

## Introduction

- Defined as a tear that involves tendon retraction to the glenoid rim and/or a tear with  $\geq 67\%$  greater tuberosity exposure, massive rotator cuff injuries are becoming more common due to the aging population.

- With rates as high as 20% of all tears and 80% of recurrent tears, these injuries have the potential to alter quality of life.

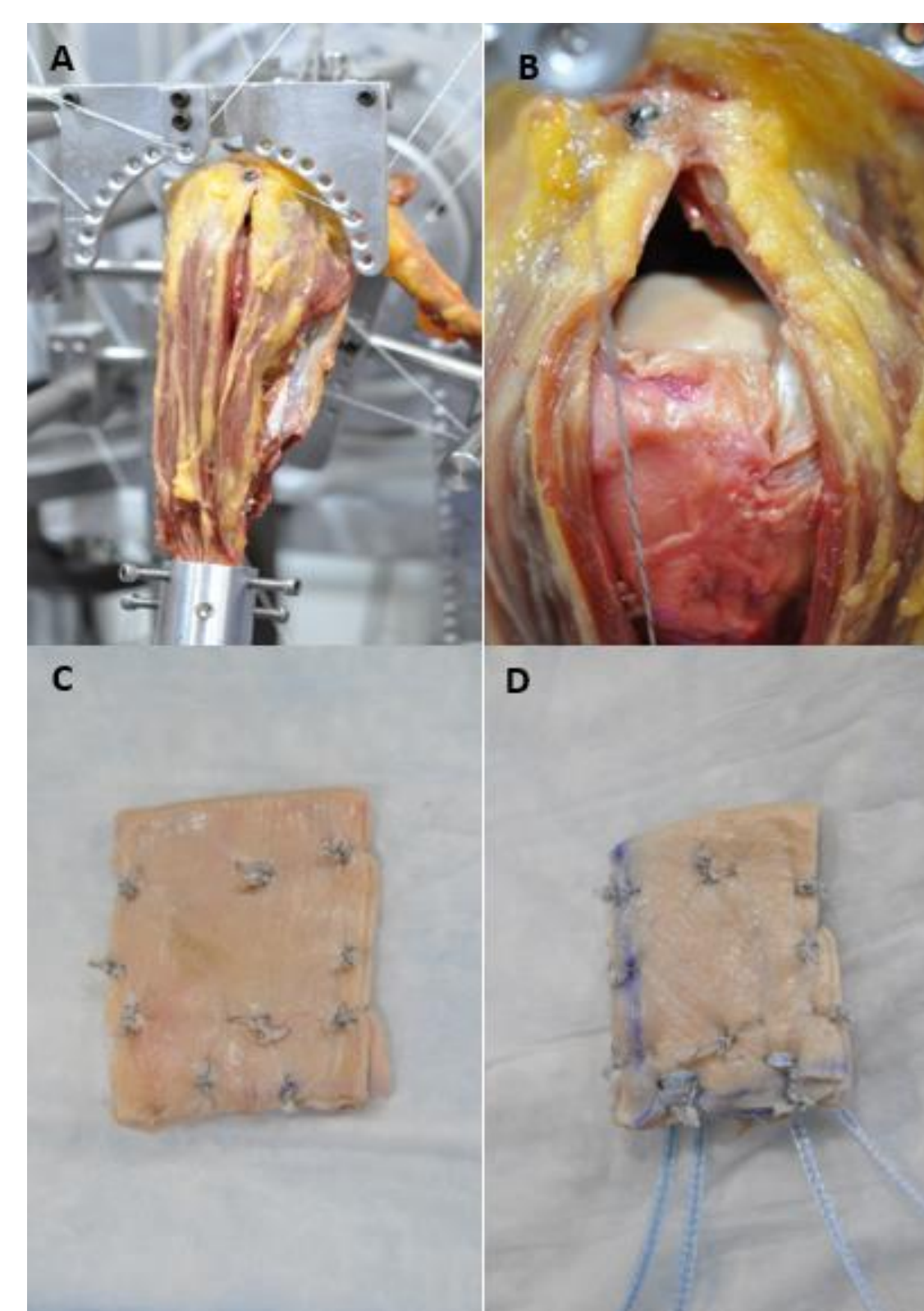
- Multiple treatment options have been explored in hopes of decreasing pain and improving function, including superior capsular reconstruction (SCR), lower trapezius transfer, cable reconstruction, and subacromial balloon spacer (SAS).

