



# Does Combined Radial Wedge and Shortening Osteotomy Work in Advanced Kienböck's Disease? [HSEP06]



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## Objectives

- ✓ Treatment of advanced Kienböck's disease (**Lichtman stage IIIB and above**) is controversial.
- ✓ This study compared the clinical and radiological outcomes of **combined radial wedge and shortening osteotomy (CRWSO)** and **scaphocapitate arthrodesis (SCA)** in the treatment of advanced Kienböck's disease.

## Methods

- ✓ CRWSO group : 16 pts
- ✓ SCA group : 13 pts
- ✓ Mean follow-up period : **48.6±12.8 months**
- ✓ **Clinical outcomes assessment** : flexion–extension arc, grip strength, Disabilities of the Arm, Shoulder, and Hand Questionnaire (DASH), and Visual Analogue Scale (VAS)
- ✓ **Radiological parameters** : ulnar variance (UV), carpal height ratio (CHR), radioscapoid angle (RSA), and Stahl index (SI).
- ✓ Osteoarthritic changes in the radiocarpal and midcarpal joints were evaluated using CT.



Stage IIIB Kienböck's disease treated with **Combined radial wedge and shortening osteotomy**.

4 years followup, no further lunate collapse or degenerative changes.



Stage IV Kienböck's disease treated with **Lunate excision and scaphocapitate (SC) arthrodesis**.

6 years follow up, complete SC bone fusion and no further progression of the osteoarthritic changes.

## Results

### ✓ Clinical outcomes

	CRWSO (n=16)	SCA (n=13)	p value
<b>Flexion/Extension ROM (°)</b>			
Correction	25.1 ± 10.2	-9.9 ± 16.2	<b>&lt;0.001</b>
p value	<0.001	0.249	
<b>Grip strength</b>			
Correction	31.4 ± 8.8	32.5 ± 8.57	<b>0.559</b>
p value	<0.001	0.01	
<b>DASH score</b>			
Correction	31.0 ± 5.8	31.8 ± 6.3	<b>0.559</b>
p value	<0.001	<0.001	
<b>VAS score</b>			
Correction	5.0 ± 1.4	4.6 ± 1.1	<b>0.329</b>
p value	<0.001	<0.001	

### ✓ Radiological outcomes

	CRWSO (n=16)	SCA (n=13)	p value
<b>Ulnar variance (mm)</b>			
Correction	1.61 ± 1.27	-0.25 ± 1.08	<b>&lt;0.001</b>
p value	0.001	0.812	
<b>Carpal height ratio</b>			
Correction	0.03 ± 0.04	0.02 ± 0.02	<b>0.068</b>
p value	0.007	0.016	
<b>Radioscaphoid Angle (°)</b>			
Correction	0.04 ± 3.19	-9.23 ± 11.53	<b>0.009</b>
p value	0.723	0.017	
<b>Stahl Index</b>			
Correction	0.04 ± 0.11		
p value	0.301		
<b>Osteoarthritis progression</b>			
	0 / 16	2 / 13	<b>0.513</b>

## Conclusions

- ✓ Both CRWSO and SCA provided **excellent clinical and radiological results** in patients with **advanced Kienböck's disease** during midterm follow up.
- ✓ We suggest that **CRWSO (Combined Radial Wedge & Shortening Osteotomy)** may be a good alternative to LCA for advanced Kienböck's disease
- ✓ Especially for patients who wish to **preserve a wider wrist range of motion**.