

# The Role of Medial Femoral Condyle Free Vascularized Bone Graft for the Treatment of Failed Scaphoid Nonunion Surgery associated with Proximal Pole Avascular Necrosis

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## Introduction

- Revision scaphoid surgery with AVN and carpal collapse is challenging
- Free vascularized medial femoral condyle (MFC) can address:
  - Revascularization
  - Correct deformity
  - Carpal Kinematics

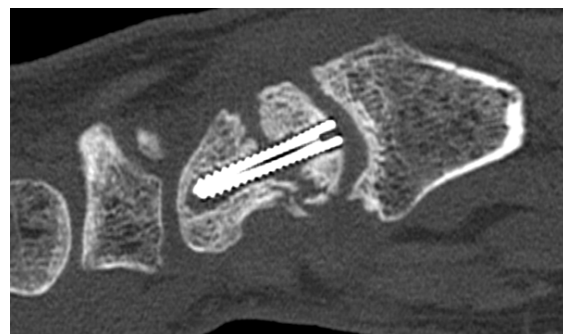
### Purpose

Present outcome of MFC in revision scaphoid surgery

## Methods

- 49 patients reviewed
  - Inclusion criteria:
    - AVN
    - Carpal Collapse
    - Failed Prior Sx
- Nonunion Factors  
 Months from injury: 24  
 Prior bone graft: 73%  
 Prior Screw: 88%

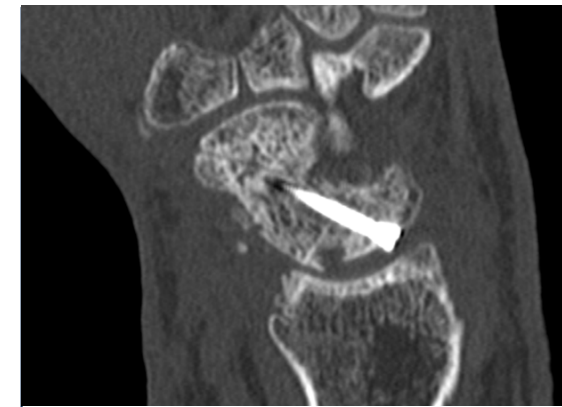
## Pre-Op



## Results

- 84% union rate
- Mean time to union:
  - 16 weeks
- Donor vessel:
  - 73% descending geniculate artery
- Screw fixation: 21/49
- 5 salvage procedures
- Post-op DASH: 8.2
- Post-op PRWE: 12.5

## Post-Op



3 months post-op CT

## Conclusion

### MFC Restores

- Scaphoid vascularity
- Scaphoid length
- Carpal alignment

## Radiographic Parameters

	Preoperatively (degrees)	Postoperatively (degrees)
Scapholunate angle	66 ± 11	58 ± 12*
Radiolunate angle	20 ± 9	10 ± 13*
Height-to-length	0.70 ± 0.13	0.61 ± 0.10*
Revised carpal height ratio	1.46 ± 0.08	1.49 ± 0.08*

\*p < 0.05