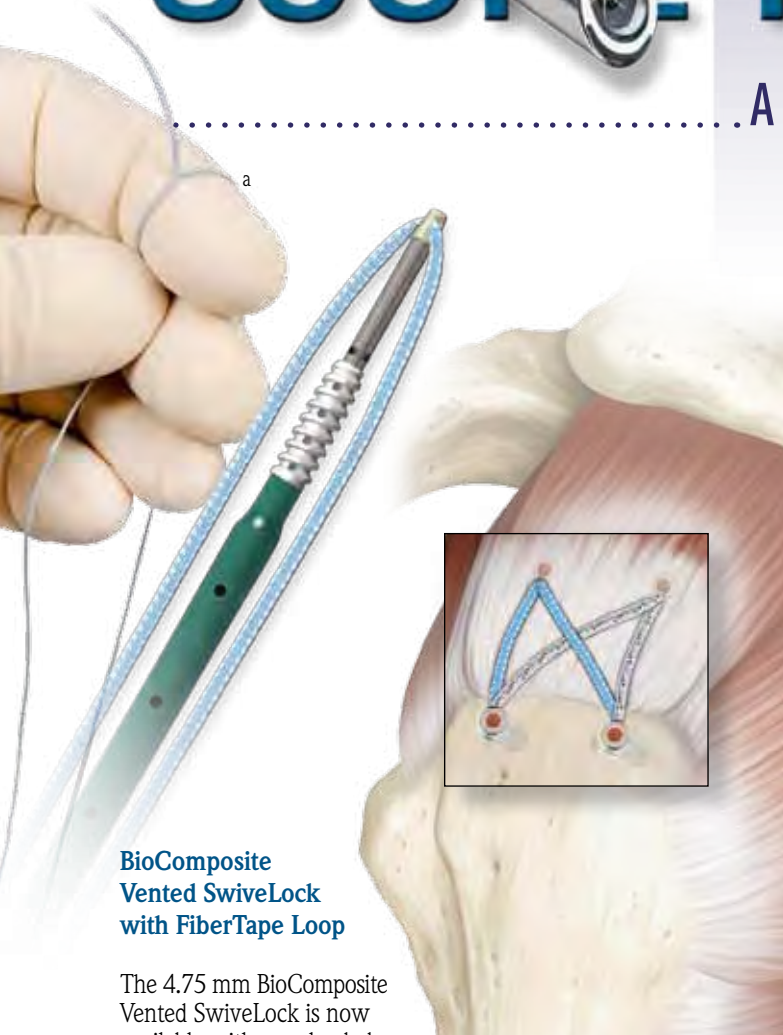


# SCOPE THIS OUT

A Technical Pearls Newsletter for Arthroscopists.....



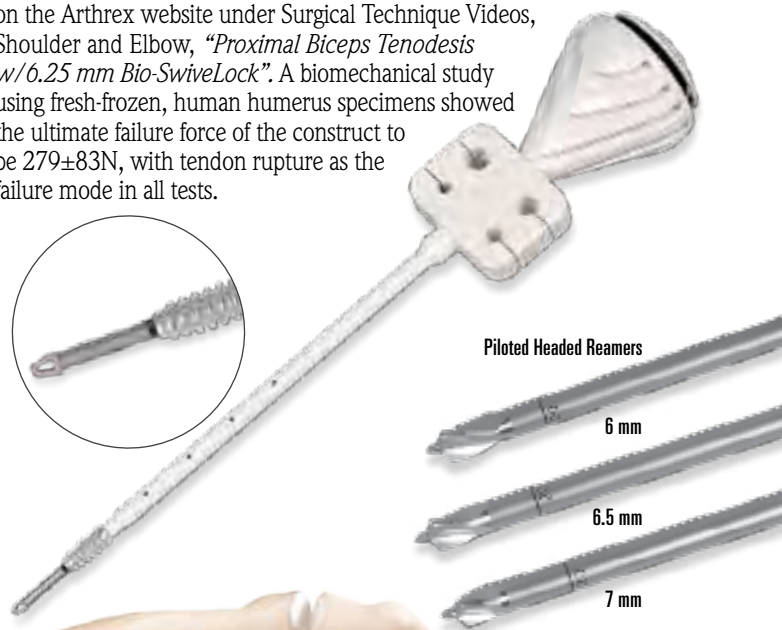
**BioComposite Vented SwiveLock with FiberTape Loop**

The 4.75 mm BioComposite Vented SwiveLock is now available with a preloaded FiberTape loop (a) that allows easy FiberTape passage for the medial row of a SpeedBridge. The two limbs of the FiberTape are joined into a single tail that can be easily passed with a Scorpion Suture Passer, eliminating the need for more complex suture shuttling techniques.

