

Total Shoulder Arthroplasty in the Athlete and Active Individual



James Christensen, MD, Stephen Brockmeier, MD*

KEYWORDS

- Shoulder arthroplasty • Young • Active • Return to sport
- Reverse shoulder arthroplasty • Shoulder hemiarthroplasty

KEY POINTS

- Young patients have different demands after shoulder arthroplasty.
- Earlier studies showed similar functional outcomes for younger patients as older patients, but their satisfaction rates were lower than older patients.
- More recent studies have shown a relatively high rate of return to sports in patients receiving anatomic total shoulder arthroplasty.
- The rate of return to sports is higher in total shoulder arthroplasty than hemiarthroplasty and reverse total shoulder arthroplasty.

INTRODUCTION

Shoulder arthroplasty has become an increasingly popular procedure, with almost 50,000 performed in 2008¹ and a 7% to 13% increase each year from 1993 to 2007, accounting for an increase of 369% over that period.² In addition, reverse shoulder arthroplasty (RSA) has become a more commonly considered procedure, especially in younger patients.³ As the shoulder arthroplasty population becomes younger, whether the implant used is hemiarthroplasty (HA), anatomic total shoulder arthroplasty (TSA), or RSA, the longevity of the implant and the functional outcomes become even more important. One-third of shoulder arthroplasties were performed in patients younger than 65,¹ and many young and higher-demand individuals wish to return to their previous level of activity, especially when it comes to work and athletic activities. It is important to appreciate patients' previous activity levels and their

Disclosure Statement: S. Brockmeier has received consulting and speaker fees from Zimmer Biomet and Arthrex. J. Christensen reports no disclosures.

Orthopaedic Surgery Department, University of Virginia, 400 Ray C. Hunt Drive, Charlottesville, VA 22903, USA

* Corresponding author.

E-mail address: SFB2E@hscmail.mcc.virginia.edu

Clin Sports Med 37 (2018) 549–558

<https://doi.org/10.1016/j.csm.2018.05.005>

0278-5919/18/© 2018 Elsevier Inc. All rights reserved.

sportsmed.theclinics.com

subsequent expectations when counseling patients with end-stage arthritis who plan on undergoing arthroplasty.

Younger patients can have multiple etiologies leading to end-stage arthritis and the subsequent need for arthroplasty. Causes can include chondrolysis after arthroscopy, rheumatoid arthritis, avascular necrosis, posttraumatic arthritis, postinstability arthritis, and primary osteoarthritis. Regardless of cause, the young patient with end-stage arthritis presents a unique population for the shoulder surgeon, and there are multiple options for arthroplasty in this population, including HA, anatomic TSA, and RSA.

ARTHROPLASTY OPTIONS

In the past, treatment options in younger and more active patients commonly favored HA over TSA. Because of the concern for glenoid loosening, HA was thought to be the better option for end-stage arthritis in younger patients. As prostheses have improved, more anatomic total shoulder arthroplasties are being performed in younger and more active patients. Overall, TSA has shown a greater increase in use, with a 5.0-fold increase, compared with HA, which has had only a 1.9-fold increase; but in this same study, patients with TSA tended to be older.⁴ As the concern for glenoid loosening has lessened with the improvement in implant designs, the indications now tend to be more limited for HA, with indications including young patients with isolated humeral arthritis or patients with avascular necrosis.

In addition to HA and TSA, RSA has seen an extension of its use to younger and more active populations. Once reserved more for elderly and lower-demand patients, RSA has become more commonly indicated in younger and more active patients who have rotator cuff arthropathy, severe glenoid deficiency in primary osteoarthritis, or irreparable, massive rotator cuff tears.

RETURN TO ACTIVITY AND SPORTS

Anatomic Total Shoulder Arthroplasty Versus Hemiarthroplasty

In addition to using implants that provide longevity in those younger or more active patients, the importance of the implant providing adequate or improved return to preoperative function is also a concern for the patient and the surgeon. HA has been shown to improve young patients' pain and function, and their functional scores have been shown to be similar to older patients.^{5,6} Schoch and colleagues⁷ also showed an improvement in pain scores, abduction, and external rotation of patients with HA or TSA. Eighty-one percent of shoulders were rated as better or much better than their preoperative condition. Interestingly, though, even with functional scores similar to those of older patients, younger patients' satisfaction may be lower than older patients, with similar functional scores indicating that their requirements are likely greater than older, lower-demand patients.⁸

Although the patients in the study by Sperling and colleagues⁵ had improvements in pain and function, 60% of young patients (<50 years) were unsatisfied with their shoulder. TSA did not fare much better, with a dissatisfaction rate of 48%. Sperling and colleagues⁶ showed that in patients younger than 50 with an HA, compared with TSA, HA had a lower rate of survival at 10 and 20 years: 82% versus 97% and 75% versus 84%, respectively. Similarly, Bartelt and colleagues⁹ found a higher survival rate for TSA over HA (92% vs 72%) at 10 years, and TSA showed less pain, greater active elevation, and higher satisfaction. In a systematic review of studies examining HA and TSA in young patients, Sayegh and colleagues¹⁰ found that TSA provided a greater improvement in pain than HA, but found similar revision rates. In this systematic

Download English Version:

<https://daneshyari.com/en/article/8964666>

Download Persian Version:

<https://daneshyari.com/article/8964666>

[Daneshyari.com](https://daneshyari.com)