

Complications After Reverse Shoulder Arthroplasty (RSA) for Proximal Humerus Nonunion

Rachel Honig, MD; Lauren Elizabeth Dittman, MD; Ronda Nancy Esper, BS; Jonathan D. Barlow, MD; Mark E. Morrey, MD; John William Sperling, MD; Joaquin Sanchez-Sotelo, MD
 Mayo Clinic Rochester, MN, Rochester, Minnesota, UNITED STATES

Purpose: The purpose of this study is to evaluate the outcomes of primary reverse shoulder arthroplasty (RSA) for nonunion of the proximal humerus.

Methods: Between 2014 and 2019, 42 shoulders underwent RSA at a single institution for the diagnosis of proximal humerus nonunion and had been followed for a minimum of 1 year. The average patient age at time of arthroplasty was 71 years (range, 54-86). 32 shoulders (76%) had been initially treated conservatively for their proximal humerus fracture and 10 shoulders (24%) were treated initially with open reduction and internal fixation. A retrospective chart review was conducted to record demographic information, intraoperative information, pre- and postoperative pain, and range of motion, as well as any postoperative complications. Radiographs were reviewed for evidence of implant failure. The mean follow-up time was 5 years (range, 1-11 years).

Results: The overall rate of complications was 24% (10/42 shoulders). All complications are summarized in Table 1. The most common complication was dislocation (5 shoulders, 12%), and 4 of the 5 shoulders that sustained a dislocation required reoperation. The overall rate of reoperation was 23% (9/42 shoulders).

Conclusion: RSA continues to be associated with rate of complications and reoperations of approximately 25%. The use of special reconstructive techniques, such as the selective use of allograft-prosthetic composites or modular segmental prosthesis, must be considered in some shoulders with substantial resorption secondary to the chronicity of their nonunion.

Complications after RSA for Proximal Humerus Nonunion				
Complication	Total		Requiring Reop	
	n	%	n	%
Dislocation	5	12	4	80
Loose humeral component	3	7	3	100
Deep infection	2	5	2	100
Periprosthetic fracture	1	2	1	100
Acromion fracture	1	2	0	0
Total	11*	27	9*	23%
*1 patient had concomitant dislocation and infection				