See "In The Loop" on page 6 for details

**Arthroscopic Biceps Tenodesis**

The primary challenge in performing an arthroscopic biceps tenodesis is simplicity of technique and strength of repair. The new Biceps Tenodesis System includes a 6.25 mm x 19 mm bioabsorbable implant and a set of reamers with a simple technique that provides strong and reliable results. The video surgical technique is available and can be found on the Arthrex website under Surgical Technique Videos, Shoulder and Elbow, "Proximal Biceps Tenodesis w/6.25 mm Bio-SwiveLock". A biomechanical study using fresh-frozen, human humerus specimens showed the ultimate failure force of the construct to be 279±83N, with tendon rupture as the failure mode in all tests.



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# PRODUCT INFO

## Upper Extremity

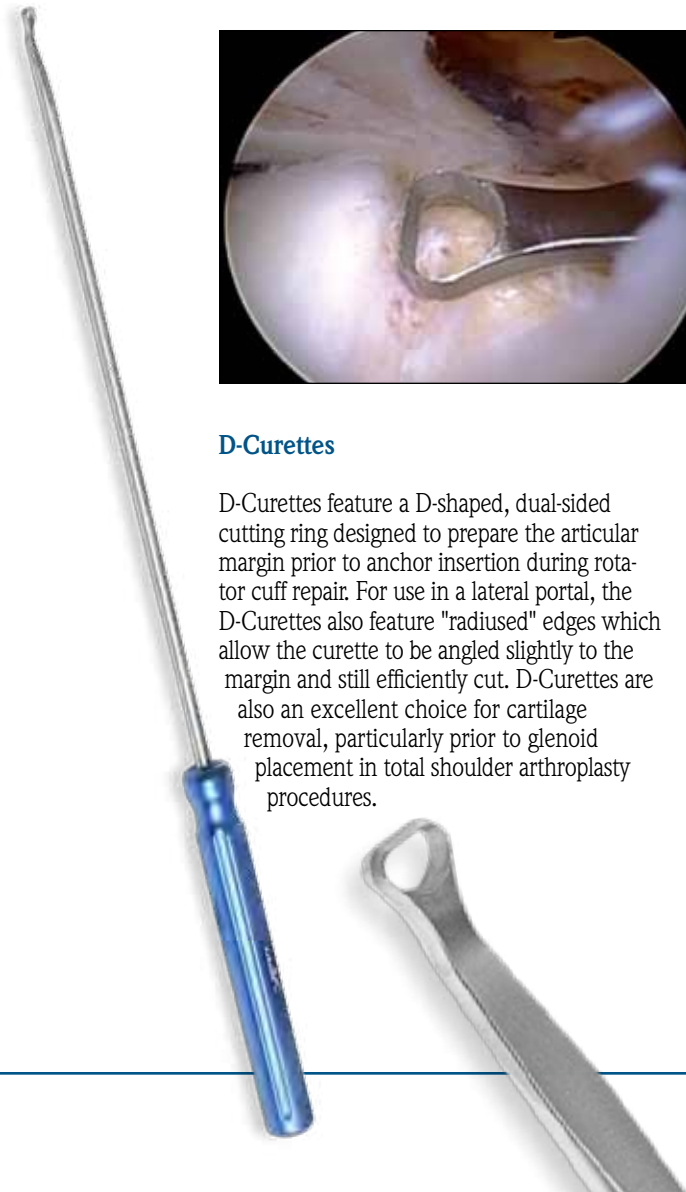
### Twin Tail TightRope

In the ongoing evolution of treating AC joint injuries, the Twin Tail TightRope features two independent clavicle buttons designed to help reduce and stabilize the AC joint for open, acute AC repairs. Like the AC TightRope and GraftRope, each clavicle button is independently joined to the coracoid button with a continuous loop of #5 FiberWire. The twin tails enable the surgeon to stabilize the AC joint with a device that matches the normal coracoclavicular ligament anatomy.



