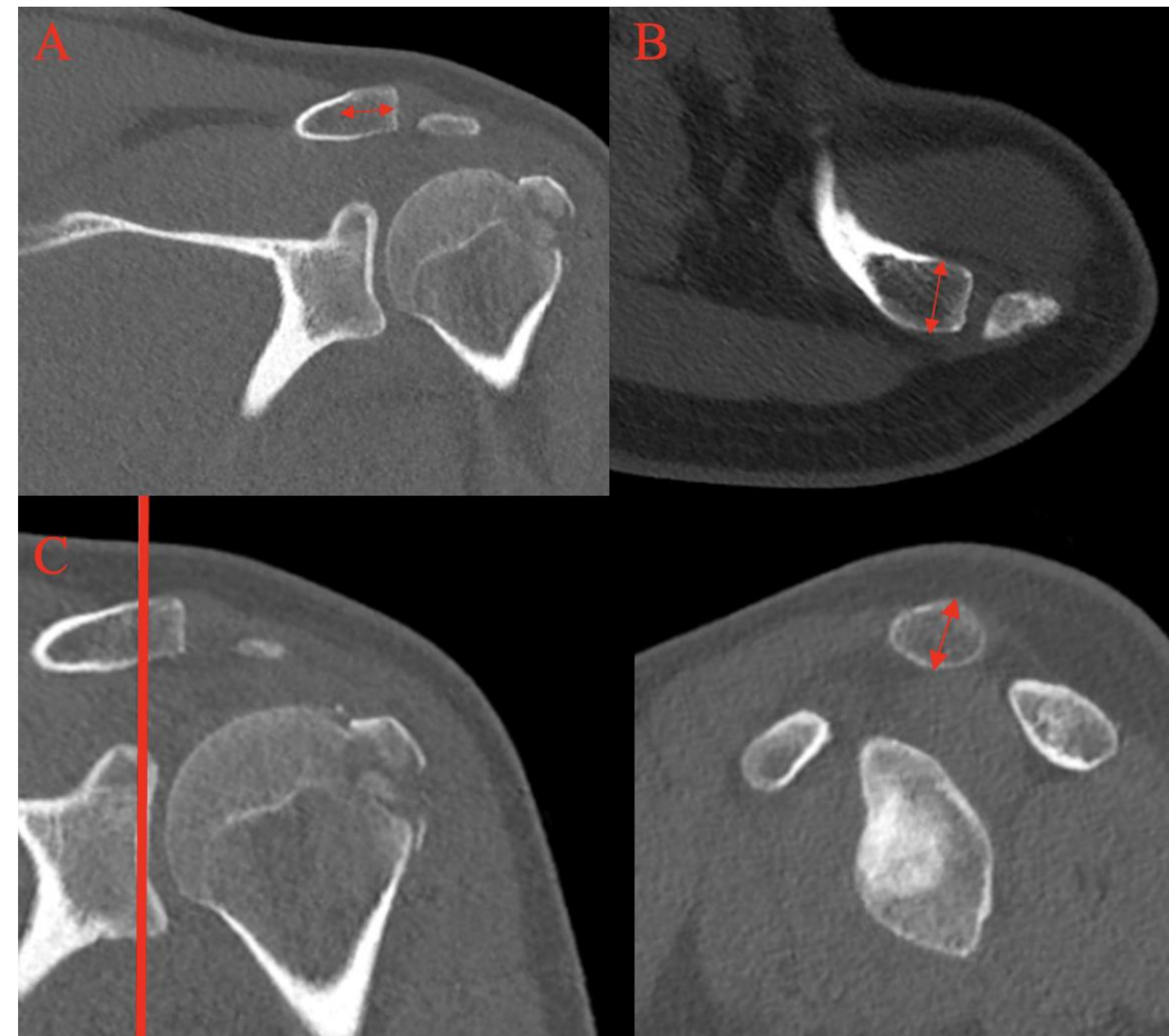


## INTRODUCTION

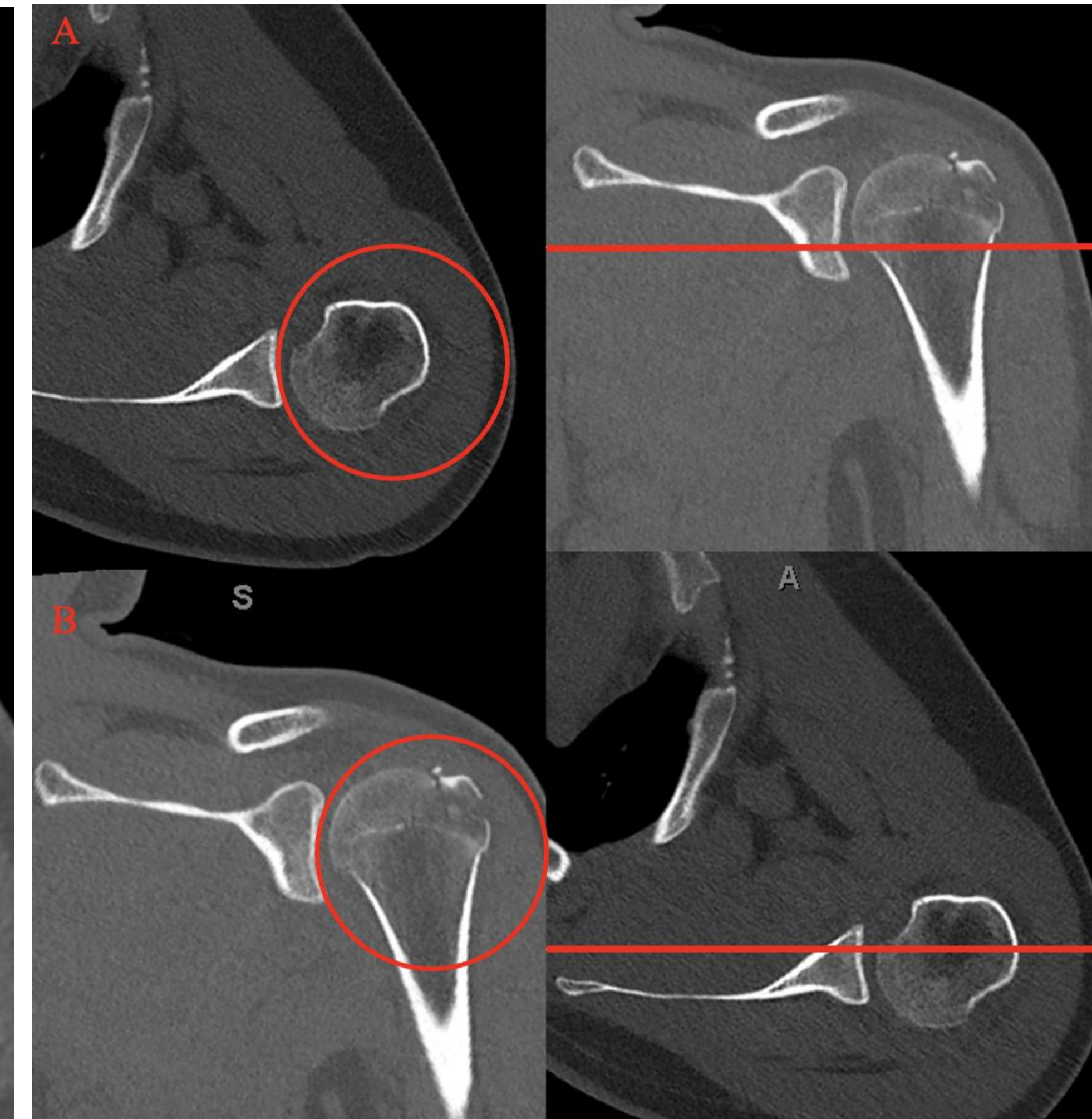
- Several graft options exist for anterior glenoid reconstruction in young patients with recurrent anterior shoulder instability.
- Purpose: To utilize CT scans to compare the radius of curvature (ROC) of the inferior concave surface of the distal clavicle as used in the congruent-arc DCA to the glenoid. Additionally, to compare the ROC of the congruent-arc DCA to the congruent-arc Latarjet graft.
- Hypothesis: The inferior concave surface of the distal clavicle will exhibit comparable ROC to congruent-arc Latarjet and the native glenoid.

