

# Pull-Out Strength Comparison of Arthrex to Mitek Suture Anchors

Arthrex Research and Development

## Objective

The objective of this test was to compare the pull-out strength of Arthrex suture anchors to Mitek suture anchors in 40/20 pcf Sawbones. Anchors tested were the Arthrex Mini Corkscrew FT, Arthrex 3.5 mm Corkscrew FT, Mitek Mini Quickanchor, Mitek Gil, and Mitek Super Quickanchor.

## Methods and Materials

A 40/20 pcf Sawbones block was cut into individual 30x30x44 mm dimension blocks for each suture anchor sample. Samples (n=3) from each test group were inserted according to the respective manufacturers instructions for each type of anchor, and were tensile tested at 12 in/min using a custom-base fixture and pneumatic clamp on an INSTRON 5544 Electromechanical Dynamic Testing System (INSTRON, Canton, MA). Load (lbf), displacement (mm), and mode of failure were recorded. Load at 3 mm of displacement was obtained from recorded data.

## Results

Results of the testing can be seen in Figures 1, 2, and 3. Arthrex suture anchors produced a greater tensile load at 3 mm of displacement than each of the Mitek suture anchors. Arthrex suture anchors also had a greater ultimate load and lower displacement at ultimate load, when compared to similar Mitek suture anchors.

## Conclusion

The greater ultimate load and load at 3 mm displacement of the Arthrex suture anchors compared to the Mitek suture anchors may result in a more rigid and secure repair.

Figure 1: Load at 3 mm of displacement for each type of suture anchor

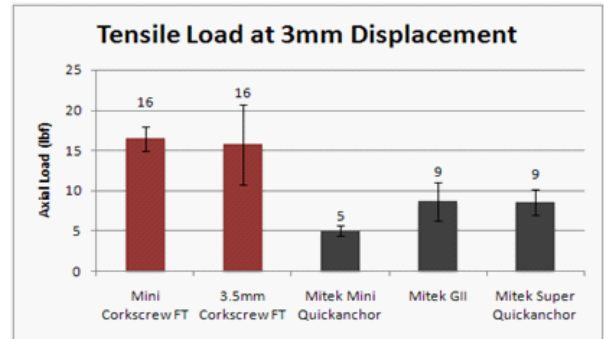


Figure 2: Suture anchor type versus ultimate tensile load

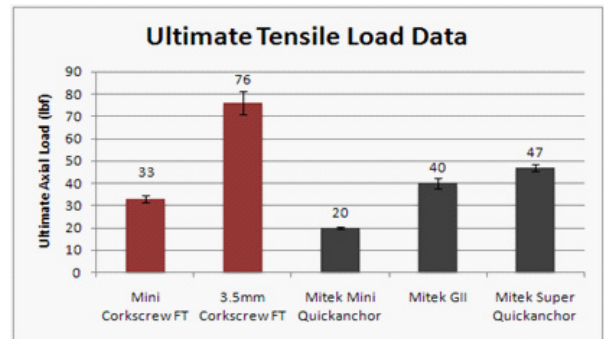


Figure 3: Suture anchor type versus displacement at ultimate tensile load