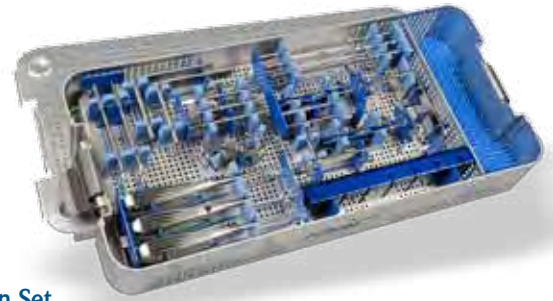
### D-Curettes

D-Curettes feature a D-shaped, dual-sided cutting ring designed to prepare the articular margin prior to anchor insertion during rotator cuff repair. For use in a lateral portal, the D-Curettes also feature "radiused" edges which allow the curette to be angled slightly to the margin and still efficiently cut. D-Curettes are also an excellent choice for cartilage removal, particularly prior to glenoid placement in total shoulder arthroplasty procedures.



### Elbow UCL Reconstruction Set

The Elbow UCL Reconstruction Set includes all the instrumentation needed to perform elbow UCL reconstruction and will accommodate all techniques including the Modified Jobe technique, Docking technique, DANE TJ technique, as well as any technique using Tenodesis Screws or a flipping button. This set allows the precise placement of bone tunnels and sockets in the ulna and humeral epicondyle using guided instruments, drills and/or reamers. A recommended disposables kit provides novel instruments to easily pass sutures through the prepared bone tunnels and sockets, making graft passage a quick and easy part of the case.



Adjustable Humeral Drill Guide to prepare intersecting tunnels



Ulna V-Guide w/Obturator & Drill to prepare intersecting tunnel

### Univers Shoulder Arthroplasty Retractor Set

This comprehensive retractor set consists of over 25 standard and specialty retractors. The set is the most extensive shoulder arthroplasty-specific retractor grouping on the market and includes Fukudas, Darrachs, Hohmanns, Gelpis, Richardsons, Kolbels, anterior/posterior glenoid retractors, Cobras, a Browne Deltoid Retractor, and much more.



# PRODUCT INFO

## Small Joint

### Introducing the Plaple

The Plaple, made of stainless steel, provides excellent fixation for wedge osteotomies of the first phalanx. The extremely sharp staple leg easily penetrates the bone, while the wedge is reduced and a low profile 2.3 mm cortical screw is inserted. With a modified design of a traditional staple implant, the Plaple comes in three bridge widths (12, 15 and 20 mm) and screws from 8 - 24 mm. The Plaple is ideally used for anatomic locations where softer cancellous bone is to be fixated to harder cortical bone, giving surgeons secure fixation options that are quick, simple and easily reproducible.



### Centerline Endoscopic Carpal Tunnel Release Device Now Available with a Clear Tip Design

Surgical visualization and safety has been improved by creating a clear tip probe design device. The new material allows visualization through the tip itself and enables the surgeon to keep pertinent structures in view for optimal surgical outcomes.

The Centerline Endoscopic Carpal Tunnel Release (ECTR) System uses a minimally invasive, single portal technique. It was developed to keep the surgeon's hand in line with the pull of the blade – for added safety and ease-of-use. The Centerline incorporates improved safety features (*compared to other ECTR devices that have been used for over 20 years*), practically eliminates rotational moments, and offers superior visualization. The thumb trigger-pull is synergistic – increasing steadiness and facilitating control. The integrated disposable unit significantly diminishes the risk of mechanical failure and part loss or damage.

The Centerline system will attach to any standard video camera and light source and is available with reusable instrumentation to make your next endoscopic release safe, effective, and simple.



### Achilles SpeedBridge

The fully threaded SwiveLock C is combined with FiberTape to create a quick and secure SutureBridge construct with no knots and only two suture passing steps. The result is a low profile, transosseous equivalent suture "bridge" that enhances footprint compression, maximizing contact between tendon and bone to help promote healing. The Achilles SpeedBridge Kit comes with four 4.75 mm BioComposite SwiveLocks (two preloaded with FiberTape and needles), a drill, and a tap.



