

TRIANGULAR FIBROCARILAGE COMPLEX 1b LESIONS: ARTHROSCOPIC REPAIR

¹ F. Pegreffi, ² L. Belletti, ³ M. Esposito

1 Institute of Sport Medicine, University of Bologna, Bologna, Italy

2 Rheumatology Unit, Department of Internal Medicine

University of Modena & Reggio E., Modena, Italy

3 Villa Serena Hospital, Forli, Italy

The Authors have no relationships or conflicts of interests to disclose

INTRODUCTION

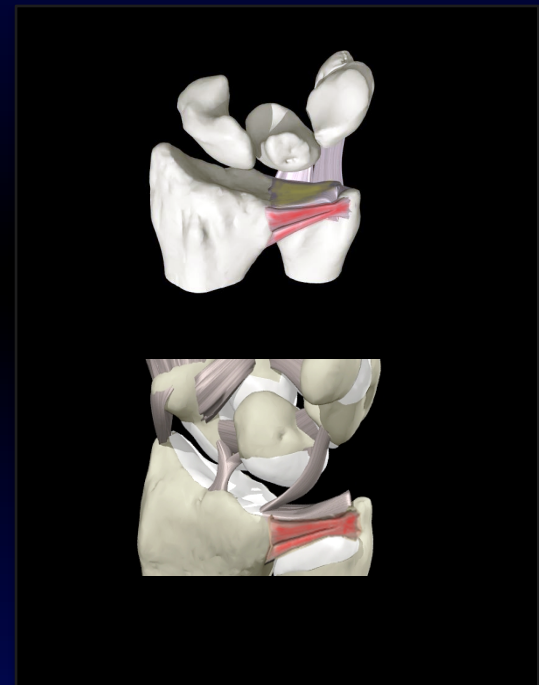
- A fall on the outstretched hand or a violent traction and twisting injury of the wrist or forearm
- Traumatic TFCC tear
- Originally used by Palmer & Werner ^{1,2}
- TFCC Complex Includes:
 - articular disc
 - volar and dorsal radio-ulnar ligaments
 - ulnar collateral and ulno-carpal ligaments



1. Palmer AK, Werner FW. The triangular fibrocartilage complex of the wrist--anatomy and function. J Hand Surg Am. 1981 Mar;6(2):153-62
2. Palmer AK, Werner FW. Biomechanics of the distal radioulnar joint. Clin Orthop Relat Res. 1984 Jul-Aug;(187):26-35.

INTRODUCTION

- Volar and dorsal radio-ulnar ligaments
- Primary stabilizers of the DRUJ
- Loss of TFCC support may lead to DRUJ instability
- Controversy still exists as to which is the best treatment for type 1-b TFCC tears associated with DRUJ instability



1. Palmer AK, Werner FW. The triangular fibrocartilage complex of the wrist--anatomy and function. J Hand Surg Am. 1981 Mar;6(2):153-62
2. Palmer AK, Werner FW. Biomechanics of the distal radioulnar joint. Clin Orthop Relat Res. 1984 Jul-Aug;(187):26-35.

PURPOSE

- The purpose of this study is to evaluate the long-term clinical outcomes in patients affected by stable type 1b TFCC lesions and in association with distal radio ulnar joint (DRUJ) instability after arthroscopic repair

MATERIALS & METHODS

PATIENTS

- 138 patients
- Group A , 117, 27 ± 7 yrs
Type 1-b TFCC lesion, without DRUJ instability
- Group B, 21, 24 ± 4 yrs
Type 1-b TFCC lesion, with DRUJ Instability

- Ulnar-sided pain
- Reduced grip strength
- Decrease forearm rotation
- Clinical signs of DRUJ instability



