

## Second-generation all-suture anchor (ASA) SUTUREFIX<sup>®</sup> ULTRA demonstrates significantly improved biomechanical characteristics over JuggerKnot<sup>™</sup>

Results attributed to advances in both anchor construct and deployment mechanism



### Study design

- A biomechanical study comparing load to 2mm displacement and ultimate load to failure of the second-generation SUTUREFIX ULTRA, with the first-generation JuggerKnot (Zimmer Biomet) and control, BIORAPTOR<sup>®</sup> 2.3 PEEK
- Six anchors were inserted at the 12:00, 2:30, 4:30, 6:00, 8:30 and 10:30 positions in 20 human cadaveric glenoids



### Key results

#### Anchor Displacement

- Load to 2mm displacement was significantly less with JuggerKnot compared with SUTUREFIX ULTRA and control ( $p < 0.01$ ) (Figure 1)

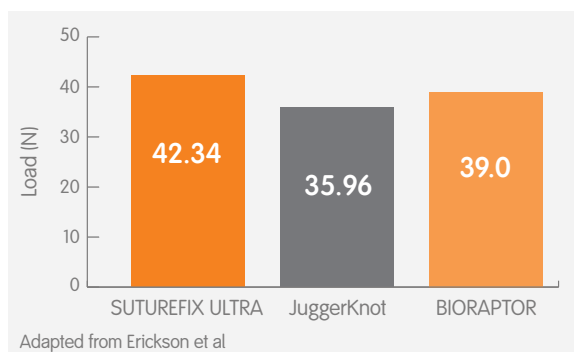


Figure 1. Load to 2mm displacement (N)

#### Anchor Failure

- SUTUREFIX ULTRA showed the highest ultimate load to failure (182.51N)
- SUTUREFIX ULTRA and JuggerKnot showed significantly higher load to failure rates compared with BIORAPTOR ( $p < 0.01$ ) (Figure 2)
  - No significant difference between SUTUREFIX ULTRA and JuggerKnot ( $p > 0.05$ )

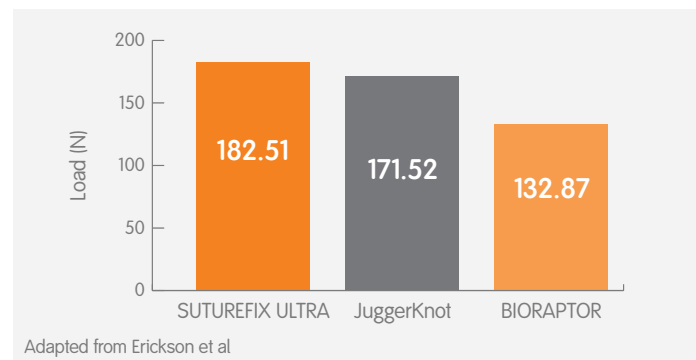


Figure 2. Ultimate load to failure (N)



### Conclusion

SUTUREFIX ULTRA demonstrates improved biomechanical characteristics over JuggerKnot, and similar to those of a traditional solid anchor. The anchor configuration and deployment mechanism of SUTUREFIX ULTRA appears to mitigate the biomechanical concerns of first-generation anchors such as JuggerKnot, which rely on cortical bone for deployment.



### Study citation

\*Erickson J, Chiarappa F, Haskel J. et al. Biomechanical Comparison of a First- and a Second-Generation All-Soft Suture Glenoid Anchor. *Orthop J Sports Med*. 2017 Jul 20;5:2325967117717010.