### 4.5, 5.5 and 6.7 mm Low Profile Screw System

The 4.5 and 6.7 cannulated screw system offers the surgeon a superior screw for midfoot, rearfoot and ankle applications. This set was designed with a smaller Guidewire, 0.094 (2.4 mm), which allows for increased thread depth attaining a 30% better purchase as well as a 1 mm lower head profile than the current market leader. Type II titanium anodizing has been added to all screws – giving them the highest quality material on the market. Type II anodizing benefits include increased fatigue strength and wear-resistance. Titanium alloy is the preferred material due to superior CT, MRI, and biocompatibility. This proven line of metal products is priced competitively in either the hospital or ASC setting. *See and feel the difference!*

Included in this set is 5.5 mm Jones Fracture Low Profile Screws. It's designed with an increased shaft diameter, cortical thread design and a low profile head to provide ideal fixation and stability for the stresses found at the base of the 5th metatarsal. Whether used for acute fractures or chronic nonunions, this solid titanium screw is designed to provide stout IM fixation for healing this difficult sports injury.



PRODUCT INFO  
**Knee and Hip**



**RetroConstruction Drill Guide Set Accessories**

The following products have been released as accessories to the RetroConstruction Drill Guide Set to facilitate ease of use and drilling accuracy:

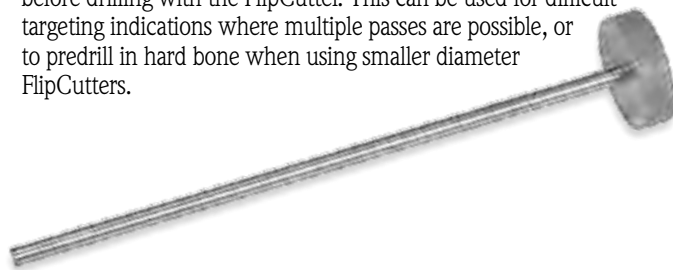
**Obturator, 3.5 mm**

The Stepped Drill Sleeve has greatly simplified socket creation using the FlipCutter. The new 3.5 mm Obturator fits into the Stepped Drill Sleeve to allow easy passage through soft tissues, which facilitates smaller drill sleeve incisions and direct contact with the sleeve onto the cortex.



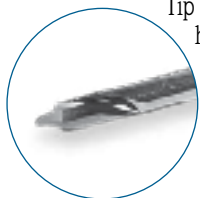
**Insert, 2.4 mm, for Stepped Drill Sleeve**

The 2.4 mm Insert fits into the Stepped Drill Sleeve and allows surgeons to predrill with a standard 2.4 mm Drill Tip Guide Pin before drilling with the FlipCutter. This can be used for difficult targeting indications where multiple passes are possible, or to predrill in hard bone when using smaller diameter FlipCutters.



