Arthroscopic diagnosis and repair of Partial-Thickness Rotator Cuff Tears using the PASTA Depth Guide

Surgical Technique
**Introduction**

The PASTA Depth Guide was developed by Ian K.Y. Lo, M.D., in an effort to provide a surgical tool to directly quantify and classify partial thickness rotator cuff tears arthroscopically.

The simplistic view of repairing a partial articular surface tendon avulsion (PASTA) lesion with greater than 50% involvement of the tendon versus debriding those with less than 50% involvement is appealing but is sometimes difficult to determine at the time of diagnostic shoulder arthroscopy. Using the footprint as a marker to determine whether or not a tear involves greater or less than 50% of the tendon has been proposed.¹

The PASTA Depth Guide estimates the size of the tear and the overall depth of the footprint, determining the percentage of tendon torn. Utilizing this percentage within a classification system, surgeons can reliably determine the appropriate treatment decision for partial thickness rotator cuff tears.

Reference:

**Instrument Technique**

*Determining Percentage of Tear*

Penetrate the rotator cuff tendon tear through a stab incision and position the guide tangential to the footprint. While viewing intraarticularly, place the tip of the inner rod at the articular margin. Confirm the size of the exposed footprint by counting the 3 mm incremental markings*.

Exposed Footprint

3 mm x 3 markings = 9 mm

Measure the Total Tendon Thickness by reading the markings on the back of the guide.

Calculate the Percentage of Tear:

\[
\text{Percentage of Torn Tendon} = \left( \frac{\text{Exposed Footprint}}{\text{Total Tendon Thickness}} \right) \times 100
\]

\[
\frac{9 \text{ mm}}{14 \text{ mm}} \times 100 = 64\% \text{ of torn tendon}
\]

Change to a subacromial viewing position and slide the outer sleeve to the bursal side of the rotator cuff tissue.
Prepare a bone socket for a suture anchor with a transtendon Bio-Corkscrew FT Punch. (This step can be bypassed if using a titanium Corkscrew® FT II Suture Anchor.)

The subacromial bursa must be thoroughly excised to easily locate the passed sutures in the subacromial space once the anchors have been inserted.

While viewing intraarticularly, use a spinal needle to determine the optimal position and angle of approach for transtendon suture anchor placement.

Place the Bio-Corkscrew® FT or the Corkscrew FT II Suture Anchor through the skin puncture, through the rotator cuff tendon, and into the bone socket.

Continue on to steps four and five of either the Single Anchor Repair or the Double Anchor Repair.

**Single Anchor Repair**

4

The Penetrator™ Suture Retriever is used to pass two suture limbs from the anchor through a separate puncture site in the rotator cuff. This allows a suture bridge (between the two sets of sutures) to be apposed to the bone bed when the sutures are tied.

5

Tie the sutures subacromially. The best angle of approach for the knot pusher is through a superolateral portal adjacent to the acromial process (acromion).

The final result is confirmed with good tissue indentation by the sutures from the subacromial perspective and good restoration of the rotator cuff footprint on the intraarticular view.

**Double Anchor Repair**

4a

The Penetrator Suture Retriever is used to make three passes per anchor.

For each anchor:
- Pass the two white/black TigerWire® sutures separately
- Pass the two blue sutures through one pass

5a

Tie each matching pair of white/black TigerWire sutures from each anchor together.

Tie the remaining blue sutures from each anchor together to finish off the bridge which compresses the tissue.
## Ordering Information

**Implants/Disposables:**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>Bio-Corkscrew FT, 5.5 mm x 15 mm, w/two #2 FiberWire</td>
<td>AR-1927BF</td>
</tr>
<tr>
<td>Corkscrew FT II, 5.5 mm x 16 mm, w/two #2 FiberWire</td>
<td>AR-1928SF-2</td>
</tr>
<tr>
<td>PEEK Corkscrew FT, 5.5 mm x 16 mm, w/two #2 FiberWire</td>
<td>AR-1928PSF-2</td>
</tr>
<tr>
<td>Crystal Cannula®, 5.75 mm I.D. x 7 cm</td>
<td>AR-6560</td>
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</tbody>
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**Accessory Instruments:**

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Code</th>
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<tbody>
<tr>
<td>PASTA Depth Guide</td>
<td>AR-2300</td>
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<tr>
<td>Bio-Corkscrew FT Punch, reusable</td>
<td>AR-1927PB</td>
</tr>
<tr>
<td>Bio-Corkscrew FT Punch, disposable</td>
<td>AR-1927PBS</td>
</tr>
<tr>
<td>PEEK Corkscrew FT Punch/Tap</td>
<td>AR-1928PT</td>
</tr>
<tr>
<td>Penetrator Suture Retriever, straight</td>
<td>AR-2167ST</td>
</tr>
<tr>
<td>KingFisher Suture Retriever/Tissue Grasper</td>
<td>AR-13970SR</td>
</tr>
<tr>
<td>KingFisher Suture Retriever/Tissue Grasper w/WishBone Handle</td>
<td>AR-13970W</td>
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This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience and should conduct a thorough review of pertinent medical literature and the product’s Directions For Use.

U.S. PATENT NOS. 5,964,783; 6,074,403; 6,517,552; 6,716,234; 7,029,490 and PATENT PENDING
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