MATERIALS & METHODS

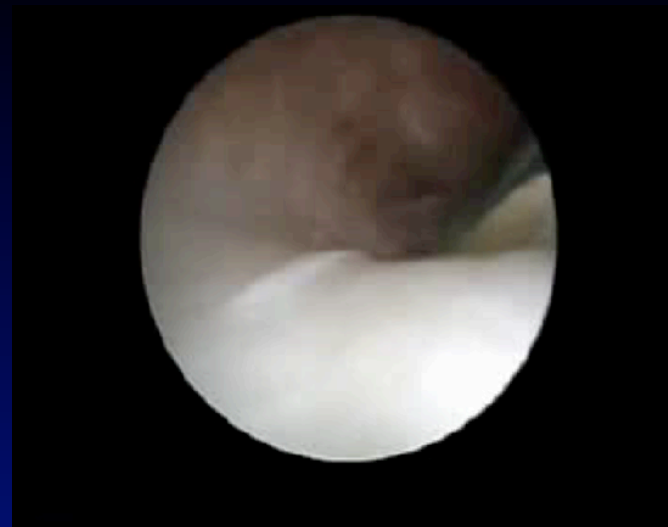
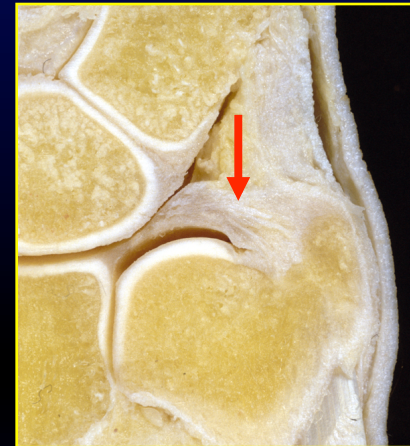
EXCLUSION CRITERIA

- Previous wrist fractures
- Irreparable TFCC lesions
- Arthritis and/or articular changes of the joint
- Metabolic and/or rheumatologic diseases

MATERIALS & METHODS

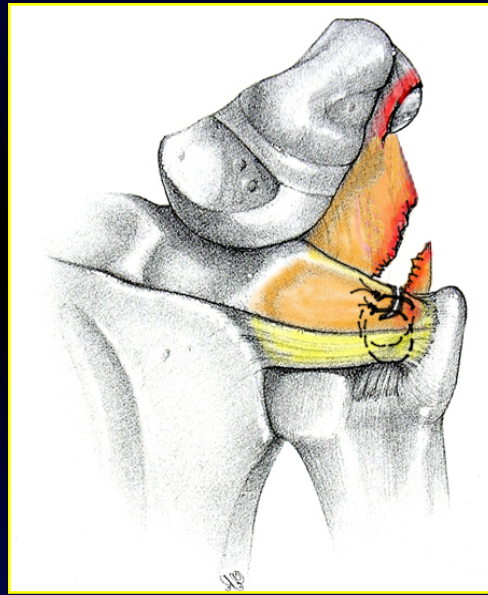
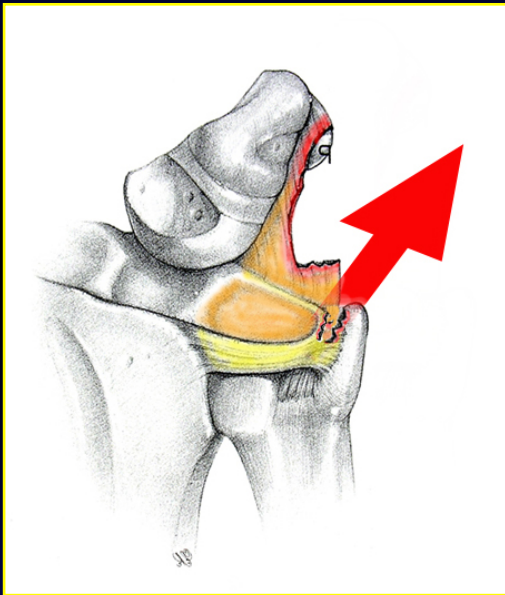
SURGICAL TECHNIQUE: 1-b TFCC Lesion without DRUJ instability

- Peripheral ulnar-sided TFCC tear
- Preserved Foveal Insertion
- Out-in all-inside suture



