

A Survey of the Management of Kienböck's Disease

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Objective

•Hypothesis: Hand surgeons have widely varying strategies in their approaches to treating Kienböck's disease

Methods

•An online survey was created, with a generic young male patient diagnosed with Kienböck's disease (Figure 1)
•Multiple choice questions were presented to 2,100 members of the ASSH

Case 1

Stage I Kienböck's Disease

A 32 year-old right handed, healthy male laborer presents with a six month history of atraumatic right dorsal wrist pain that limits his ability to work.

On examination, there is minimal swelling over the dorsum of the wrist, localized around the lunate, which is tender to palpation. He has mild decreases in range of motion, and pain at the extreme of wrist extension.

Standard PA, oblique, and lateral radiographs of the affected wrist reveal a normal-appearing lunate, with no evidence of sclerosis, fracture, cystic changes, collapse, or arthritis. A T1-weighted MRI is abnormal, and shows diffuse signal intensity changes throughout the lunate.

A diagnosis of STAGE I KIENBOCK'S DISEASE is made.

1. How would you treat this patient's Stage I Kienböck's Disease?

Figure 1: the online survey, with a generic male patient

Demographics

•375 participants from a wide variety of backgrounds, as noted in Figure 2
•No statistically significant differences in treatment choices found between demographic groups



Figure 3: a summary of results by stage (above) categorized by management strategy

Demographics of respondents		
Residency training	299	%
General surgery	10	3%
Orthopedic surgery	258	86%
Plastic surgery	31	10%
Hand fellowship trained?	297	%
Yes	286	96%
No	11	4%
Foreign practice	33	%
Non-US North America	7	21%
Europe	11	33%
South America	4	11%
Asia	8	24%
Australia	2	6%
US practice	244	%
New England	68	28%
Northwest	12	5%
Southwest	28	12%
Midwest	39	16%
Central/Mountain	27	11%
South	67	28%
Years in practice	288	%
1-5	6	2%
6-10	34	12%
11-20	117	41%
21-30	93	32%
31-40	30	10%
>41	7	2%
# of arthroscopies/year	303	%
0	43	14%
<5	32	10%
5-20	139	46%
>20	89	30%

Figure 2: a summary of participant demographics

Results

•Consensus reached for stages I, IIIa w/(-) ulnar variance, IIIb, and IV but opinion divided on Stage IIIa w/(+) ulnar variance (Figure 3)

Conclusions

Non-operative treatment

- Limited choices, mainly restricted to immobilization, but less-commonly referenced approaches included steroid injections and arthroscopic debridement

Surgical approach: Stage I

- Strong majority preferred non-operative management

Surgical approach: Stages II to IIIa

- Surgical, with a consensus preference for radial shortening osteotomy

Surgical approach: Stages IIIb to IV

- Largely salvage operations, though without a consensus for a single operation

Lichtman classification

- Used by the vast majority (90%) of surgeons to guide management

Imaging and ulnar deviation

- Though not part of the Lichtman classification, MRIs were commonly requested, especially for Stage I or II disease, as was the ulnar deviation for all stages

Response to digital online media

- The online format allowed for a more personalized experience
- Nearly 10% of responses were completed on a handheld device