## METHODS

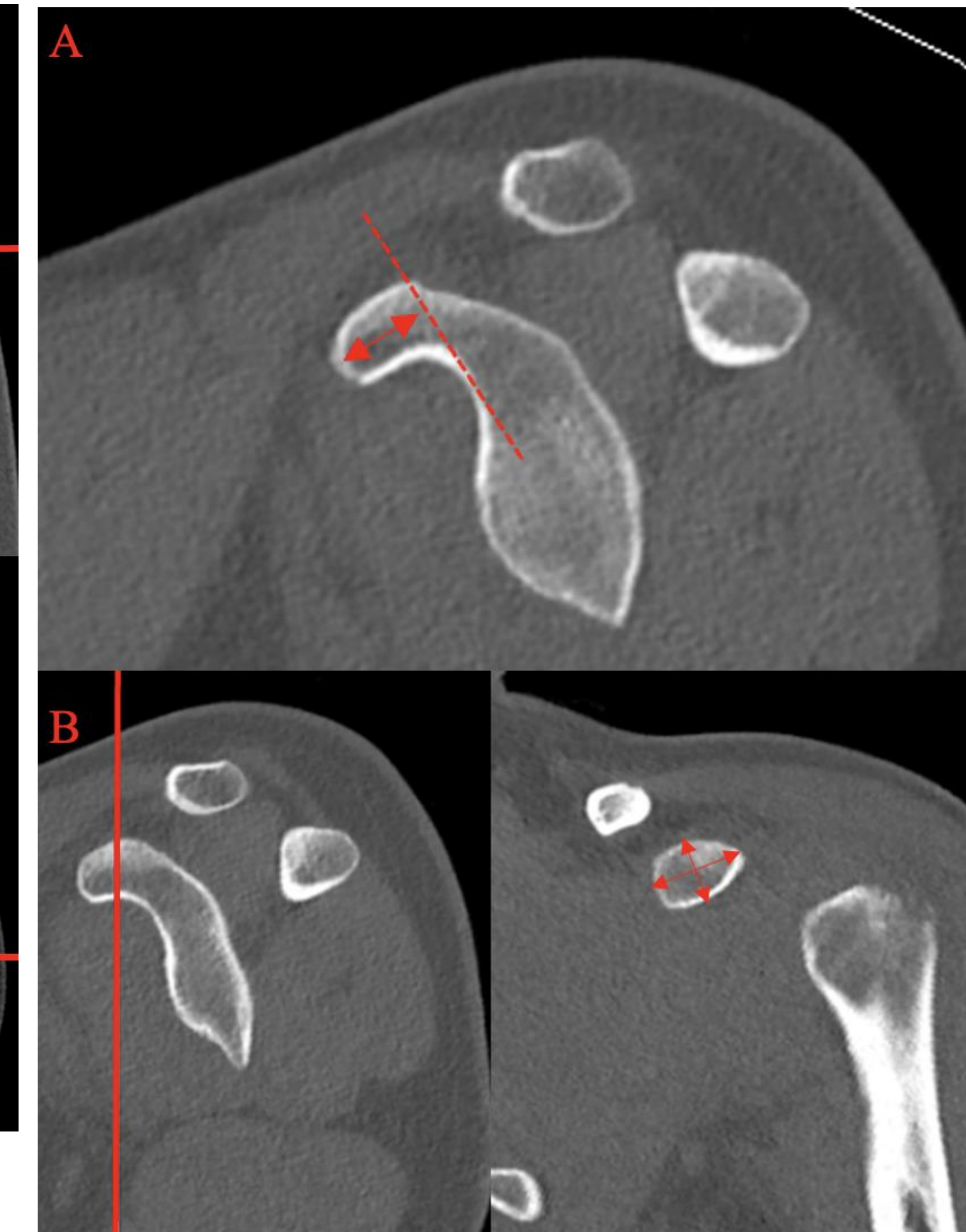
- Age and gender matched cohort from patients that underwent previous Latarjet.



The width of distal clavicle was held constant at 10mm (A). The length of the clavicle was measured (B). The depth of the clavicle was then measured (red line) (C).



The ROC of the glenoid was measured on the axial image (A) and on the coronal view (B).



