

Introduction

Wrist arthroscopy is generally considered the “gold standard” in the diagnosis of triangular fibrocartilage complex (TFCC) injuries. There is a paucity of data examining the reliability of wrist arthroscopy as a diagnostic modality for TFCC injuries.

Purpose

To evaluate the inter-observer and intra-observer reliability of the diagnosis of TFCC pathology during wrist arthroscopy.

Methods

- The senior author captured 25 intraoperative digital videos during diagnostic and surgical arthroscopy of the wrist joint for known or suspected articular pathology.
- 2 videos were excluded for poor quality and inadequate visualization.
- 3 hand surgeons subsequently reviewed the remaining 23 videos in a blinded fashion at 2 time points separated by 4 weeks.
- The reviewers determined if the trampoline test was positive and if a TFCC tear was present. Tears were classified using a morphologic classification.
- During the arthroscopic evaluation, the treating surgeon diagnosed TFCC tears in 22 patients, 12 central and 10 peripheral (6 ulnar sided and 4 radial sided).
- Statistical measures of reliability including percentage agreement and κ coefficients were calculated.

Results

Interobserver agreement for the presence or absence of a tear was 66.7% while intraobserver agreement was 67.4%. The kappa value for interobserver agreement was 0.33, while the agreement within each observer was 0.88, indicating fair and excellent agreement respectively.

The three reviewers identified an average of 11.3 positive trampoline tests. Agreement between observers for a positive trampoline test was 65.2%. The average percentage of intraobserver agreement regarding a positive trampoline test was 49.3%.

In cases where all three reviewers agreed on the presence of a TFCC tear, the agreement regarding tear location was 76.6%.

Figure 1 (Right): Arthroscopic image of a ballottement of the central disk of the TFCC using a probe. Dark arrow indicates the probe tip on the articular disk.

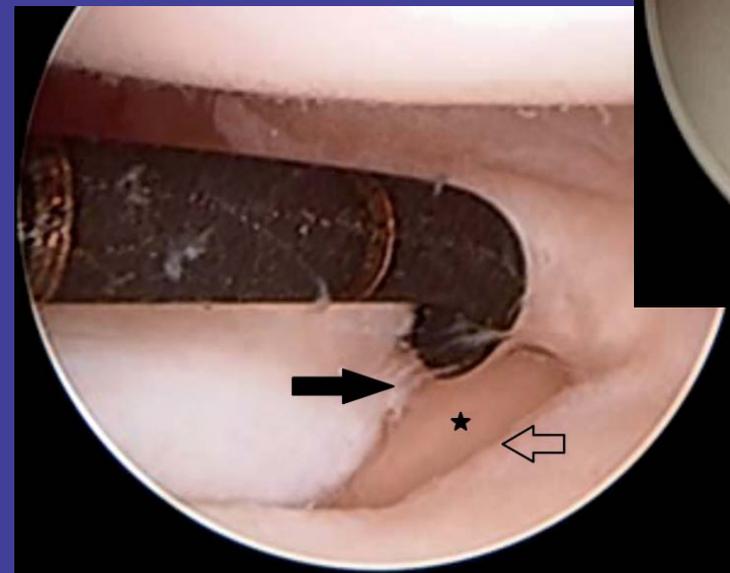
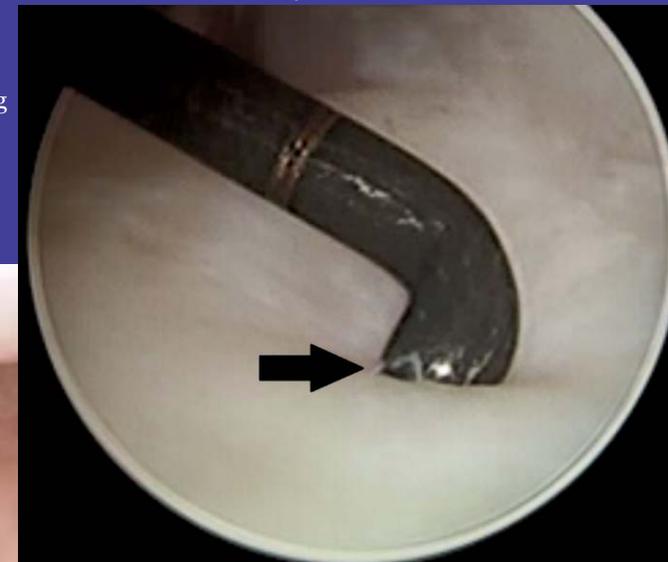


Figure 2 (Left) Arthroscopic image of a radial TFCC tear. The dark arrow details the torn TFCC edge, the white arrow the sigmoid notch of the radius, and the star notes the ulnar head visible through the defect in the TFCC.



Conclusion

- Wrist arthroscopy remains instrumental in the treatment of TFCC tears.
- However, in this investigation, approximately 1/3 of the time experienced observers disagree with each other and within themselves whether a tear is present.
- Reconsideration should be given to arthroscopy as the reference standard in the diagnosis of these tears.