

EVIDENCE MATTERS

RESEARCH BULLETIN

Stryker® Knotilus™ Knotless Anchor Has Been Shown to Exhibit Market-Leading Fixation Strength

TOP-LEVEL SUMMARY

The fixation strength of the Knotilus 3.5mm anchor was compared to five competitive instability anchors. The Knotilus was found to reach the highest ultimate load at failure.¹

METHODS

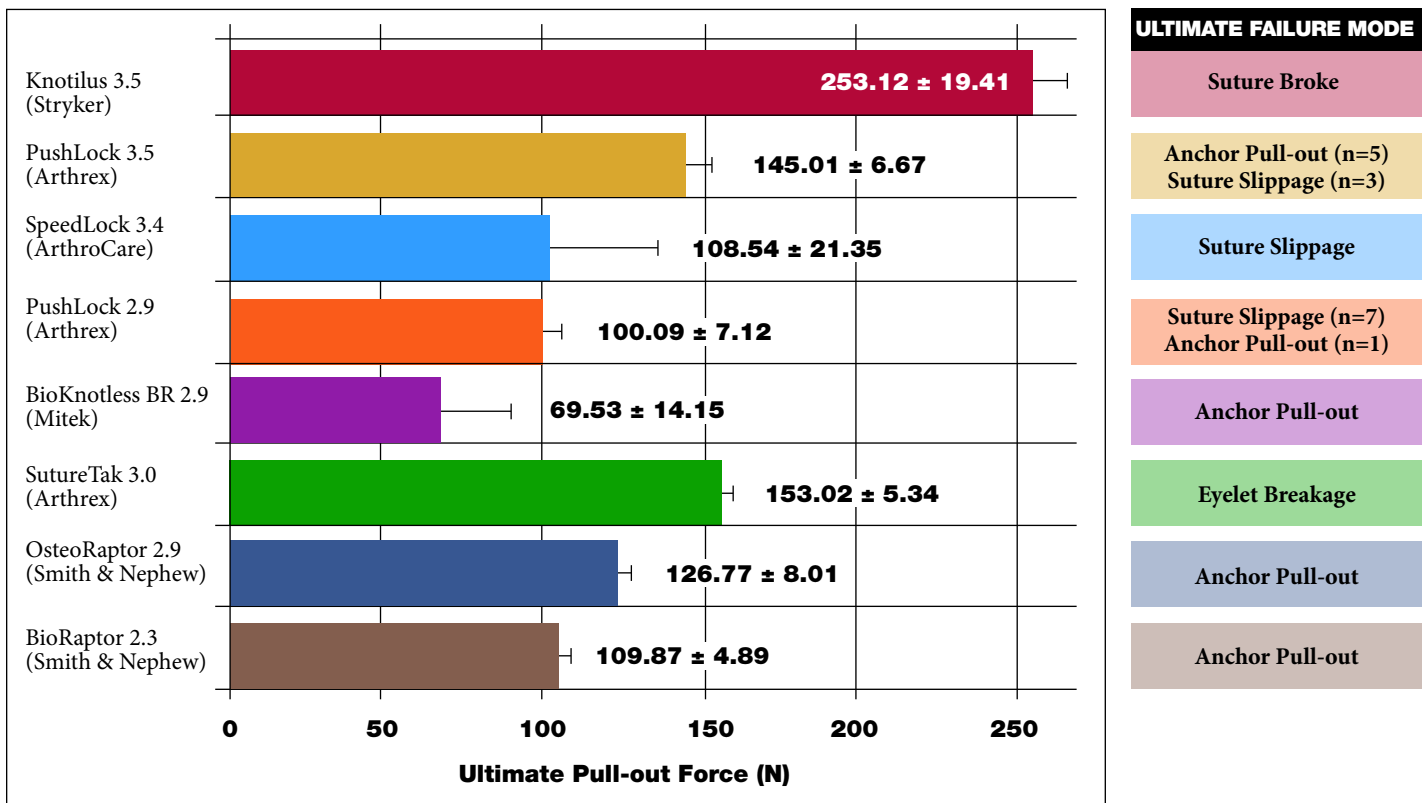
Foam blocks (20 pcf solid rigid polyurethane foam, Sawbones) were used as bone analogues to complete pullout testing of five knotless instability anchors: Knotilus 3.5mm (Stryker n=8), SpeedLock 3.4mm (ArthroCare n=5), Bioknotless BR 2.9mm (DePuy/Mitek n=6), PushLock 2.9mm (Arthrex n=8), and PushLock 3.5mm (Arthrex n=8); and three non-knotless instability anchors: BioRaptor 2.3mm (S&N n=8), OsteoRaptor 2.9mm (S&N n=8), and SutureTak 3.0mm (Arthrex n=8). All anchors were inserted according to the manufacturer’s protocol with instruments and high-strength suture from each manufacturer. A tensile load was applied along the axis of the anchor at a rate of 30mm/min, load and displacement were measured, and failure mode was noted.

RESULTS

The Knotilus suture anchor exhibited 253 N (56 lb)* mean ultimate failure load, significantly higher than all other anchors tested. Additionally, only the Knotilus anchor failed by suture breakage while all other anchors failed by suture slippage, eyelet breakage, and/or anchor pull-out.

CLINICAL RELEVANCE

The Knotilus knotless instability anchor has been shown to support loads greater than those of all competitors tested.



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

*One pound force is approximately equal to 4.5 Newtons.



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Reference

1. Technical Report RD12-030

325 Corporate Drive
Mahwah, NJ 07430
t: 201.831.5000

www.stryker.com

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