Intramedullary Button Distal Biceps Tendon Repairs: A Pilot Study

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Introduction

- Distal biceps tendon ruptures are being increasingly recognized
- Cortical button suspensory fixation provides a strong repair that allows for early motion
- There is a small but definite risk for Posterior Interosseous Nerve (PIN) injury (Image 1)
- Intramedullary button fixation may provide the benefits of far cortical fixation without risk to the PIN

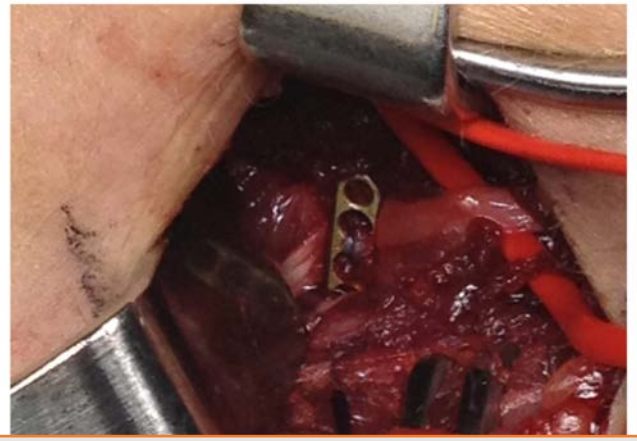

Image 1: The PIN under a cortical button

Methods

- Cadaver Study
- Prepared distal biceps tendon attached to Arthrex cortical button using 2 fiber loops
- Button flipped inside biceps tuberosity (Image 2), and tendon repaired using tension slide
- Cyclic loading and load to failure assessed (Image 3)

Results

- 9 specimens, average age 71 years (5 M, 4 F)
- No gapping under cyclic loading (50N x 1000 cycles)
- Average load to failure was 244 N

Conclusions

- Intramedullary button fixation of a distal biceps tendon repair resists gapping under cyclic loading
- Load-to-Failure is similar to other fixation methods
- This technique may provide reliable fixation while avoiding PIN injury

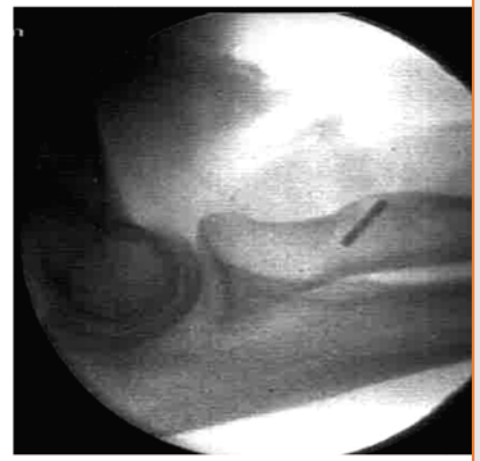

Image 2: Cortical button, flipped inside the biceps tuberosity

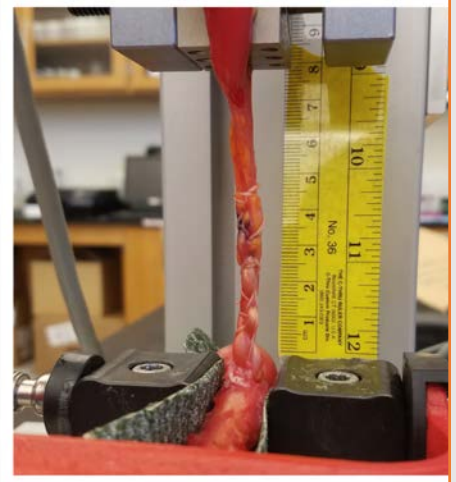

Image 3: Assessing gapping after cyclic loading