

ISSUE 02

# ShARC BITE

**GLENOID LATERALIZATION IN REVERSE TSA**

Released January 2025



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## Mission Statement

The Shoulder Arthroplasty Research Committee (ShARC) is a forward-looking global collaboration among research-focused surgeons of which the primary goal is to advance patient care. The ShARC Patient Registry is utilized to conduct patient monitoring, inform evidence-based implant design, and allow for the integration of novel technologies into clinical practice. Supported by Arthrex, the ShARC will continue to have tremendous influence on the advancement of shoulder arthroplasty through innovative research and a commitment to improve patient outcomes.

**ShARC Bites** are developed through registry data analysis and processing of the committee's preferences, cross-referenced with available ShARC and non-ShARC publications, to provide recommendations on current techniques and implants.

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## Summary Recommendation

In most cases, the ShARC group recommends 6 to 8 mm of lateralization with a nonaugmented baseplate and 4 to 6 mm of lateralization with an augmented baseplate to maximize range of motion, particularly internal rotation. Most ShARC surgeons decrease lateralization for women (4 to 6 mm as opposed to 6 to 8 mm in men) and in a fracture setting (2 to 4 mm reduction).

### Construct Comparison



Standard Constructs



Lateralized Constructs

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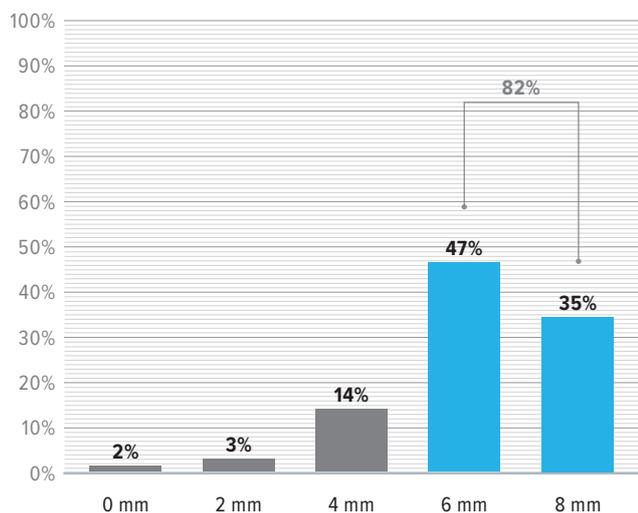
## Background

The Modular Glenoid System (MGS) provides the ability to lateralize from 0 to 8 mm in 2 mm increments with nonaugmented baseplates. With augmented baseplates, 0 to 6 mm of lateralization can be achieved. The potential benefits of glenoid-side lateralization are decreased bony impingement and improved stability through soft-tissue tensioning. Furthermore, decreased scapular notching improves range of motion, most importantly with respect to internal rotation.<sup>1-3</sup> Theoretical risks with lateralization have included baseplate failure and increased risk of stress fracture. Clinical outcomes of the MGS have demonstrated a less than 2% failure rate despite being implanted with up to 6 or 8 mm of lateralization.<sup>4</sup> Additionally, it has been demonstrated that lateralization is not associated with stress fracture, but rather that distalization increases the risk of stress fracture.<sup>5</sup>

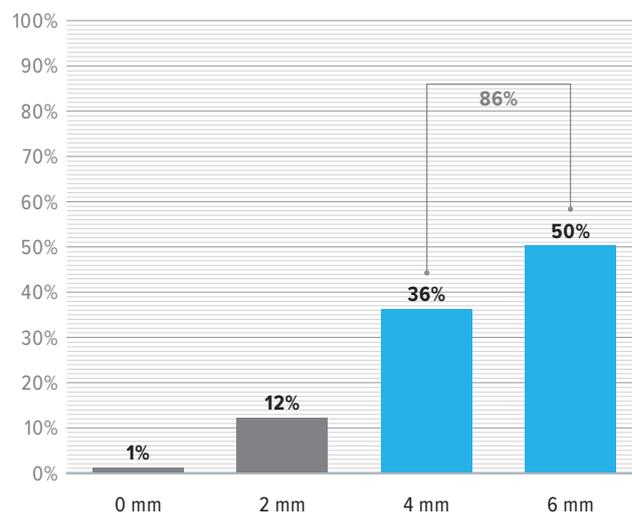
## Usage Breakdown

The majority of ShARC surgeons favor glenoid-sided lateralization. Among nonaugmented baseplates within the registry, **82% of cases were implanted with 6 to 8 mm of lateralization**. Among augmented baseplates within the registry, **86% of cases were implanted with 4 to 6 mm of lateralization**.