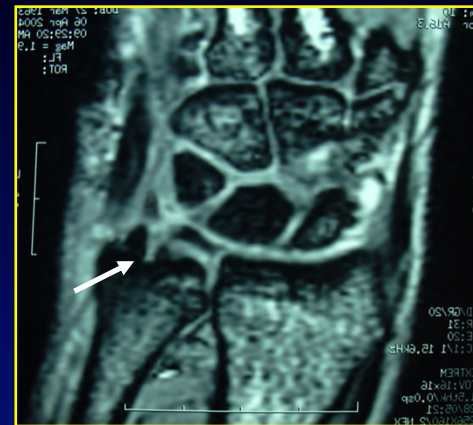
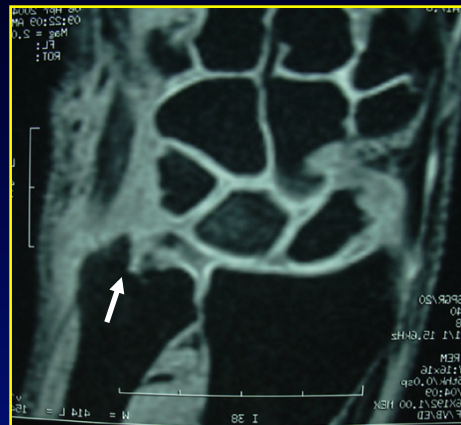
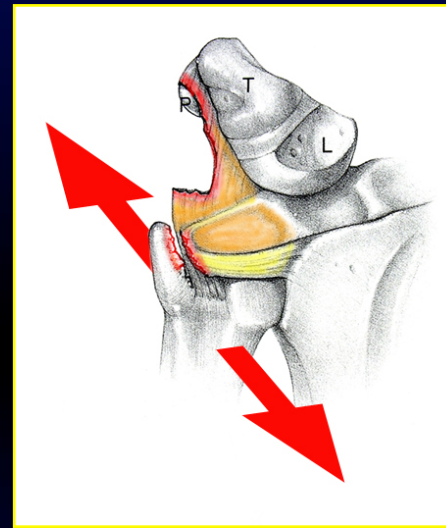
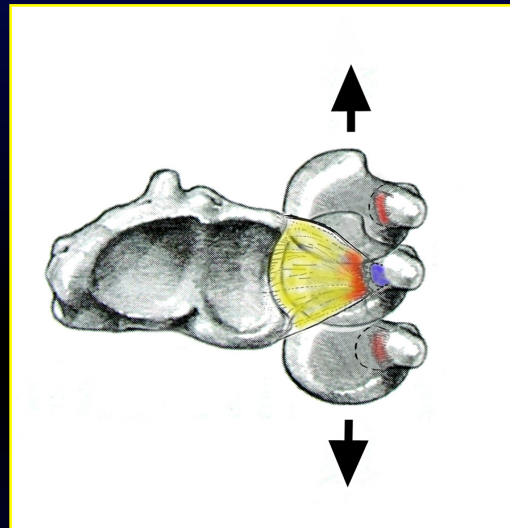
MATERIALS & METHODS

