ARTHROSCOPIC REPAIR OF TFCC LESION:
DO WE ALWAYS NEED TO BLOCK PRONO-SUPINATION AFTER SURGERY?

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“THE HUMAN’S ABILITY TO SUPINATE AND PRONATE THE FOREARM GIVES A SUPERIORITY TO OTHER SPECIES AND IS OF A TREMENDOUS ADVANTAGE FOR THE USE OF THE HAND TO PREPARE FOOD, NURTURE FIRE, AND CREATE TOOLS” (LINSCHEID, 1993).
THE FOREARM JOINT(S)

- HAGERT 1994
- 3 JOINTS
  - PRUJ (ROTATION)
  - INTEROSSEOUS MEMBRANE
  - DRUJ (ROTATION & TRANSLATION)

- ARTICULAR DISK & MENISCAL HOMOLOGUE
- RADIO-ULNAR LIGAMENTS
- ULNAR COLLATERAL LIGAMENT
- ULNO-CARPAL LIGAMENTS
- EXTENSOR CARPI ULNARIS SUBSHEATH
• **SUPINATION:**
  • SUPERFICIAL VOLAR
  • DEEP DORSAL

• **PRONATION:**
  • SUPERFICIAL DORSAL
  • DEEP VOLAR

HAGERT 1994
NAKAMURA

ATZEI E LUCHETTI

TFCC LESION CLASSIFICATION

- PALMER 1989

<table>
<thead>
<tr>
<th>Palmer Class 1: Traumatic</th>
<th>Palmer Class 2: Degenerative</th>
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<tbody>
<tr>
<td>IA Central perforation</td>
<td>IIA TFCC tear</td>
</tr>
<tr>
<td>IB Ulnar tear</td>
<td>IIA + Chondromalacia</td>
</tr>
<tr>
<td>IC Distal tear</td>
<td>IIB + Central perforation</td>
</tr>
<tr>
<td>ID Radial tear</td>
<td>IID JIC + Lunotriquetral ligament tear</td>
</tr>
<tr>
<td></td>
<td>IIE DRUJ + ulnocarpal arthritis</td>
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</tbody>
</table>

# Comprehensive Classification of TFCC Peripheral Tears

<table>
<thead>
<tr>
<th>CLASS 0</th>
<th>CLASS 1</th>
<th>CLASS 2</th>
<th>CLASS 3</th>
<th>CLASS 4</th>
<th>CLASS 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolated styloid fracture without TFCC Tear</td>
<td>Distal TFCC Tear</td>
<td>Complete TFCC Tear</td>
<td>Proximal TFCC Tear</td>
<td>NON-repairable TFCC Tear</td>
<td>DRIUJ Arthritis</td>
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</tbody>
</table>

**Clinical Findings**
- DRUJ Ballottement Test: Negative
- Intact Ulnar Styloid or Tip Fracture of the Ulnar Styloid
- Basilar Fracture of the Ulnar Styloid

**Radiographic Findings**
- (Floating styloid*)
- CLASS 3-A Avulsion Fracture of TFCC Insertion
- CLASS 4-A
- CLASS 4-B

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ATZEI & LUCHETTI
CLASS 2 / 3 TEAR

CLASS 2
Complete TFCC Tear

CLASS 3
Proximal TFCC Tear

Mild to Severe Laxity
(Soft end-point)

(Floating styloid*)

CLASS 3-A
Aversion Fracture
of TFCC Insertion
CLASS 2 / 3 TEAR

• CLASSIC OPEN RECONSTRUCTION
CLASS 2 / 3 TEAR

CLASSIC OPEN RECONSTRUCTION POST-OP

• 2 WEEKS IN LONG CAST SUPINATION
• 2 WEEKS IN LONG CAST NEUTRAL
• AT 4-6 WEEK SHORT CAST
• AFTER 6-8 WEEKS START REHAB
CLASS 2 / 3 TEAR

ARTHROSCOPIC RECONSTRUCTION
CLASS 2 / 3 TEAR

ARTHROSCOPIC RECONSTRUCTION POST-OP

• MUENSTER SPLINT 2 WEEKS
• SHORT SPLINT 3-4 WEEKS
• AFTER 4 WEEKS START REHAB
• AT 3 MONTHS START SPORT ACTIVITY ( TILL 6 MONTHS )
2015-2018

- MEAN AGE 28 Y.O (17-44)
- 27 PATIENTS (27 WRISTS)
- M 16 F 11
- TRAUMA – SURGERY MEAN TIME 25 WEEKS
- MEAN FU 24,7 MONTHS (12-49)
- FULL SPORT ACTIVITY AFTER 6 MONTHS IN 18 ATHLETES

<table>
<thead>
<tr>
<th></th>
<th>PREOP</th>
<th>FOLLOWUP</th>
<th>P VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAS (ATTIVITA’)</td>
<td>8</td>
<td>2</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Q-DASH</td>
<td>46</td>
<td>15</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>PRWE</td>
<td>55</td>
<td>24</td>
<td>&lt;0.001</td>
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</table>
CLASS 1 TEAR

Distal TFCC Tear

Slight Laxity
(Hard end-point)
OUR STUDY

- 2015-2018
- 47 WRISTS- 45 PATIENTS (16 M 29 F)
- MEAN AGE 42.6 Y.O (18-67)
- DRY ARTHROSCOPY
- CONSERVATIVE TREATMENT FAILURE
- MEAN START OF SYMPTOMS- SURGERY TIME - 8.8 MONTHS
- INCLUSION CRITERIA
  - ATZEI-EWAS CLASS 1
  - OUTSIDE-IN SUTURE(PDS II 3/0)
  - SHORT SPLINT FREE P/S
RESULTS