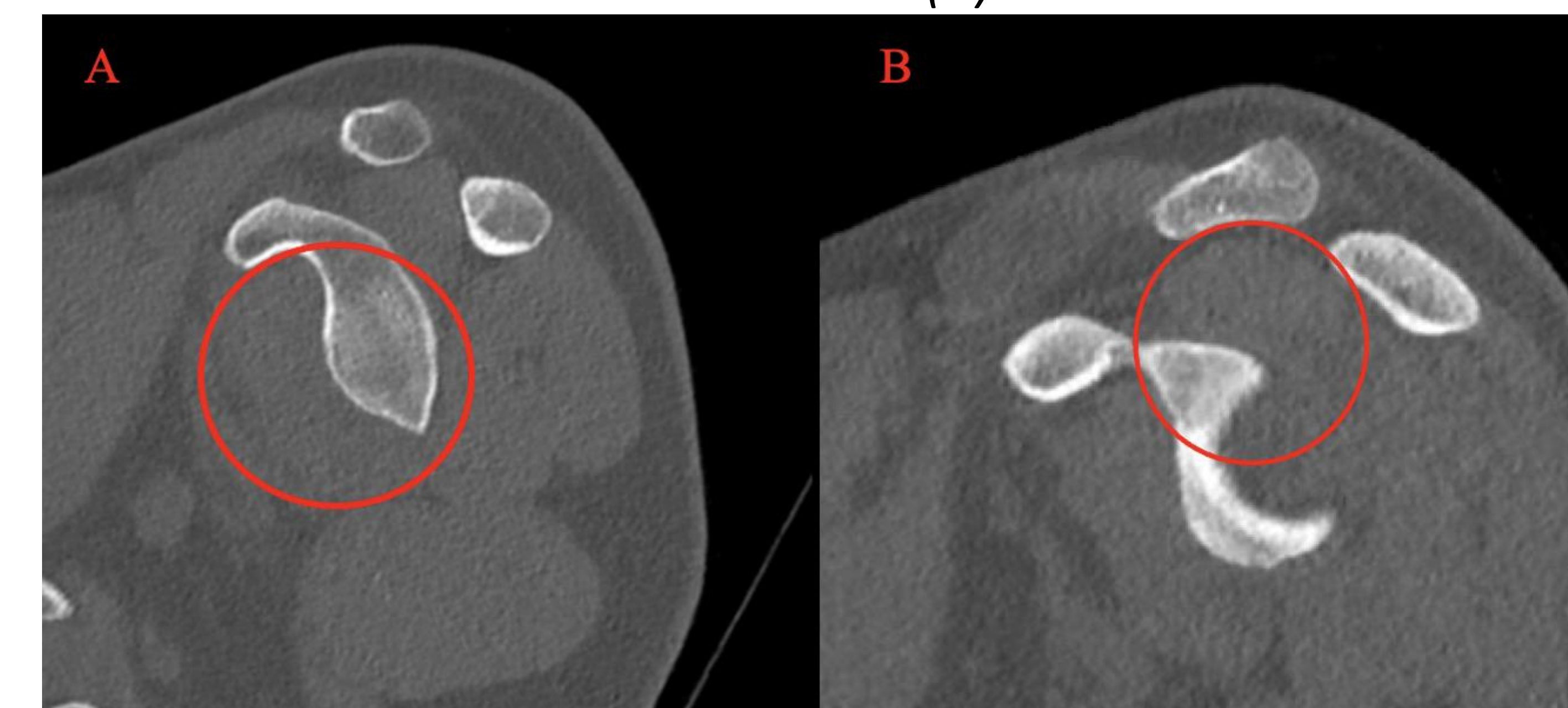
The length of the coracoid was measured (A) (solid red line) from the tip to the elbow (red dotted line). The medial-lateral and superior-inferior thickness of the coracoid was measured (B).

## RESULTS

- 42 patient's CT scans were reviews
  - Latarjet; n=22
  - Control; n=20
- No differences between Latarjet cohort and control cohort regarding patient demographics and distal clavicle classification.
- There were no significant differences observed in comparable ROC measurements between the distal clavicle, glenoid, and coracoid.
- The length, depth, and volume of the coracoid in the congruent arc orientation were found to be significantly larger than those of the distal clavicle.

	Total Cohort	Latarjet Cohort	Control Cohort	P-Value
Glenoid ROC Coronal (mm)	31.7 ± 1.5 [27.5-34.5]	31.6 ± 1.5	31.7 ± 1.5	0.76
Glenoid ROC Axial (mm)	31.0 ± 2.5 [24.4-35.2]	30.1 ± 2.5	32.1 ± 1.7	0.05*
Inferior Clavicle ROC (mm)	31.1 ± 2.45 [25.0-36.0]	29.6 ± 2.2	32.8 ± 1.5	<0.001*
Congruent-arc Coracoid ROC (mm)	31.3 ± 1.18 [28.8-32.9]	30.9 ± 1.2	31.8 ± 0.97	0.02*

	Coracoid (n=44)	Distal Clavicle (n=44)	P-Value
Length (mm)	24.9 [17.9-31.6]	22.6 [12.3-39.0]	0.008
Width (mm)	11.5 [7.1-18.4]	10 [10-10]	<0.001*
Depth (mm)	11.7 [8.4-16.2]	11.4 [7.8-15.4]	0.495
Volume (mm <sup>3</sup> )	3335.92 ± 936.25	2607.02 ± 788.31	<0.001*



The ROC of the inferior surface of the coracoid (A) and the distal clavicle (B) was measured.

## CONCLUSIONS

- The ROC of the inferior distal clavicle is similar to that of the glenoid in both the axial and coronal planes, as well as to the inferior coracoid.
- CT analysis demonstrates that the congruent-arc DCA technique provides a robust graft with dimensions suitable for the reconstruction of the anterior glenoid.

## Disclosures

Dr. Stephen Parada is a consultant and receives institutional research support from Exactech Inc. (Gainesville, FL). He is a consultant for Arthrex, Inc. and is a board or committee member for AAOS and ASES.

Dr. Joseph Galvin is a board or committee member for AAOS and ASES.

Dr. Pascal Boileau is on the editorial or governing board for Orthopedics. He receives IP royalties and is a paid consultant for Smith and Nephew. He receives IP royalties and is a paid consultant for Stryker.