- Designed to help treat pain and loss of function, biologic spacer procedures utilize a graft to act like a spacer in the subacromial space, decreasing the pain from impingement of the greater tuberosity on the acromion at the extremes of overhead motion

## Objectives

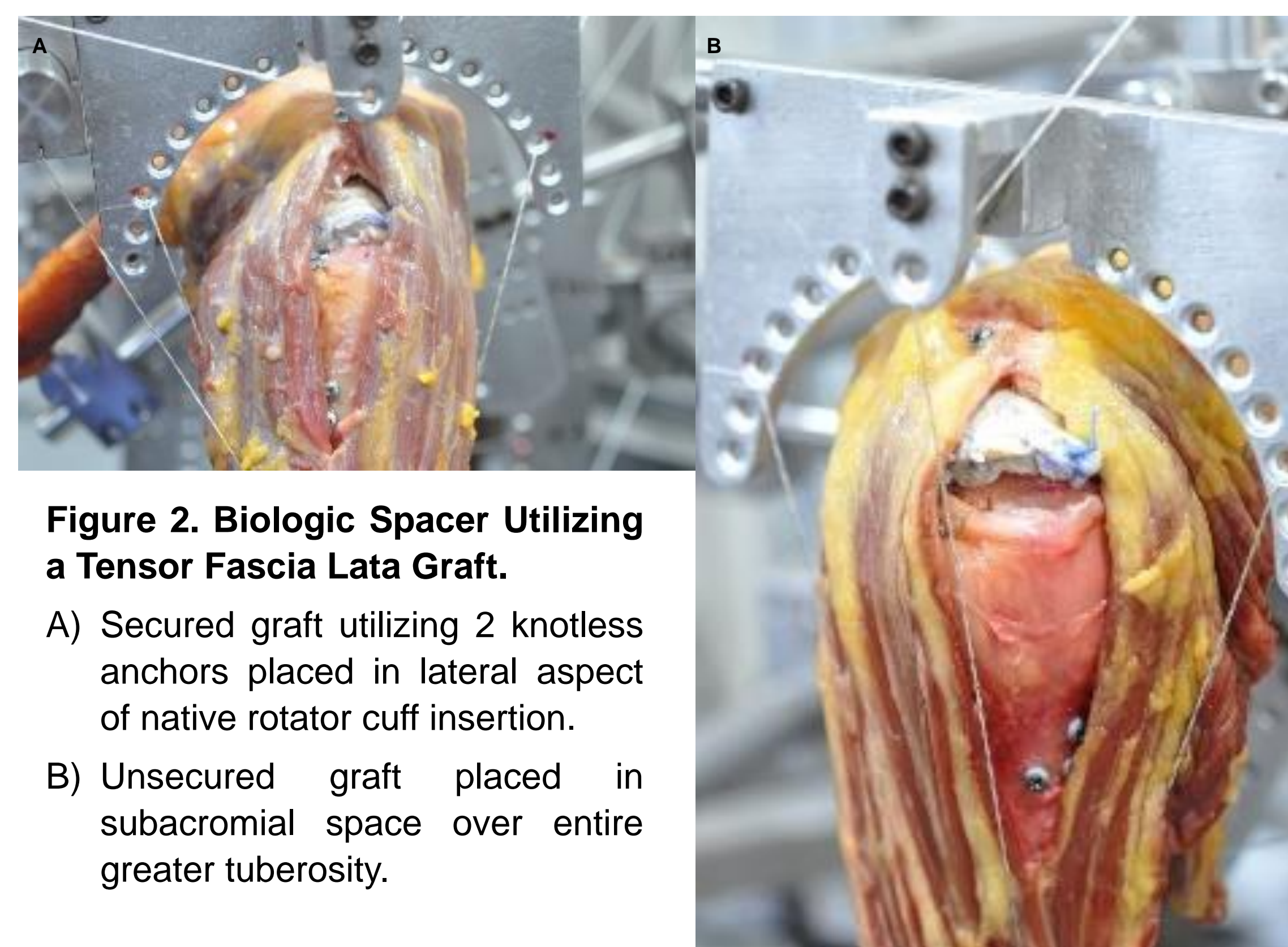
- To evaluate the biomechanical characteristics of secured versus unsecured tensor fascia lata allografts used in a biologic spacer procedure.

