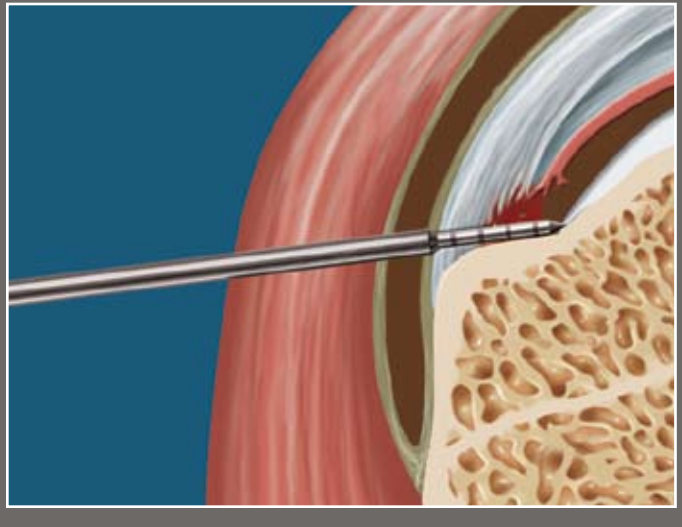
Arthrex®

Partial-Thickness Rotator Cuff Repair

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.

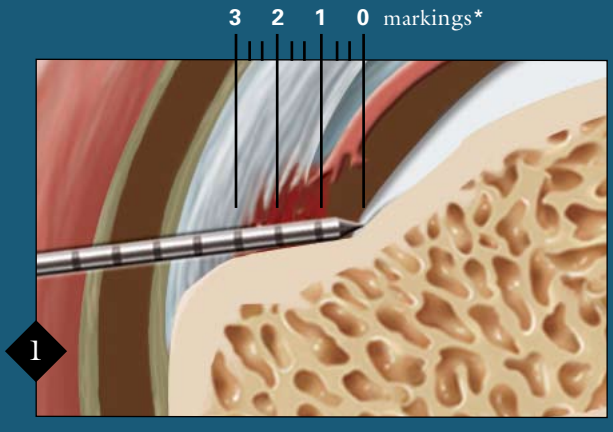
The simplistic view of repairing a partial articular surface tendon avulsion (PASTA) lesion with greater than **50**% involvement of the tendon versus debriding those with less than **50**% involvement is appealing but is sometimes difficult to determine at the time of diagnostic shoulder arthroscopy. 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.

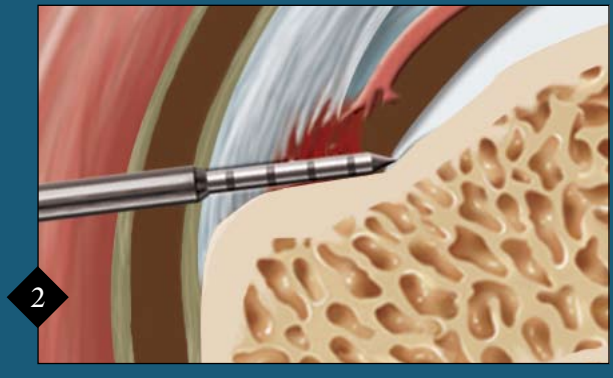
Reference:
[1] Stetson W, Ryu R, Bittar E. *"Arthroscopic Treatment of Partial Rotator Cuff Tears."* Oper. Tech. Sports Med. 12 (2004): 135-148.

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*.



Change to a subacromial viewing position and slide the outer sleeve to the bursal side of the rotator cuff tissue.

