

Acutrak 2 Whitepaper

Compression and Insertion Torque Comparison between Acumed Acutrak® 2 Mini and Arthrex 3.5 mm Mini Compression FT Headless Compression Screws

Objective:

Determine and compare the fracture site compression force and insertion torque profiles of Acumed's Acutrak 2® Mini and Arthrex's 3.5 mm Mini Compression FT (fully threaded) Headless Compression Screws in a synthetic bone model with three different simulated fracture locations.

Key Relationships:

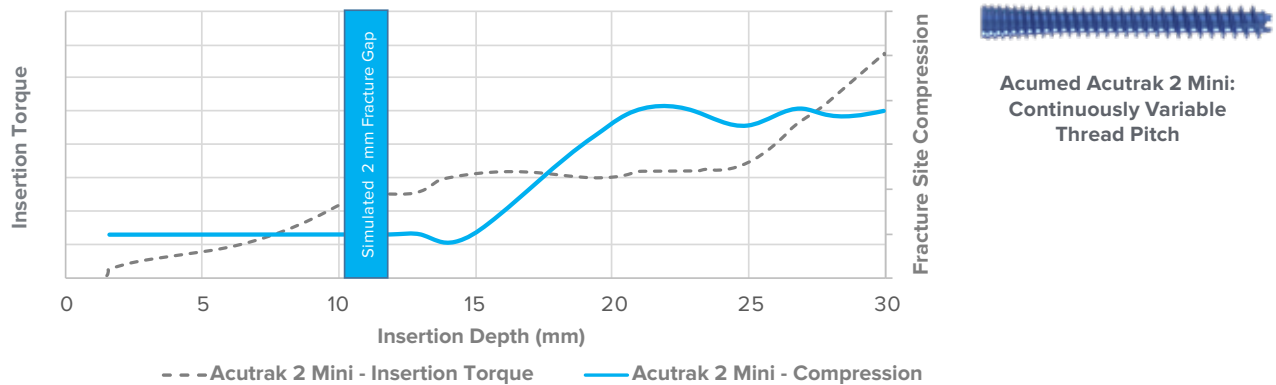
- ▶ Peak Compression and Final Compression
- ▶ Insertion Torque and Compression Force

During testing, Arthrex screws had a higher compressive force on specific fracture patterns. This Peak Compression drops once the screw is fully inserted.

Additionally, the Arthrex screw had shown that as insertion torque increased, compressive force eventually decreased. This shows that the tactile feedback from the increased insertion torque does not indicate increasing compressive force.

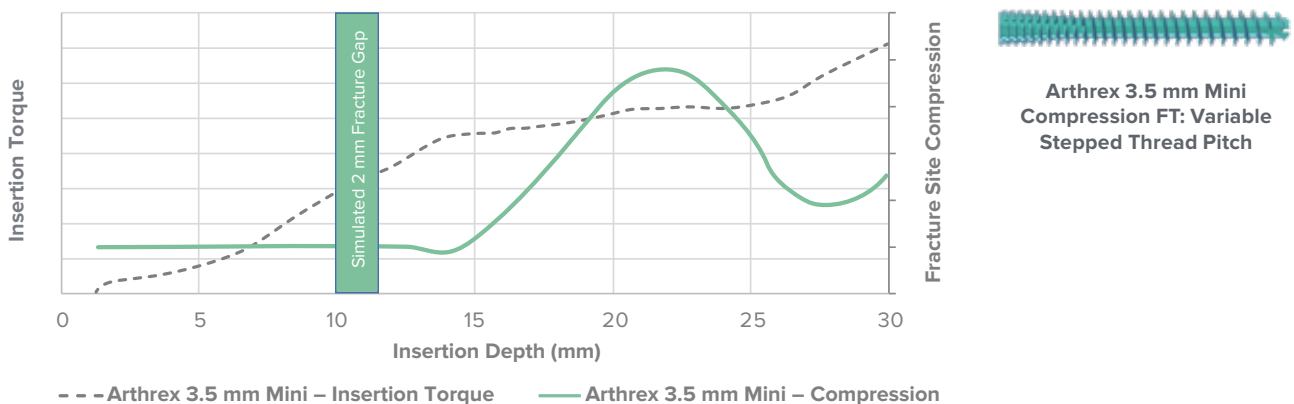
Acumed Screw Insertion Torque & Compression Force Profile for Proximal Fracture

Average Driver Insertion Torque – Acutrak 2® Mini x 30 mm Long



Arthrex Screw Insertion Torque & Compression Force Profile for Proximal Fracture

Average Driver Insertion Torque – Arthrex 3.5 mm Mini Compression FT x 30 mm Long





Conclusion:

- ▶ Compared to the Arthrex 3.5 mm Mini Compression FT screw, the continuously variable thread pitch technology of the Acutrak 2 Mini screw resulted in greater fracture site compression force upon final screw insertion in both proximal and midline fracture locations.
- ▶ In the simulated proximal fracture location, the Arthrex 3.5 mm Mini Compression FT screw showed a 60% loss of maximum fracture site compression force upon final screw insertion, despite driver insertion torque continuing to increase. In contrast, the Acutrak 2 Mini screw lost 9% of compression before final seating.



go.acumed.net/AT2-Vs-Arthrex



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