## Results



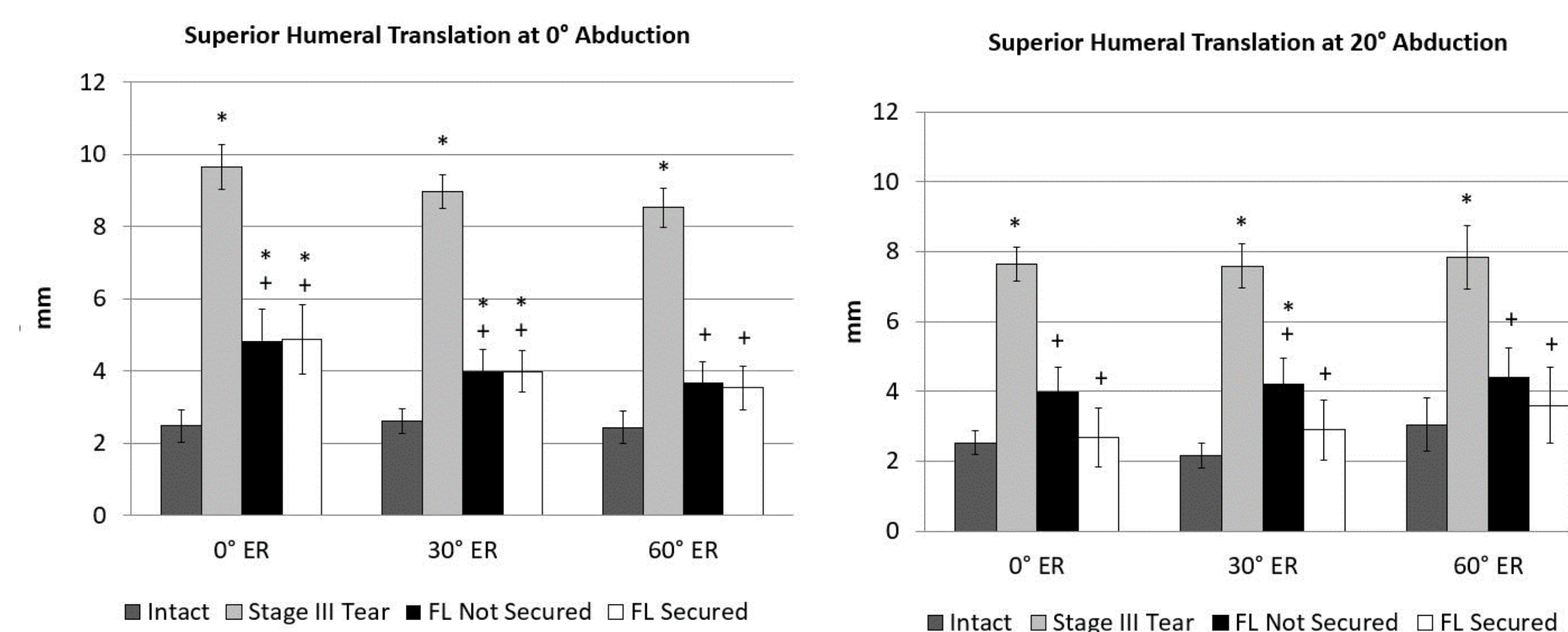
**Figure 1. Surgical Technique Used to Prepare Shoulder Cadaveric Specimen, Create Rotator Cuff Tear, and Create FL Graft.**

A = Deltoid split used to access subacromial space with deltoid insertion left intact; B = Massive rotator cuff tear created; C = FL graft; D = FL Graft with Suturetape to be used in secured graft condition.