SURGICAL TECHNIQUE: 1-b TFCC Lesion, Partial DRUJ Instability



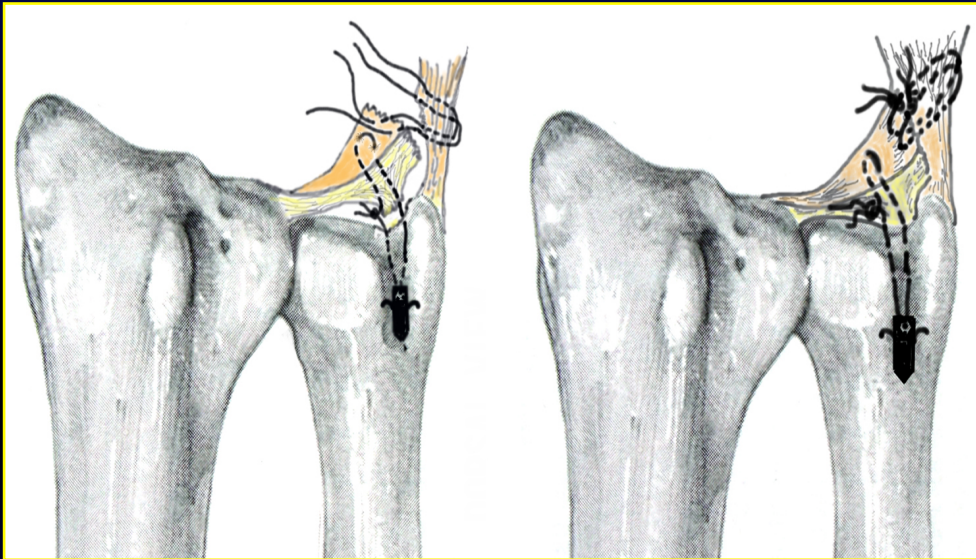
MATERIALS & METHODS

SURGICAL TECHNIQUE: 1-b TFCC Lesion, Complete DRUJ Instability



MATERIALS & METHODS

SURGICAL TECHNIQUE: 1-b TFCC Lesion, Complete DRUJ Instability



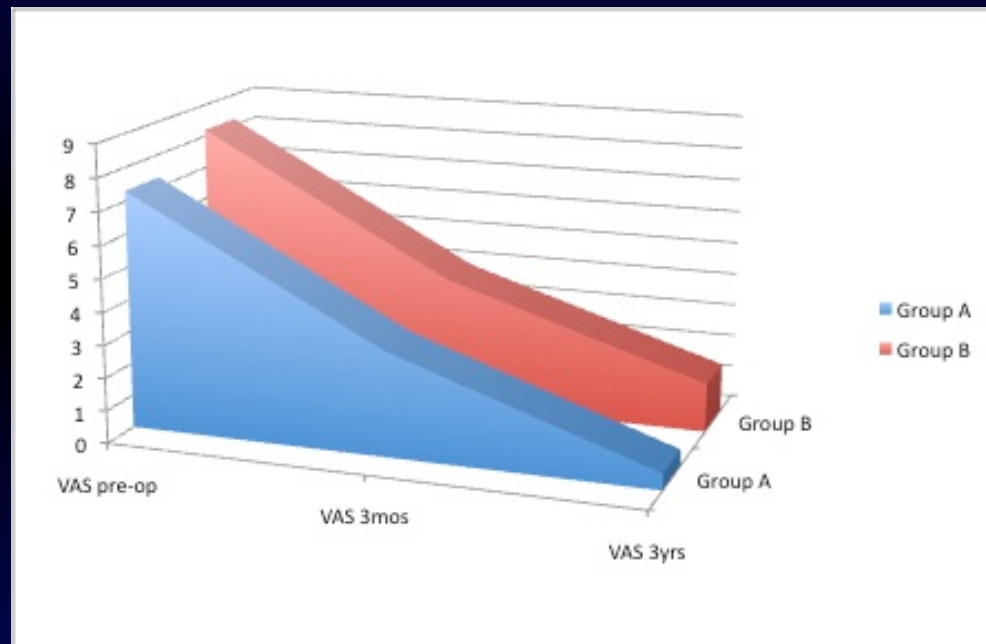
- 1° step: TFCC fovea restoration
- 2° step: Type 1-B TFCC lesion repair

RESULTS

- At three years follow-up the overall results were excellent and significantly improved in terms of:
 - SF-36 ($p < 0.005$)
 - DASH ($p < 0.005$)
 - VAS ($p < 0.005$)
 - ROM ($p < 0.05$)
 - Grip Strength ($p < 0.05$)
- We have found no significant difference between Group A and Group B at three years follow-up