### Nonaugmented Baseplate Lateralization



### Augmented Baseplate Lateralization



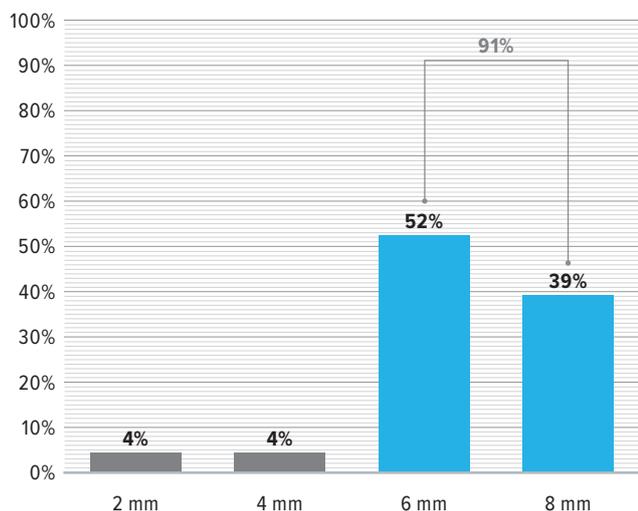
## Functional Data

Published data from the ShARC registry indicate that increasing glenoid lateralization improves internal rotation (IR). In a series of 455 patients Werner et al demonstrated that 6 to 8 mm of lateralization improves IR compared to 2 mm or less of lateralization with standard baseplates.<sup>6</sup>

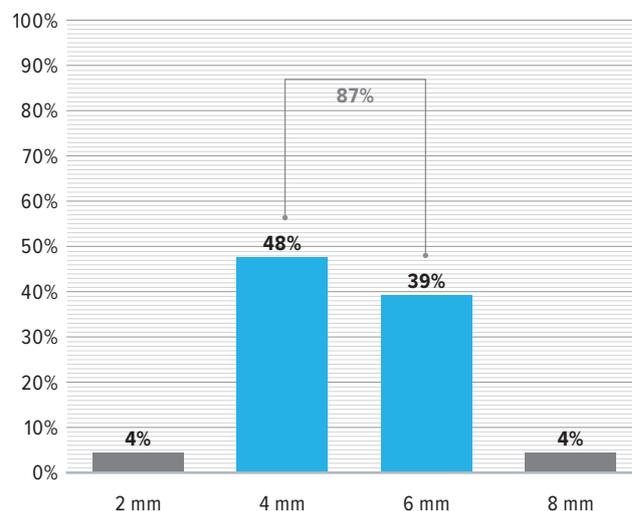
## Variance in Lateralization: A ShARC Surgeon Preference Survey

ShARC surgeons vary lateralization by sex due to size differences. For male patients, 6 to 8 mm is favored by more than 90% of surgeons. In female patients, 4 to 6 mm of lateralization is favored by 87% of surgeons. Sixty-five percent of ShARC surgeons also decrease lateralization by 2 to 4 mm in a fracture setting.

### Preferred Lateralization in Men



### Preferred Lateralization in Women



## References

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1. Walch G. What I've learned? *J Shoulder Elbow Surg.* 2019;28(6):1214-1216. doi:10.1016/j.jse.2019.02.018
2. Gobezie R, Shishani Y, Lederman E, Denard PJ. Can a functional difference be detected in reverse arthroplasty with 135° versus 155° prosthesis for the treatment of rotator cuff arthropathy: a prospective randomized study. *J Shoulder Elbow Surg.* 2019;28(5):813-818. doi:10.1016/j.jse.2018.11.064
3. Haidamous G, Lädermann A, Frankle MA, Gorman RA 2nd, Denard PJ. The risk of postoperative scapular spine fracture following reverse shoulder arthroplasty is increased with an onlay humeral stem. *J Shoulder Elbow Surg.* 2020;29(12):2556-2563. doi:10.1016/j.jse.2020.03.036
4. Bercik MJ, Werner BC, Sears BW, Gobezie R, Lederman E, Denard PJ. A comparison of central screw versus post for glenoid baseplate fixation in reverse shoulder arthroplasty using a lateralized glenoid design. *J Clin Med.* 2022;11(13):3763. doi:10.3390/jcm11133763
5. Pak T, Ardebol J, Menendez ME, et al. Robert H. Cofield, MD, Award for Best Oral Presentation 2023: Up to 8 mm of glenoid-sided lateralization does not increase the risk of acromial or scapular spine stress fracture following reverse shoulder arthroplasty with a 135° inlay humeral component. *J Shoulder Elbow Surg.* 2024;33(6S):S1-S8. doi:10.1016/j.jse.2023.11.018
6. Werner BC, Lederman E, Gobezie R, Denard PJ. Glenoid lateralization influences active internal rotation after reverse shoulder arthroplasty. *J Shoulder Elbow Surg.* 2021;30:2498-2505. doi:10.1016/j.jse.2021.02.021



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