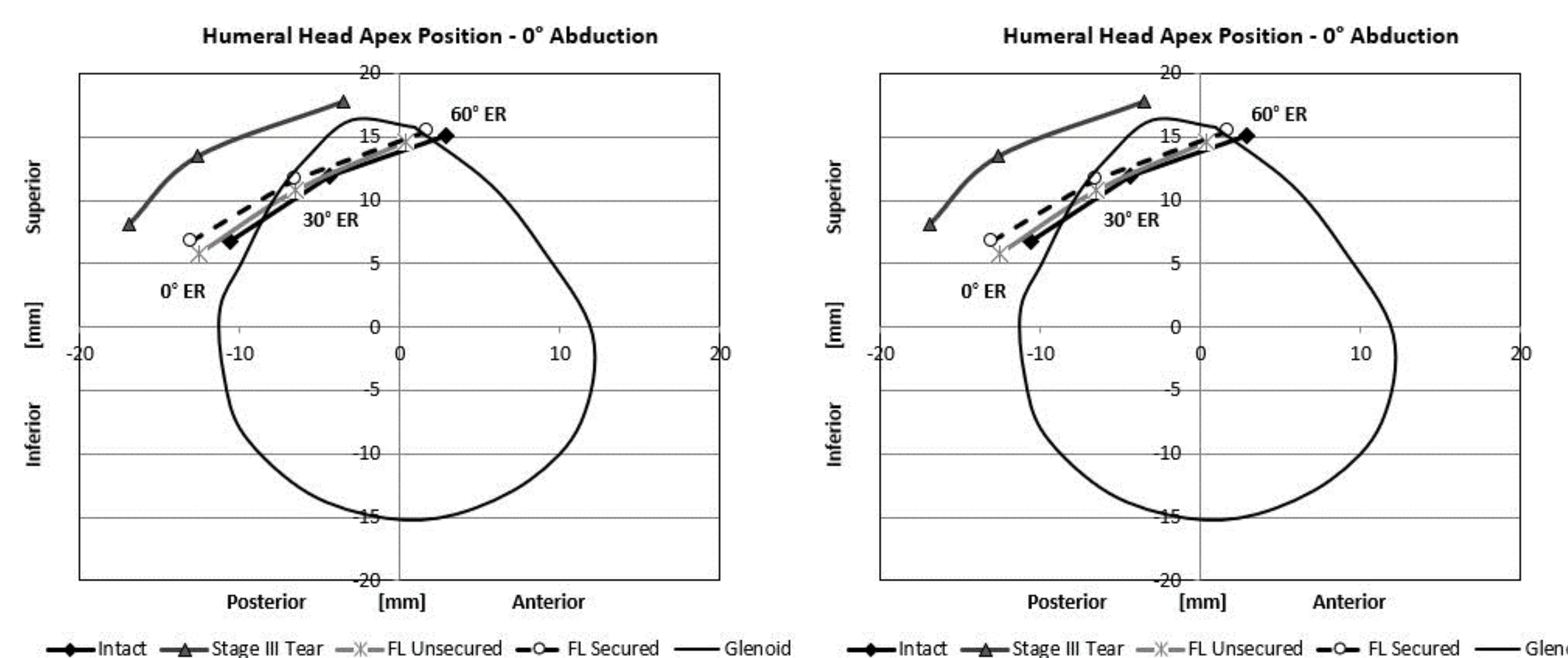


**Figure 2. Biologic Spacer Utilizing a Tensor Fascia Lata Graft.**

A) Secured graft utilizing 2 knotless anchors placed in lateral aspect of native rotator cuff insertion.  
B) Unsecured graft placed in subacromial space over entire greater tuberosity.

