

EVIDENCE MATTERS

RESEARCH BULLETIN

Stryker® ICONIX™ All-Suture Anchors Exhibit Higher Pullout Strength than the Arthrex BioComposite SutureTak in Study

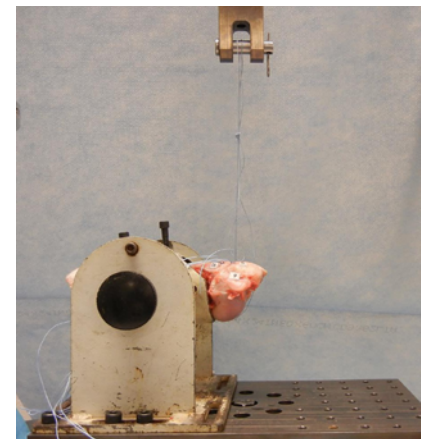
TOP-LEVEL SUMMARY

The fixation strength of the Stryker ICONIX All-Suture Anchors was compared to the Arthrex BioComposite Suture Tak in sheep cadaver bone. **Both the ICONIX1 and ICONIX2 reached significantly higher ultimate loads at failure than the SutureTak.**¹

METHODS

Six sheep shoulders were harvested and all soft tissues removed. Four anchors spaced approximately 10 mm apart were inserted into each humerus according to the manufacturer’s protocol using instruments from each manufacturer. A loop was created from the suture ends of each anchor. The humerus was fixed to the plate of the test machine (Model 858 Mini Bionix II, MTS) and each anchor was tested individually by placing the suture anchor loop onto a hook attached to the cross-arm of the test machine. A tensile load was applied along the axis of the anchor at a rate of 25mm/sec, load and displacement were measured, and failure mode was noted. A one-way Analysis of Variance was performed with significance assumed at $p \leq 0.05$.

Sutures	Pilot Hole	Catalogue Number	
Stryker ICONIX 1	Single Loaded #2 ForceFiber	1.4 mm	3910-500-512
Stryker ICONIX 2	Double Loaded #2 ForceFiber	2.3 mm	3910-500-522
Arthrex 2.4mm BioComposite SutureTak	Single Loaded #2 FiberWire	2.34 mm	1934BCF-24

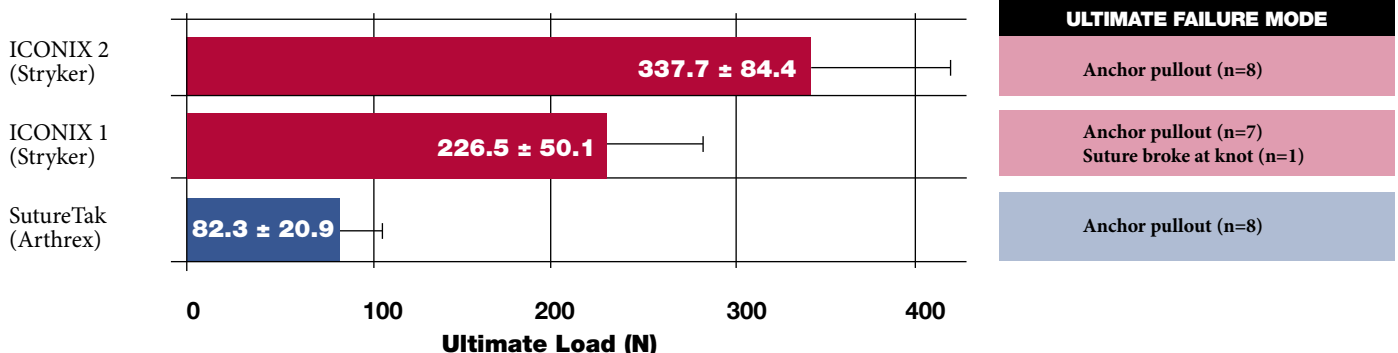


RESULTS

The mean ultimate failure loads of both the ICONIX1 and ICONIX2 all-suture anchors, $226.5 \pm 50.1\text{N}$ ($51.0 \pm 11.3\text{ lbf}$)* and $337.7 \pm 84.4\text{N}$ ($76.0 \pm 19.0\text{ lbf}$)* respectively, were significantly higher than the BioComposite SutureTak at $82.3 \pm 20.9\text{N}$ ($18.5 \pm 4.5\text{ lbf}$)*.

CLINICAL RELEVANCE

In this model, the ICONIX all-suture anchor was shown to support greater loads than the 2.4mm BioComposite SutureTak.



Pullout results for the anchors tested shown as average \pm standard deviation.

* One pound force is approximately equal to 4.5 Newtons.



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Reference

1. Technical Report #RD12-099

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