Exposed Footprint
3 mm x 3 markings = 9 mm

3

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

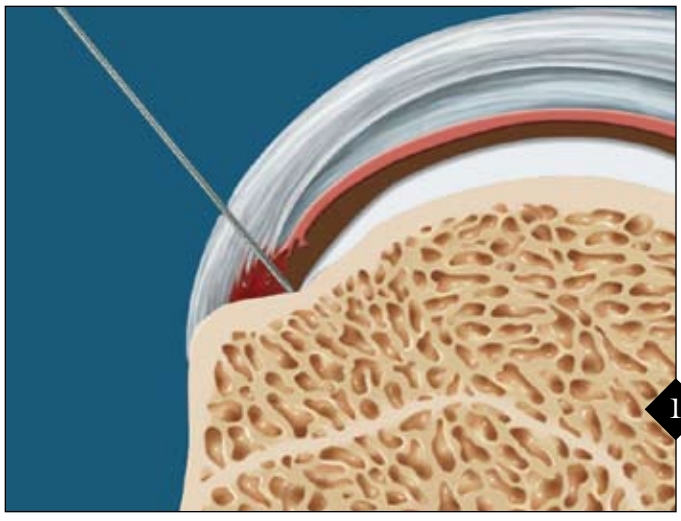
Calculate the Percentage of Tear:

$$\frac{\textit{Exposed Footprint}}{\textit{Total Tendon Thickness}} \; X\ 100$$

$$\frac{9\ mm}{14\ mm} \; X\ 100 = 64\%\ of\ torn\ tendon$$

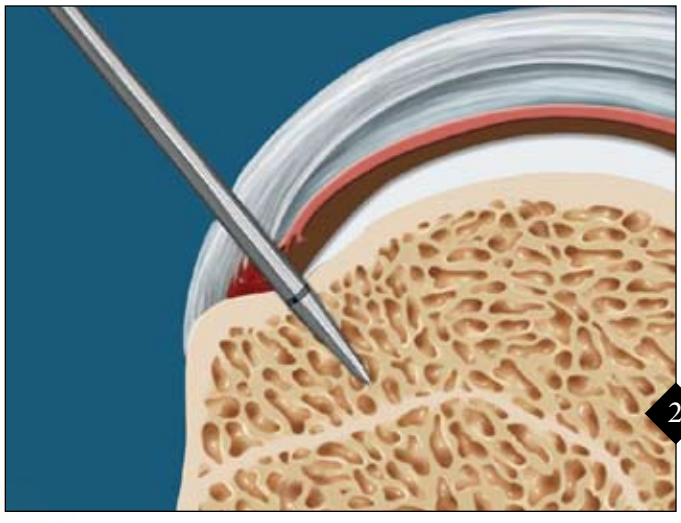
*Repair Techniques**

Anchor Insertion Technique



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.



Prepare a bone socket for a suture anchor with a transtendon Bio-Corkscrew FT Punch.

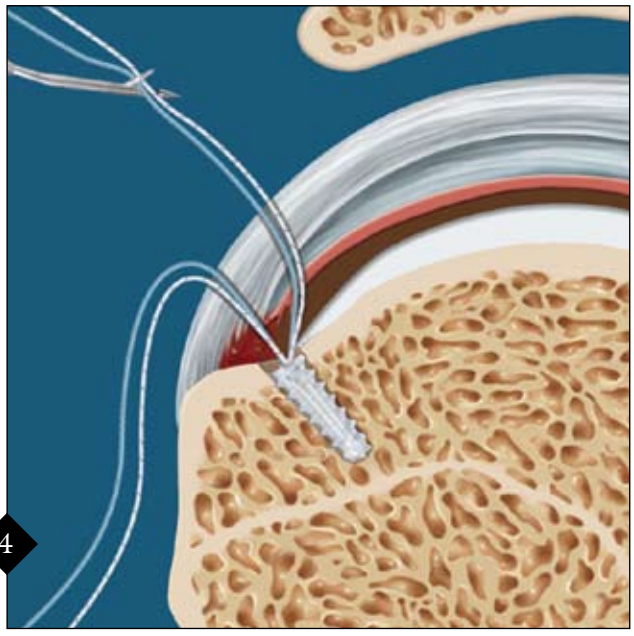
(This step can be bypassed if using a titanium Corkscrew® FT II Suture Anchor.)

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.