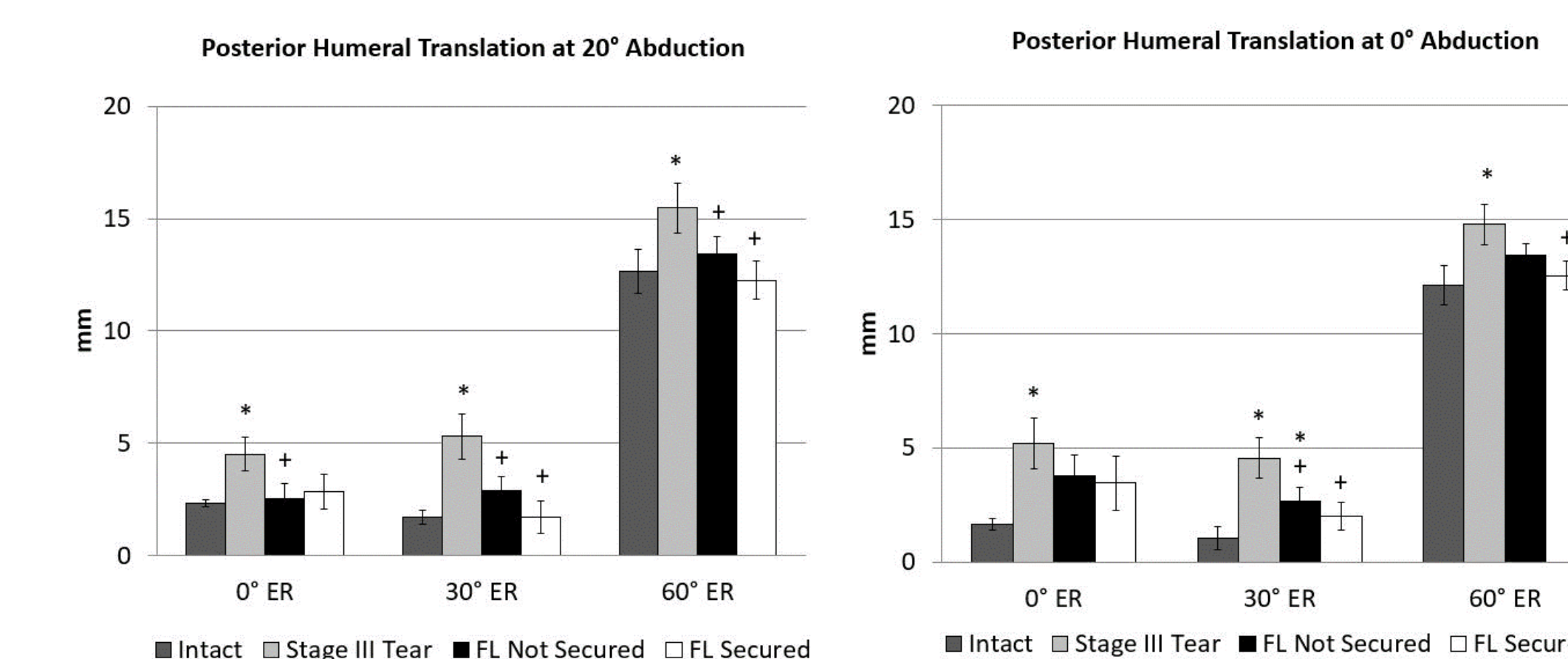


**Figure 3. Superior Translation With Unbalanced Load at 0° and 20° Abduction.** Stage III Tear=Massive Rotator Cuff Tear; FL=Tensor Fascia Lata Graft; \* = Statistical significance ( $p < 0.05$ ) of tested state vs. Intact condition; += Statistical significance ( $p < 0.05$ ) of tested state vs. Stage III Tear



**Figure 4. Posterior Translation With Unbalanced Load at 0° and 20° Abduction.** Stage III Tear=Massive Rotator Cuff Tear; FL=Tensor Fascia Lata Graft. \* = Statistical significance ( $p < 0.05$ ) of tested state vs. Intact condition; += Statistical significance ( $p < 0.05$ ) of tested state vs. Stage III Tear

## Results



**Figure 5. Humeral Head Apex Shift With Balanced Muscle Loading from Intact at 0 and 20 Degrees of Abduction.** Stage III Tear=Massive Rotator Cuff Tear; FL=Tensor Fascia Lata Graft

## Conclusions

- Unsecured FL grafts are biomechanically equivalent to secured grafts when used during biologic spacer procedures.

- While both grafts are successful at limiting superior and posterior translation of the humeral head during early range of motion, the unsecured graft represents a cheaper, easier option to utilize during biologic spacer procedures.

## Disclosures

- Disclosures:** Reported Online
- Funding:** Congress Medical Foundation and CTS Sports & Emerging Technologies