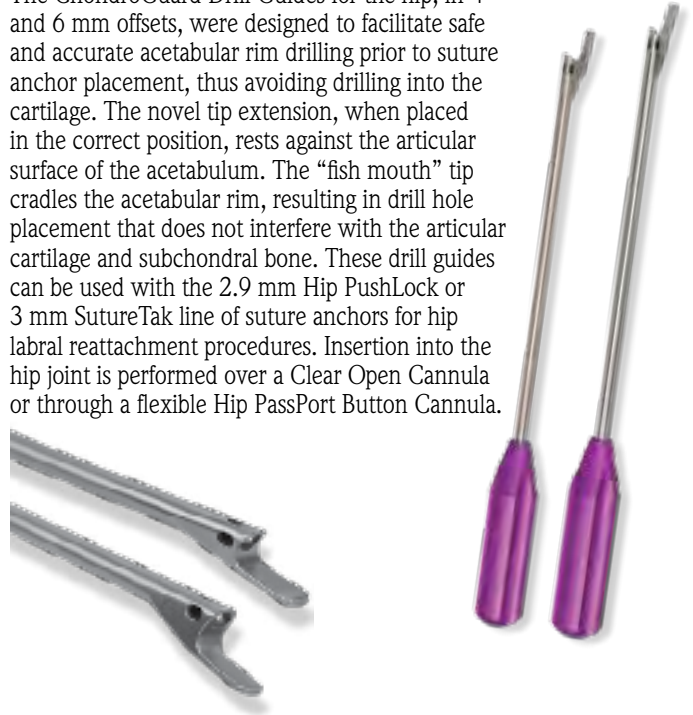
**Drill Tip Guide Pin, 3.5 mm**

The 3.5 mm Drill Tip Guide Pin was designed for predrilling of the FlipCutter. Occasionally, in hard bone or with smaller tipped FlipCutters, it may be difficult to advance the pin and affect accuracy. The sturdy 3.5 mm Drill Tip Guide Pin has an aggressive tip for efficient drilling and accuracy. Laser lines give a visual confirmation that the Drill Tip Guide Pin is flush with the Drill Sleeve tip and helps approximate drilling depth.



**ChondroGuard Drill Guide for the Hip**

The ChondroGuard Drill Guides for the hip, in 4 and 6 mm offsets, were designed to facilitate safe and accurate acetabular rim drilling prior to suture anchor placement, thus avoiding drilling into the cartilage. The novel tip extension, when placed in the correct position, rests against the articular surface of the acetabulum. The “fish mouth” tip cradles the acetabular rim, resulting in drill hole placement that does not interfere with the articular cartilage and subchondral bone. These drill guides can be used with the 2.9 mm Hip PushLock or 3 mm SutureTak line of suture anchors for hip labral reattachment procedures. Insertion into the hip joint is performed over a Clear Open Cannula or through a flexible Hip PassPort Button Cannula.



PRODUCT INFO  
**Imaging & Resection**

**DualWave**

The innovative DualWave is an integrated inflow and outflow arthroscopy pump that utilizes direct communication to a shaver system which accurately controls all aspects of fluid management during arthroscopic surgery. The end result is a system that safely achieves *crystal-clear* visualization.

Surgeons can personalize their desired settings with user selected defaults which include pressure settings, flow rates, shaver suction levels, a RINSE mode, a LAVAGE mode, and a unique SHAVERBOOST function that maintains distention while the shaver is in use. Surgeons can be in total control with a choice of an autoclavable remote control or foot pedal. The DualWave also features real-time pressure readings and flow rates, as well as total run time and estimated fluid usage, all displayed on the video touch panel.

The DualWave may also be used as a simple, yet highly effective inflow-only arthroscopic pump.



# Pointers & Pearls

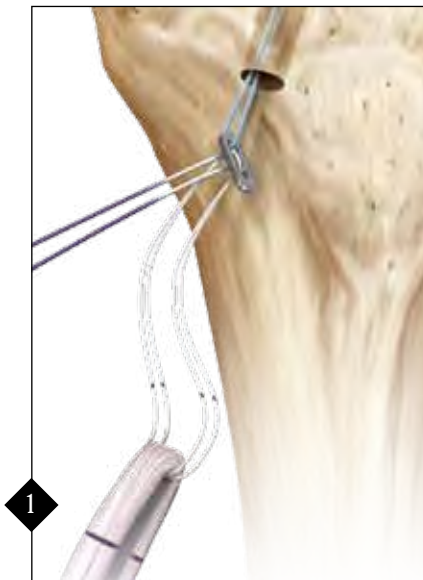
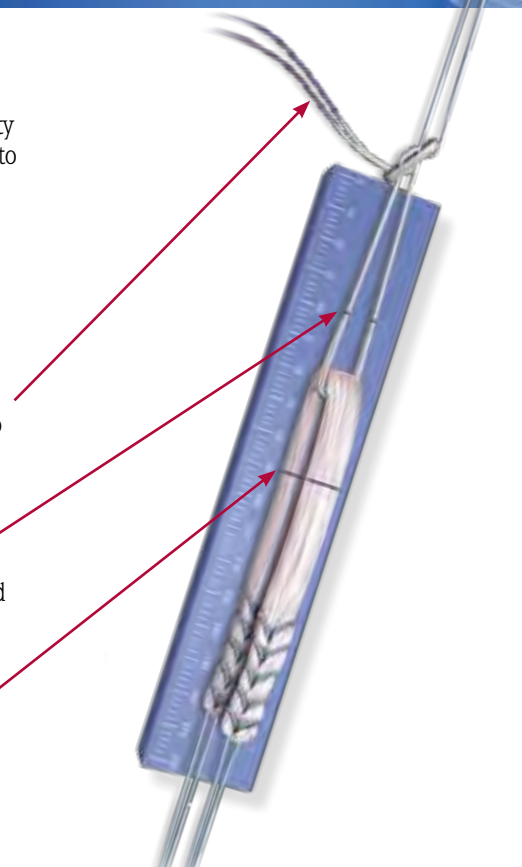
## ACL TightRope Technique

