

**Arthroscopy After Shoulder Arthroplasty Results in Identification of Complications****Abstract**

**Background:** Arthroscopy is a minimally invasive method to evaluate a painful shoulder arthroplasty. The purpose of this study is to characterize the rates of complications that were identified in patients who undergo arthroscopy after prior reverse total shoulder arthroplasty (rTSA) and anatomic total shoulder arthroplasty (aTSA).

**Methods:** Patients undergoing ipsilateral arthroscopy after shoulder arthroplasty were identified in the PearlDiver database. Patients were included if they had 2-year postoperative database follow-up after the arthroplasty. The type of arthroscopic procedure included diagnostic arthroscopy, loose body removal, synovectomy, debridement, lysis of adhesions and subacromial decompression. The results of the arthroscopy procedures were recorded and compared between rTSA and aTSA using univariate and multivariate analysis.

**Results:** Out of 65,432 primary rTSAs meeting inclusion criteria with 2-year postoperative follow-up, 148 (0.23%) patients underwent arthroscopy postoperatively. 6 (4.1%) of those underwent arthroscopy within 3 months, 68 (45.9%) within 1 year, and 115 (77.7%) within 2 years. In contrast, of 32,712 primary aTSAs, 239 (0.73%) underwent arthroscopy postoperatively. 6 (2.95%) of those underwent arthroscopy within 3 months, 128 (53.6%) within 1 year, and 186 (77.8%) within 2 years. For rTSAs 46.2% of arthroscopies were debridement, 20.1% were subacromial decompressions and 16.3% were lysis of adhesions. For aTSAs, 38.5% were debridement, 23.7% were subacromial decompressions and 26.0% were lysis of adhesions. Arthroscopy after rTSA identified prosthetic joint infections more frequently compared to aTSA (16.2% vs. 8.8%,  $P=0.001$ ), while stiffness was diagnosed more frequently by arthroscopy after aTSA (16.7% vs. 10.1%,  $P=0.040$ ).

25 **Conclusions:** The overall incidence of arthroscopy after shoulder arthroplasty is low. When  
26 performed, debridement, decompression and lysis of adhesions were the most frequent  
27 indications. Arthroscopy for rTSA identified PJIs more frequently, while arthroscopy for aTSA  
28 identified stiffness more frequently. Arthroscopy may be a reliable diagnostic tool in identifying  
29 some of the most frequently encountered postoperative complications.

30 **Level of Evidence:** Level III; retrospective comparative study

31 **Keywords:** Arthroscopy; Shoulder Arthroplasty; Surgical Complications; Anatomic; Reverse