TITLE: Anterior Glenoid Reconstruction versus the Open Latarjet in the Treatment of Shoulder Instability with Anterior Glenoid Bone Loss at Mid-Term Follow-Up

1. Kyong S. Min, MD
2. Haley Johnson, MD
3. Colby Brunette, MD
4. Daniel P Harris, MD
5. James Chang, MD
6. Joseph Galvin, DO

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1. Tim Kuou, BS
2. Raika Bourmand, MSc
3. Jonah Liwag, MD

Department of Orthopaedic Surgery
Madigan Army Medical Center
Tacoma, Washington

Corresponding Author: Kyong S Min, kyongminmd@gmail.com
Madigan Army Medical Center
9040A Jackon Ave
Joint Base Lewis-McChord, WA 98431

DISCLOSURE STATEMENT
The views expressed in this article are those of the authors and do not reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government.
My co-authors and I have nothing to disclose.

STATEMENT OF ETHICAL APPROVAL AND ETHICAL STANDARDS
All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.
The Department of Clinical Investigations Institutional Review Board at Madigan Army Medical Center approved this study as IRB exempt (Protocol: 221092)

RUNNING TITLE:
Level of Evidence: III

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ABSTRACT

Introduction: Recurrent anterior shoulder instability is a common issue in young, active populations, particularly in military personnel. The Latarjet procedure has been the cornerstone of surgical management; however, due to its complication profile, free bone block techniques have gained popularity. Furthermore, recent advancements in arthroscopic technique allow for a minimally invasive approach to anterior glenoid reconstruction (AGR) with free bone block. There has been no direct comparison between the Latarjet versus open and arthroscopic anterior glenoid reconstruction in a military population.

Purpose: To compare the clinical outcomes following AGR (arthroscopic and open), and open Latarjet in active-duty military patients with anterior shoulder instability and glenoid bone loss. We hypothesized there would be no difference in rates of recurrent instability or patient reported outcomes among the three surgical techniques.

Methods: A retrospective cohort study was conducted at two tertiary military medical centers, evaluating active-duty patients who underwent surgical treatment of anterior shoulder instability in the setting of glenoid bone loss as measured on MRI or CT. Patients underwent either open AGR, arthroscopic AGR, or open Latarjet procedures. At mid-term follow-up, patient reported outcomes were collected as well as incidence of recurrent instability.

Results: Twenty-three patients underwent open or arthroscopic AGR and 39 underwent open Latarjet. The average follow up was 46 months and 56 months, respectively. Average bone loss for the AGR group was 20% versus 19% for Latarjet. There were 2 and 3 recurrent dislocations, respectively. There were no statistically significant differences in postoperative SANE (AGR: 75.3; Latarjet: 70.2; p-value = 0.3) and ASES (AGR: 81.0; Latarjet: 78.8; p-value = 1) scores between groups. In the AGR group, 83% of patients were satisfied or very satisfied. In the Latarjet group 74% were satisfied or very satisfied.

Conclusions: At mid-term follow-up, there is no statistically significant difference in recurrent instability and patient reported outcomes between the Latarjet and AGR with free bone block. Therefore, in active patients with recurrent anterior shoulder instability and glenoid bone loss, both the free bone block and Latarjet procedures are viable options and treatment should be individualized based on patient's needs.

Level of evidence: Level III, retrospective cohort study

Key terms: shoulder instability, Latarjet, Anterior Glenoid Reconstruction, Eden Hybinette; Distal tibia allograft; free bone graft