The new ACL TightRope has been well received due to the simplicity of the technique, the ability to fill the femoral socket with graft and fine-tune graft tensioning. The following pearls will help to avoid technical inconveniences and ensure appropriate function of the ACL TightRope.

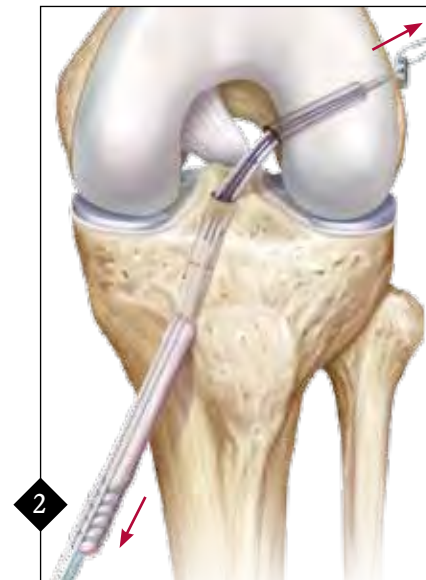
### Review of Correct Graft and Implant Marking:

**Marking the implant and graft correctly facilitates implant insertion and proper graft seating.**

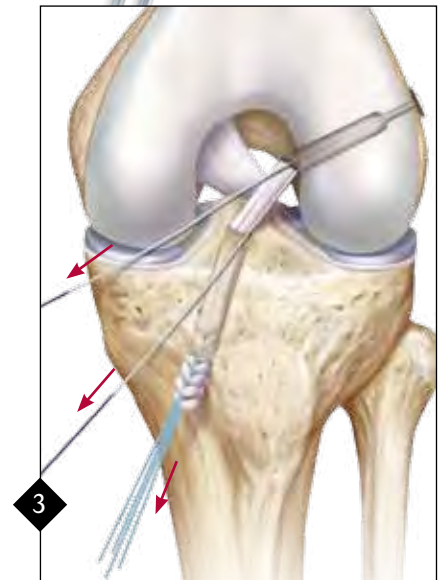
- Mark the shortening strands from the button to the first centimeter of the graft so they can be distinguished easily in the joint for retrieval. Do this early in the case so the marker has time to dry. This will avoid running of the marker into the arthroscopy fluid.
- Place the button in a vertical orientation at the end of the ruler and measure a distance equal to the intraosseous length from the distal end of the button and mark this on the implant. During implant passage through the femur, this mark will signal that the button has passed and no further traction is needed. This will avoid soft tissue entrapment under the button.
- Mark the graft, under tension, at the depth desired in the femoral socket. When this mark reaches the opening of the femoral socket, it will signal that the graft is inserted appropriately and no further tension is needed on the shortening strands.



1 Before passing the ACL TightRope and graft, ensure that the shortening strands are anterior to the graft and there is no tangling. When retrieving the shortening strands from the joint, do not allow them to enter between the graft tails. If desired, once the implant has passed, cut the knot off the shortening strands to avoid entanglement in the graft.



2 While passing the button of the ACLTR through the femur, keep slight tension on the tails of the graft, as this will help avoid over-advancement of the button past the cortex. In hard bone, it may help to cycle the tip of the RetroButton Pin II through the cortex, after measuring, to remove debris and facilitate passage of the button.