- FU MEDIO 25,3 MESI (12-46)
- NO FAILURE
- AT 2 MONTHS COMPLETE ROM
- RETURN TO ACTIVITY (SPORT, MUSIC, LABOR) IN ALL CASES AT 3 MONTHS

<table>
<thead>
<tr>
<th></th>
<th>PREOPERATORIO</th>
<th>FOLLOWUP</th>
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<tr>
<td>VAS (ATTIVITA’)</td>
<td>7</td>
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<td>&lt;0,001</td>
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<tr>
<td>Q-DASH</td>
<td>45</td>
<td>17</td>
<td>&lt;0,001</td>
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<tr>
<td>PRWE</td>
<td>52</td>
<td>18</td>
<td>&lt;0,001</td>
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</table>
- **ARTHROSCOPIC TREATMENT IS GOLD STANDARD IN CLASS 1 LESIONS**
- **RESULTS ON OTHER STUDIES WHICH BLOCK P/S ARE NOT CLEAR**
- **WE DON’T NEED TO BLOCK P/S IN CLASS 1 LESIONS**

**DISCUSSION**

<table>
<thead>
<tr>
<th></th>
<th>Nakamura et al(^{23}) (n = 66)</th>
<th>Luchetti et al(^{16}) (n = 24)</th>
<th>Nakamura et al(^{23}) (n = 24)</th>
<th>Luchetti et al(^{16}) (n = 25)</th>
<th>Woo et al(^{17}) (n = 12)</th>
<th>Jeger et al(^{20}) (n = 19)</th>
<th>Azei et al(^{12}) (n = 48)</th>
<th>Wysocki et al(^{19}\a) (n = 29)</th>
<th>Yao and Lee(^{5a}) (n = 12)</th>
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<tr>
<td><strong>Open</strong></td>
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<td>Mean follow-up, mo</td>
<td>36</td>
<td>31</td>
<td>42</td>
<td>31</td>
<td>19</td>
<td>31</td>
<td>33</td>
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<td>17.5</td>
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<td>Minimum follow-up</td>
<td>24</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>14</td>
<td>18</td>
<td>6</td>
<td>16</td>
<td>11</td>
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<td>Mean age (range)</td>
<td>31 (16-68)*</td>
<td>32 (13-49)</td>
<td>27 (16-53)*</td>
<td>33 (13-69)</td>
<td>24.7 (17-34)</td>
<td>37 (16-66)</td>
<td>34 (17-54)</td>
<td>30 (13-61)</td>
<td>42 (19-69)</td>
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<td>Additional injury/surgery</td>
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<td><strong>Unstable preoperatively, %</strong></td>
<td>100 (66/66)</td>
<td>100 (24/24)</td>
<td>100 (24/24)</td>
<td>100 (25/25)</td>
<td>100 (12/12)</td>
<td>74 (14/19)</td>
<td>106 (48/48)</td>
<td>0 (n = 2)</td>
<td>0 (n = 12)</td>
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<tr>
<td><strong>Unstable postoperatively, %</strong></td>
<td>15 (10/66)</td>
<td>17 (4/24)</td>
<td>29 (7/24)</td>
<td>4 (1/25)</td>
<td>58 (7/12)</td>
<td>11 (2/19)</td>
<td>8 (4/8)</td>
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<td>0 (n = 12)</td>
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<td>% remaining unstable</td>
<td>85 (56/66)</td>
<td>83 (20/24)</td>
<td>71 (21/24)</td>
<td>95 (22/24)</td>
<td>92 (8/9)</td>
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<td>27</td>
<td>40.4</td>
<td>44</td>
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<td>DASH: postoperative</td>
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<td>18</td>
<td>24.6 (P = .005)</td>
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<td>9 (P = .003)</td>
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<td>VAS (rest): preoperative</td>
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<td>0.9 (P &lt; .001)</td>
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<td>Mayo: preoperative</td>
<td>4 (P &lt; .001)</td>
<td>3 (P &lt; .001)</td>
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<td>Mayo: postoperative</td>
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<td>Excellent and Good</td>
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<td>Fair and Poor</td>
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<td>Grip strength (% of contralateral/kg)</td>
<td>20 kg</td>
<td>22 kg</td>
<td>54.9%</td>
<td>71%</td>
<td>92.70%</td>
<td>35 kg</td>
<td>64%</td>
<td>35 kg</td>
<td>64%</td>
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<tr>
<td>Preoperative</td>
<td>22 kg (NS)</td>
<td>24 kg (NS)</td>
<td>72.8%</td>
<td>89%</td>
<td>103.6% (P &lt; .05)</td>
<td>35 kg</td>
<td>64%</td>
<td>35 kg</td>
<td>64%</td>
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<td>PRWE: preoperative</td>
<td>69</td>
<td>54</td>
<td>58.7</td>
<td>53</td>
<td>53</td>
<td>19</td>
<td>19</td>
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<td>PRWE: postoperative</td>
<td>42 (P &lt; .001)</td>
<td>23 (P &lt; .001)</td>
<td>50.2 (P = .007)</td>
<td>19</td>
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<td>Complications</td>
<td>DSBUN neurapraxia</td>
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<td>Suture knot irritation</td>
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<td>ECU tendinitis</td>
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• OPEN REPAIR AND ARTHROSCOPIC REPAIR DON’T NEED TO HAVE THE SAME POSTOP PROTOCOL
• CLASS 2 OR 3 P/S LIMITATION FOR 2 WEEKS
• CLASS 1 FREE P/S
GRAZIE...