

Editorial Commentary: Glenoid Bone Reconstruction for Recurrent Shoulder Instability—Risk or Benefit?



Abstract: Bone reconstruction for management of glenohumeral instability to reduce postoperative recurrence rates is increasingly emphasized in our literature. Unfortunately, significant complication rates are associated with these procedures, particularly in the United States where training in bony glenoid reconstruction may be limited. The alternative of early intervention, specifically surgical treatment of first-time shoulder dislocation, could result in glenoid bone preservation and overall improvement in the results of soft-tissue stabilization procedures. Avoidance of future glenohumeral bone loss may diminish the need for more complicated surgery.

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There has been significant recent interest in bone block reconstruction of the glenoid for recurrent shoulder instability with increasing criticism regarding arthroscopic stabilization.¹ Potential advantages of glenoid bone block reconstruction include decreased risk of recurrence, higher rate of return to sport, and potentially faster recovery. As a result, indications for bone reconstruction *are rapidly evolving* with expert opinion to consider bony procedures even in cases absent significant bone loss or in primary instability.

In their original article “Short-Term Outcomes of Glenoid Bone Block Augmentation for Complex Anterior Shoulder Instability in a High-Risk Population,” Waterman et al.² present their initial experience with glenoid bone reconstruction including Latarjet, allograft, and iliac crest bone graft reconstruction. The authors present a sobering view of early outcomes with high risk of complications (including major complications), and significant risk of recurrent instability. It should be noted that in this study, 65 shoulder procedures were performed by 47 operating surgeons, suggesting that the procedures were performed by surgeons with relatively low volume and limited experience in glenohumeral bony reconstruction. When one considers that 23% of included patients reported subjective feelings of instability, in combination with the significant risk of complications, we must raise the question: Are outcomes of bony glenohumeral reconstruction actually better than soft-tissue surgery in less experienced hands?

When reviewing the current literature to determine appropriate indications for specific procedures to manage shoulder instability, one is immediately struck by the low quality of evidence.³ Most of the existing published studies are case series (Level IV evidence), absent a control group, and often with short-term follow-up. Moreover, when considering the literature as a whole, even when including higher quality evidence, significant variability exists regarding indications for the surgery, patient selection criteria, surgical technique, individual patient factors such as extent of bone loss or capsular laxity, and rehabilitation protocols. Finally, shoulder stabilization for primary instability has demonstrated high degrees of success with limited risk of significant complications.⁴ In the end, without strong evidence to support clinical decision making, surgical selection is largely based on individual opinion, and the apparent increase in the popularity of glenohumeral bone block reconstruction may not be evidence-based.

What is clear is that glenoid bone reconstruction is not a simple solution, or panacea, for surgical management of recurrent instability. The learning curve is steep and physicians who perform low volumes of these procedures may experience high rates of complications. In the United States, resident and fellow training does not commonly provide significant numbers of such procedures to allow trainees to develop proficiency. In addition, perhaps a reluctance to consider surgery for first-time shoulder dislocation has contributed to higher failure rates following soft-tissue stabilizations, despite the significantly decreased risk of complications after primary intervention.⁴ In the future, evidence-based reports must clearly define detailed aspects of the

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0749-8063/16589/\$36.00
<http://dx.doi.org/10.1016/j.arthro.2016.06.032>

included patient population, and surgical and rehabilitation technique, to allow better patient-specific indications for shoulder stabilization. In the interim, surgical soft-tissue stabilization might be more aggressively indicated in cases of primary shoulder dislocation, whereas in cases of recurrent instability with bone loss, referral to an experienced and high volume specialist might be thoughtfully considered.

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