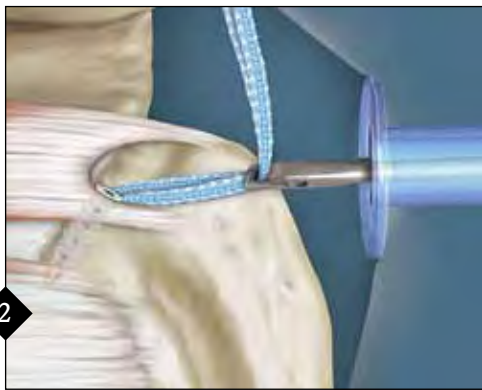
3 The best way to advance the graft is to pull individually on each shortening strand a few inches at a time. Keep slight tension on the tibial side of the graft. This allows a more controlled advancement and reduces recurrent slack formation.

# IN THE Loop

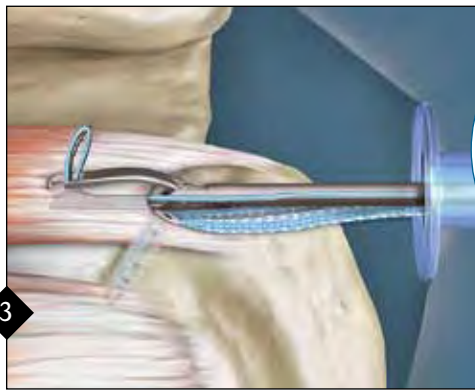
## SpeedBridge Rotator Cuff Repair using the BioComposite Vented SwiveLock with FiberTape Loop



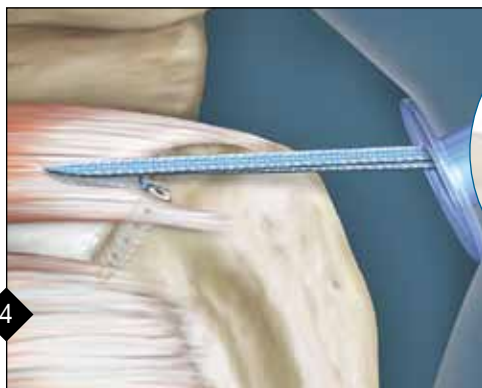
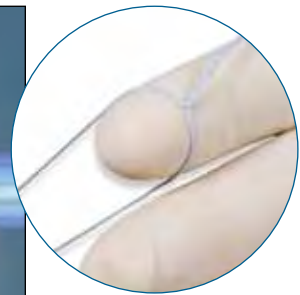
1 The preloaded SwiveLock is inserted normally at the articular margin for the SpeedBridge medial row.



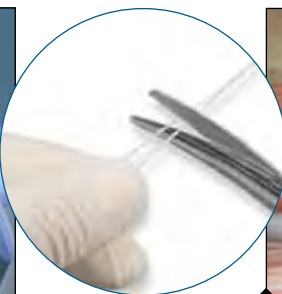
2 Retrieve both FiberTape tails, using a FiberTape Retriever, through the lateral portal.



3 The single tail is loaded directly onto a Scorpion Suture Passer and passed through the rotator cuff.



4 The tail smoothly leads both FiberTape limbs through the tissue. The spliced tail is cut off (inset), allowing each FiberTape limb to be separated for normal SpeedBridge lateral fixation.



5 Final construct.

For more information, please visit [speedbridge.arthrex.com](http://speedbridge.arthrex.com)

# What's in My Bag?



**Featuring Gregory S. DiFelice, MD**  
*Orthopaedic surgeon specializing in Sports Traumatology & Joint Reconstruction Surgery  
Hospital for Special Surgery & NY Hospital Weill Cornell Medical Center, New York, NY  
Director of Sports Medicine & Joint Reconstruction Surgery, Jacobi Medical Center, Bronx, NY*

## Multiligament Reconstruction

### **Q. How do you approach multiligament reconstruction?**

A. For the past several years I have adopted the all-inside RetroConstruction technology to reconstruct the ACL & PCL, in a truly percutaneous fashion, during my multiligament reconstructions. I have found that I can accomplish an excellent anatomic reconstruction with aperture fixation, while minimizing the morbidity on an already significantly traumatized joint. While follow-up is too early to report on, anecdotally, stability has been predictably good and I have noticed that it is less of a struggle for the patient to regain postoperative ROM. Admittedly, there is a rather steep learning curve, so I would recommend a stepped approach when adopting these minimally invasive techniques. In addition, when either of the cruciates are "peeled" off of their origin or insertion, I will make every effort to repair these back to bone.