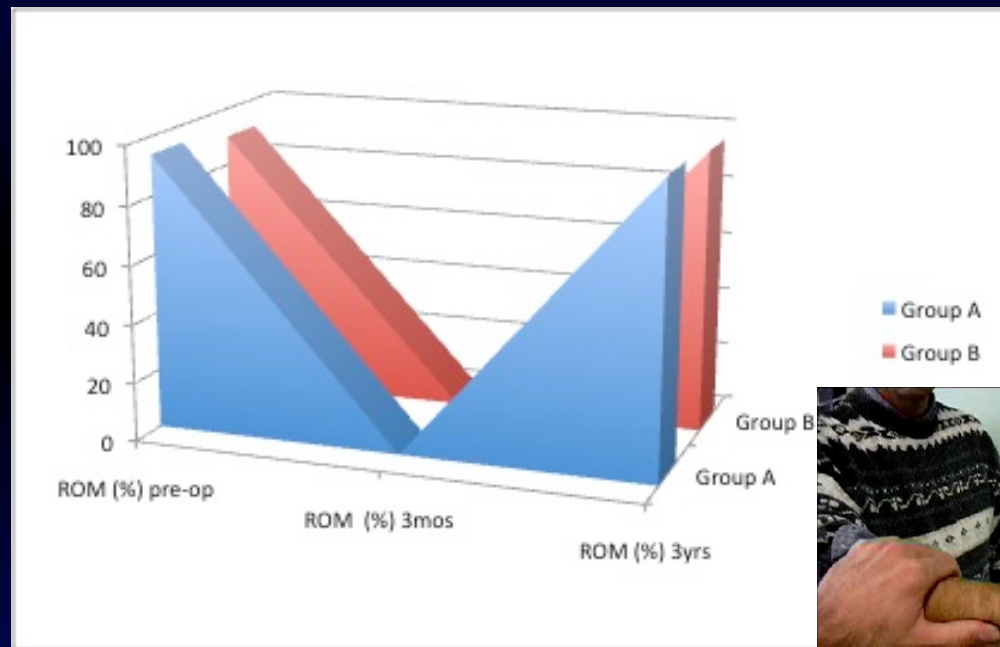
RESULTS

- At three years follow-up the overall results were excellent and significantly improved in terms of:
 - SF-36 ($p < 0.005$)
 - DASH ($p < 0.005$)
 - **VAS ($p < 0.005$)**
 - ROM ($p < 0.05$)
 - Grip Strength ($p < 0.05$)
- We have found no significant difference between Group A and Group B at three years follow-up



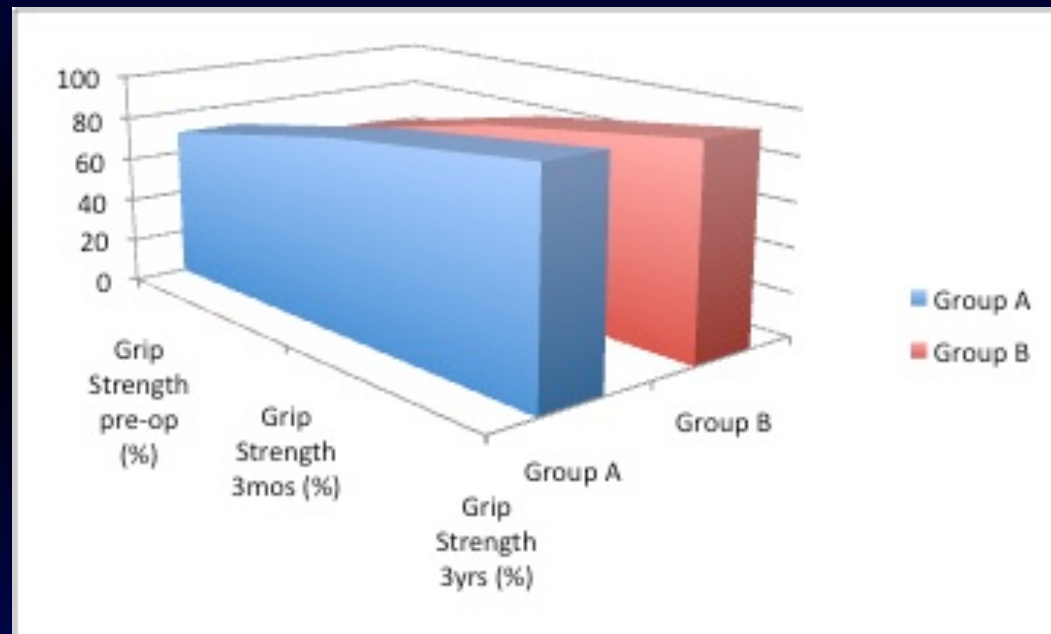
RESULTS

- At three years follow-up the overall results were excellent and significantly improved in terms of:
- SF-36 ($p < 0.005$)
- DASH ($p < 0.005$)
- VAS ($p < 0.005$)
- **ROM ($p < 0.05$)**
- Grip Strength ($p < 0.05$)
- We have found no significant difference between Group A and Group B at three years follow-up



RESULTS

- At three years follow-up the overall results were excellent and significantly improved in terms of:
- SF-36 ($p < 0.005$)
- DASH ($p < 0.005$),
- VAS ($p < 0.005$),
- ROM ($p < 0.05$)
- **Grip Strength ($p < 0.05$)**
- We have found no significant difference between Group A and Group B at three years follow-up



DISCUSSION

- Our data demonstrated optimal results at three years follow-up
- Even in presence of instability, the anchor employment allows to obtain an intra-operative suture stability maintained overtime
- In fact, comparing Group A and Group B, functional outcomes after three years were not significantly different

CONCLUSION

- Arthroscopy is a tool of paramount importance in both diagnosis and treatment of TFCC injuries even associated with DRUJ instability
- Furthermore, type 1b lesions associated with total DRUJ instability should be managed combining an out-in arthroscopic technique with the use of an anchor to completely relieve pain and restore wrist function
- Thus contributing to the development of an “all-arthroscopic” attitude toward wrist disorders.