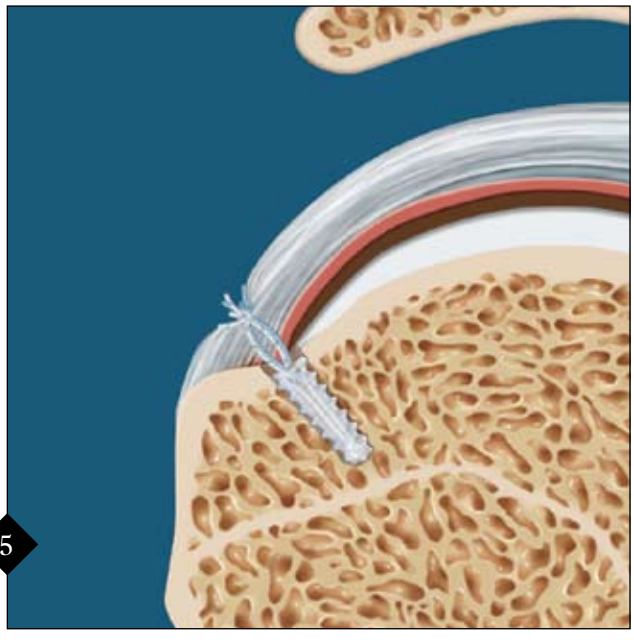
Continue on to steps four and five of either the Single Anchor Repair or the Double Anchor Repair.

* Stephen S. Burkhart M.D., Ian K. Y. Lo M.D., and Paul C. Brady M.D., *Burkhart's View of the Shoulder: A Cowboy's Guide to Advanced Shoulder Arthroscopy* (Philadelphia: Lippincott Williams & Wilkins, 2006) 261.

Single Anchor Repair



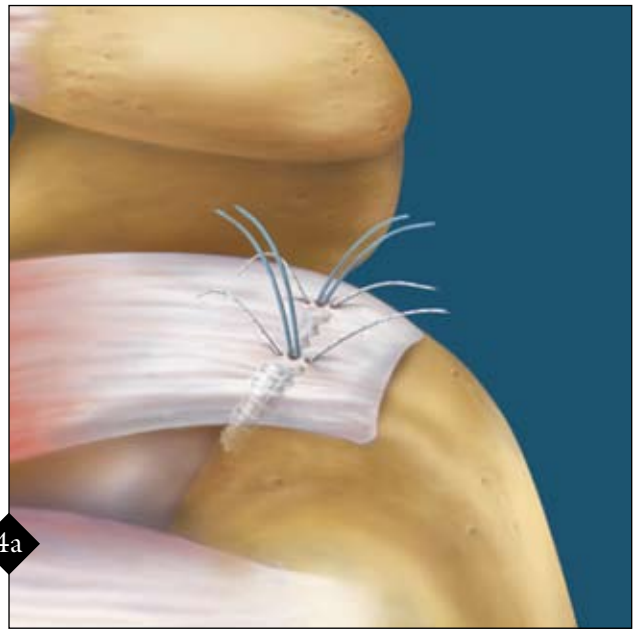
The Penetrator™ Suture Retriever is used to pass two suture limbs from the anchor through a separate puncture site in the rotator cuff. This allows a suture bridge (between the two sets of sutures) to be apposed to the bone bed when the sutures are tied.



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

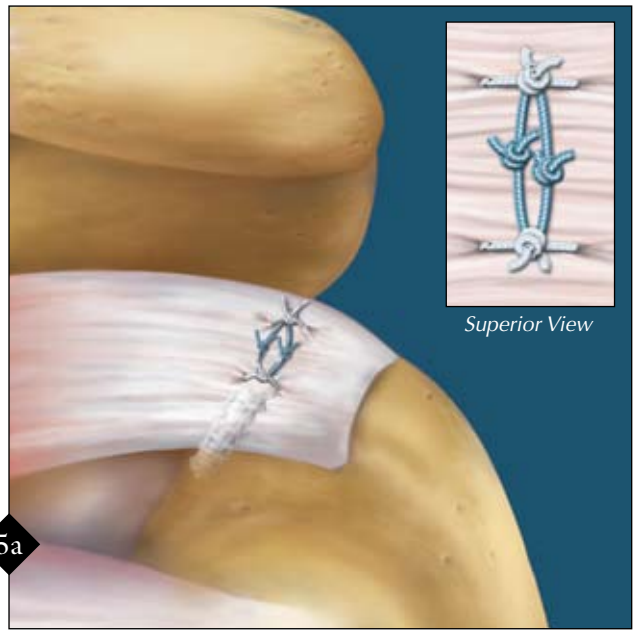
The final result is confirmed with good tissue indentation by the sutures from the subacromial perspective and good restoration of the rotator cuff footprint on the intraarticular view.

