

+ Evidence in focus

Publication summary: Ruder JA, et al. *Arthroscopy* (2019)*

Q-FIX[◇] Suture Anchor demonstrates clinically relevant reductions in displacement compared to other all-suture anchors

+ Plus points

Compared with other all-suture anchors tested, Q-FIX Suture Anchors showed:

0
No clinical failures
during cyclic loading

↓
Significantly less displacement
after 100 and 200 cycles
($p < 0.001$)

Overview

- Biomechanical study evaluating the cyclic and load to failure properties of four all-suture anchors for glenoid labral repair:
 - Q-FIX 1.8mm Suture Anchor
 - SUTUREFIX[◇] ULTRA 1.7mm Suture Anchor
 - Iconix 1 Suture Anchor (Stryker Endoscopy, CA, USA)
 - JuggerKnot[®] 1.5mm Suture Anchor (Zimmer Biomet, IN, USA)
- Anchors were inserted into 13 matched pairs of human cadaveric glenoids before cyclic loading and a pull-to-failure test
- Displacement, load to failure and failure mode were recorded
- Clinical failure was defined as displacement >5mm
- Catastrophic failure was defined as anchor pull-out during cyclic loading

Results

- Only Q-FIX Suture Anchors had no clinical failures during cyclic loading (Table)
- Q-FIX Suture Anchors had significantly less displacement after 100 cycles and 200 cycles compared to all other anchors tested ($p < 0.001$)
- Iconix anchors had a significantly lower load to failure (143.5N) than Q-FIX anchors (191.3N; $p = 0.01$), SUTUREFIX ULTRA anchors (188.3N; $p = 0.012$) and JuggerKnot anchors (183.6N; $p = 0.021$)

Table. Failure mode during cyclic loading

All-suture anchor	Total failures	Catastrophic failures	Clinical failures
Q-FIX (n=25)	1	1	0
SUTUREFIX ULTRA (n=22)	9	4	5
Iconix (n=23)	9	3	6
JuggerKnot (n=23)	7	3	4

Conclusions

Q-FIX Suture Anchors demonstrated significantly improved cyclic properties compared to other all-suture anchors, with no clinical failures and a load to failure comparable to the best performing anchors.

Citation

*Ruder JA, Dickinson EY, Peindl RD, Habet NA, Trofa DP, Fleischli JE. Cyclic and load-to-failure properties of all-suture anchors in human cadaveric shoulder glenoid bone. *Arthroscopy*. 2019;35(7):1954-1959. Available at: [Arthroscopy](#)

Q-FIX is manufactured by ArthroCare Corporation and distributed by Smith & Nephew, Inc. ArthroCare Corporation, 7000 West William Cannon Drive, Austin, TX 78735. SUTUREFIX ULTRA is manufactured by S+N.