

Author Verified

RCT ACE Report #13900

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	How to Cite OrthoEvidence. One vs. Three Week Immobilization for Nonoperative Proximal Humeral Fractures. ACE Report. 2021;88(1):2. Available from: https://myorthoevidence.com/AceReport/Report/13900				
	Study Type: <b>Therapy</b>	OE Level Evidence: <b>1</b>	Journal Level of Evidence: <b>1</b>		
	One Versus 3-Week Immobilization Period for Nonoperatively Treated Proximal Humeral Fractures: A Prospective Randomized Trial.				
	J Bone Joint Surg Am. 2021 Aug 18;103(16): 1491-1498.				
Contributing	Authors: R Martinez F Santana A Pardo C T	orrens			

# OE EXCLUSIVE To listen to the full audio interview please go to <u>https://myorthoevidence.com/AceReports/Report/13900</u>

## Synopsis

One hundred and forty-three patients with nonoperative proximal humerus fractures were randomized to receive 1-week immobilization (n=67) or 3-week immobilization (n=76). Outcomes of interest included the visual analogue pain scale (VAS), functional outcomes measured with the Constant score and Simple Shoulder Test (SST) and complications. No significant differences were found in pain or functional scores at any time point up to 2 years follow-up. Similarly, no differences in complications were found between the two groups.

# Publication Funding Details

Funding	Funding Details	Disclosures	
Not funded	This study was done without any outside funding.	Other	

# Why was this study needed now?

The incidence of proximal humeral fractures is increasing, particularly in older individuals. The majority of proximal humerus fractures in this population can be treated nonoperatively. Patients generally undergo a period of immobilization in the acute healing phase. In recent years, shorter periods of immobilization have been suggested to allow patients to return to activities of daily living sooner. Therefore, a trial evaluating one vs. three weeks of immobilization following proximal humerus fractures was undertaken.

### What was the principal research question?

In patients with nonoperatively treated proximal humerus fractures, how does one week of immobilization compare to three weeks of immobilization in terms of functional outcomes and pain scores?

### What were the important study characteristics?



#### Total Sample Size

All included patients sustained acute proximal humerus fractures (<1 week old) and were undergoing nonoperative management as per the treating surgeon. Immobilization was performed with a sling bandage with restriction of arm rotation. All patients were instructed to perform passive elbow range of motion. Following immobilization, all patients underwent the same progressive rehabilitation program.



#### What were the important findings?

No significant differences in pain scores, as measured by the VAS scale, or functional outcomes, evaluated using the Constant Score and Simple Shoulder Test, were found at any time point. No differences in complications were found between the two groups.

	Significantly Better No D	Significantly Better				
	Immobilization (1 week)	Immobilization (3 week)	^			
Pain			Risk of Bias			
Mean (cm, 0-10 cm, Lower = Better)						
Visual analogue scale (VAS) 3 Weeks	4.8 Number of patients: 55	<b>4.1</b> Number of patients: 56	8			
Mean (cm, 0-10 cm, Lower = Better)						
<b>Visual analogue scale (VAS)</b> 1 Years	0.7 Number of patients: 55	0.7 Number of patients: 56	8			
Mean (cm, 0-10 cm, Lower = Better)						
<b>Visual analogue scale (VAS)</b> 2 Years	0.6 Number of patients: 55	0.3 Number of patients: 56	8			

Function Risk of Bias Mean (0-100, Higher = Better) 50.0 48.5 **Total Constant Shoulder Score**  $\mathbf{S}$ 3 Months Number of patients: 55 Number of patients: 56 Mean (0-100, Higher = Better) **Total Constant Shoulder Score** 67.9 71.8  $\odot$ 2 Years Number of patients: 55 Number of patients: 56 Mean (Higher = Better) Simple Shoulder Test 6.1 6.2  $\mathbf{E}$ 3 Months Number of patients: 55 Number of patients: 56 Mean (Higher = Better) 9.0 9.0 Simple Shoulder Test  $\mathbf{E}$ 1 Years Number of patients: 55 Number of patients: 56 Mean (Higher = Better) 9.0 9.4 Simple Shoulder Test  $\odot$ 2 Years Number of patients: 55 Number of patients: 56 Adverse events Risk of Bias Proportion of Events (Lower = Better) 1.8% 3.6% Incidence of osteonecrosis  $\odot$ 24 Months Number of events / sample Number of events / sample size: 2 / 55 size: 1 / 56 Proportion of Events (Lower = Better) 0.0% 3.6% Incidence of nonunion  $\mathbf{\mathbb{S}}$ Number of events / sample Number of events / sample 24 Months size: 0 / 55 size: 2 / 56 Proportion of Events (Lower = Better) Incidence of secondary 1.8% 7.3% displacement  $\mathbf{old S}$ Number of events / sample Number of events / sample 24 Months size: 4 / 55 size: 1 / 56 Proportion of Events (Lower = Better) 0.0% 1.8% Incidence of stiffness  $\mathbf{E}$ Number of events / sample Number of events / sample 24 Months size: 0 / 55 size: 1 / 56 🚺 Low Risk of Bias 🔀 High Risk of Bias Some Concern **Risk of Bias** / Was the allocation sequence adequately generated?



### What should I remember most and how will this affect the care of my patients?

In patients with nonoperative proximal humerus fractures, a one week immobilization period provides similar functional outcomes and pain levels without increasing complication rates when compared to a three week period of immobilization.





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