Double Anchor Repair



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



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

Tie one blue suture limb from one anchor and another suture limb from the other anchor together.

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

Ordering Information

Implants/Disposables:

Bio-Corkscrew FT, 5.5 mm x 15 mm, w/two #2 FiberWire	**AR-1927BF**
Corkscrew FT II, 5.5 mm x 16 mm, w/two #2 FiberWire	**AR-1928SF-2**
PEEK Corkscrew FT, 5.5 mm x 16 mm, w/two #2 FiberWire	**AR-1928PSF-2**
Crystal Cannula®, 5.75 mm I.D. x 7 cm	**AR-6560**

Accessory Instruments:

PASTA Depth Guide	**AR-2300**
Bio-Corkscrew FT Punch, reusable	**AR-1927PB**
Bio-Corkscrew FT Punch, disposable	**AR-1927PBS**
PEEK Corkscrew FT Punch/Tap	**AR-1928PT**
Penetrator Suture Retriever, straight	**AR-2167ST**
KingFisher™ Suture Retriever/Tissue Grasper	**AR-13970SR**
KingFisher Suture Retriever/Tissue Grasper w/WishBone Handle	**AR-13970W**

Arthrex, Inc.
1370 Creekside Boulevard, Naples, Florida 34108-1945 • USA
Tel: 239-643-5553 • Fax: 239-598-5534 • Website: www.arthrex.com

Arthrex GmbH
Liebigstrasse 13, D-85757 Karlsfeld/München • Germany
Tel: +49-8131-59570 • Fax: +49-8131-5957-565

Arthrex Latin América
3750 NW 87th Avenue, Suite 620, Miami, Florida 33178 • USA
Tel: 954-447-6815 • Fax: 954-447-6814

Arthrex S.A.S.
5 Avenue Pierre et Marie Curie, 59260 Lezennes • France
Tel: +33-3-20-05-72-72 • Fax: +33-3-20-05-72-70

Arthrex Canada
Lasswell Medical Co., Ltd., 405 Industrial Drive, Unit 21, Milton, Ontario • Canada L9T 5B1
Tel: 905-876-4604 • Fax: 905-876-1004 • Toll-Free: 1-800-224-0302

Arthrex GesmbH
Triesterstrasse 10/1 • 2351 Wiener Neudorf • Austria
Tel: +43-2236-89-33-50-0 • Fax: +43-2236-89-33-50-10

Arthrex BvbA
Technologiepark Satenrozen, Satenrozen 1a, 2550 Kontich • Belgium
Tel: +32-3-2169199 • Fax: +32-3-2162059

Arthrex Ltd.
Unit 16, President Buildings, Savile Street East, Sheffield S4 7UQ • England
Tel: +44-114-2767788 • Fax: +44-114-2767744

Arthrex Hellas - *Medical Instruments SA*
43, Argous Str. - N. Kifissia, 145 64 Athens • Greece
Tel: +30-210-8079980 • Fax: +30-210-8000379

Arthrex Sverige AB
Turbinvägen 9, 131 60 Nacka • Sweden
Tel: +46-8-556 744 40 • Fax: +46-8-556 744 41

Arthrex Korea
Rosedale Building #1904, 724 Sooseo-dong, Gangnam-gu, Seoul 135-744 • Korea
Tel: +82-2-3413-3033 • Fax: +82-2-3413-3035

Arthrex Mexico, S.A. de C.V.
Insurgentes Sur 600 Mezanine, Col. Del Valle Mexico D.F. • Mexico
Tel: +52-55-91722820 • Fax: +52-55-56-87-64-72