<0.05
- SL Gap
  - Preop gap: 5.3mm
  - Postop gap: 2.2mm
  - p<0.05

Solution
- We need internal splint

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

**Conclusion**
1. 12 cases of RASL were analyzed averaged followed up for 32.4 months 10/12 patients returned to previous occupation. 2 cases were converted to Swieve Lock system. 1 case occurred breakage of double thread screw. There was no significant collapse of progression to SLAC. & cases of SwieveLock system were analyzed averaged followed up for 13 months. There was no progression of SL gap except for 1 case.

2. According to 3D kinematic analysis, center axis of normal scaphoid motion is dorsal scaphoid. Distance between scaphoid apex and center motion 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 splint.