## Return to Play After Shoulder Replacement Surgery

# What Is Realistic and What Does the Evidence Tell Us

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#### **KEYWORDS**

- Total shoulder arthroplasty Hemiarthroplasty Reverse total shoulder arthroplasty
- Return to play Shoulder arthroplasty

#### **KEY POINTS**

- Most patients return to preoperative sports activities following shoulder arthroplasty.
- The literature reports that rates of return for total shoulder arthroplasty are slightly higher than those reported for reverse total shoulder arthroplasty and hemiarthroplasty.
- Usually, patients can expect to return to sport within 6 months postoperatively.

#### INTRODUCTION

Shoulder replacement continues to increase in popularity in the United States, with an estimated 53,000 procedures in 2015, which is 200% greater than in 2003.<sup>1,2</sup> This exponential increase is the result of several factors, including US Food and Drug Administration (FDA) approval of the reverse shoulder replacement in 2003, improved functional outcomes following shoulder arthroplasty,<sup>3</sup> and evidence that early arthroplasty has better outcomes than delaying surgery.<sup>4</sup> Although it is more routine in an elderly patient population, younger active patients are beginning to undergo shoulder replacements more commonly.<sup>5–8</sup>

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As younger, more active, patients undergo shoulder replacement surgery, return to sport has become increasingly important. 9-12 More often than in prior decades, patients now inquire about the type of sports they will be able to resume postoperatively. However, compared with the literature on hip and knee arthroplasty, the amount of literature pertaining to return to sport after shoulder arthroplasty is very limited. 13-18

Surgeons would benefit from a review that integrates the evidence behind return to sport following different shoulder replacement surgeries. This article summarizes and synthesizes the information regarding return to sport following shoulder arthroplasty, and discusses how it has been studied and reported in the literature. This information will be useful to clinicians in counseling their patients on expectations about return to sports following shoulder arthroplasty.

#### RETURN TO SPORT AFTER TOTAL SHOULDER ARTHROPLASTY

The trend of increased use of total shoulder arthroplasty (TSA) is anticipated to continue and patients' expectations regarding function postoperatively have increased. As a result, return to sport following TSA has become a topic of interest in the current orthopedic literature, although the topic remains understudied compared with lower extremity arthroplasty.

McCarty and colleagues<sup>10</sup> examined 75 subjects (86 shoulders) with an average follow-up of 3.7 years; 54 of these subjects underwent TSA and the others received hemiarthroplasty (HA). Of these subjects, 64% stated that returning to sports was among their reasons for undergoing the procedure. Following TSA, 81% were able to resume at least 1 sport and 71% endorsed an improved ability in the sport. The sports associated with the highest rates of return included fishing (92%), swimming (86%), and skiing (81%), whereas bowling (40%) and softball (20%) had the poorest rates of return. Interestingly, 71% of subjects required an analgesic medication (eg, ibuprofen, acetaminophen, or narcotic medication) to participate in sport preoperatively but only 39% of subjects required an analgesic postoperatively. Most subjects made full return to sport at 6 months postoperatively and reported that they were able to participate with a higher frequency than they were preoperatively (1.7 days per week vs 0.7 days per week).

Bulhoff and colleagues<sup>21</sup> reported on 154 TSAs with an average follow-up of 6.2 years. The cohort included 105 TSA subjects who had participated in a sport preoperatively and 49 subjects who had never participated in sports. At final follow-up, 39% of subjects were participating in sports, all of whom had participated preoperatively. Of subjects who had participated in sports at some point preoperatively, 57% returned to sports following surgery. Their findings indicate that patients who did not participate in sports preoperatively are unlikely to do so postoperatively. For the 57 subjects who were participating in sports right up to the time of the surgery, 100% returned to sport postoperatively.

Schumann and colleagues  $^{12}$  reported on 100 TSA subjects with at least a 1-year follow-up. Of the subjects who participated in sports preoperatively (49 of 55), 89% were able to resume participating in that sport at an average follow-up of 3 years. For the 17 subjects who had given up sports preoperatively, 11 of the subjects were able to resume sports postoperatively. No subjects stated TSA as a reason for stopping a sport. However, more than one-third of the subjects (36.7%) reported restricting their activities because of their shoulder. Subjects who participated in sports preoperatively had better constant scores (P = .007) and Short Form Health Survey-36 physical component scores (P = .02) than the nonsport counterparts.

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