### **Q. How does your reconstruction technique for each ligament differ from isolated reconstructions?**

A. I rely heavily on allograft tissues for my reconstructions in the multiligament setting, with the Achilles tendon graft being my workhorse for the cruciates and the semi-T for the collaterals. When performing isolated reconstructions, I use mostly autograft tissues.

### **Q. What instruments and implants are most helpful for multiligament injuries?**

A. When I do a multiligament reconstruction, I have a majority of the shoulder and knee instruments brought in. From the shoulder set, I will use the Scorpion Suture Passer during ligament repairs to get locking FiberWire stitches into the ligament. I will repair them either through drill holes and fixate over a Suture Button, or with BioComposite SwiveLocks. The PassPort Button Cannulas are invaluable during both repairs and RetroConstructions.

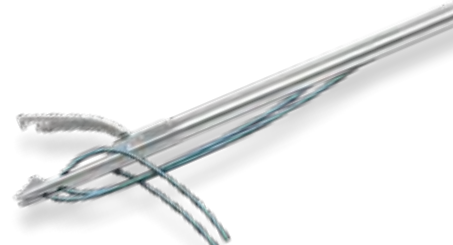
The RetroConstruction Drill Guide Set is ideal for multiligament reconstructions, since it has all the needed marking hooks for ACL/PCL and meniscal root repairs. The interchangeable drill sleeves also allow use of the RetroDrill, FlipCutter or standard 2.4 mm drill pins. I will use both the FlipCutters and the RetroCutters, depending on the case, to make my cruciate sockets. Then, depending on graft selection, I will use BioComposite Interference Screws on the femur via accessory portals, and BioComposite RetroScrews on the tibia. With soft tissue grafts, I have just begun to utilize the ACL TightRope System and my early, anecdotal experience, has been promising. This newly released implant allows me to fill short sockets completely with graft, while enabling the flexibility to fine-tune my graft tension.

### **Q. What other injuries are you prepared to address during multiligament reconstructions?**

A. The meniscus is commonly injured as well. In fact, my interest in meniscal root avulsions was sparked when I encountered this injury pattern in the multiligament setting. For root avulsions, I like to repair down to a suture anchor. I use an 8.25 mm x 9 cm Twist-In Cannula in the accessory posteromedial portal for access, and then place a 4.5 mm Corkscrew Suture Anchor into the footprint. The FiberWires are passed with the Scorpion or a SutureLasso and tied arthroscopically. Alternatively, the sutures could be passed first and then fixed with a BioComposite SwiveLock. In addition, I have found the Meniscal Cinch to be very helpful for meniscal repair work.



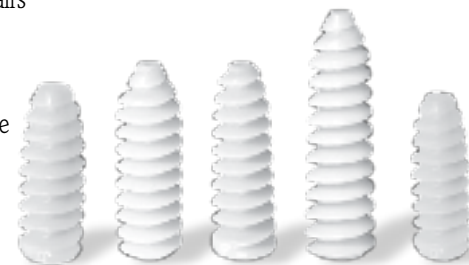
RetroConstruction Drill Guide Set



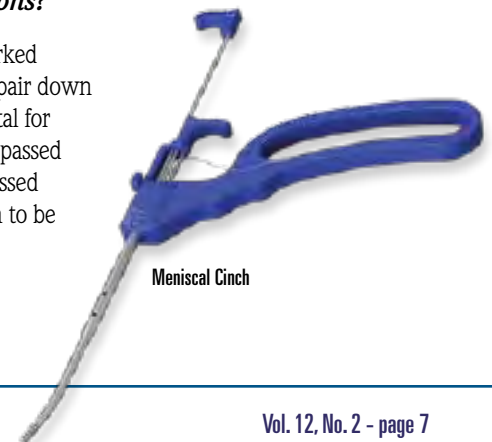
Scorpion Suture Passer



PassPort Button Cannula



BioComposite Interference Screws



Meniscal Cinch

## ACP Latest Scientific Summaries

A previous Research Corner highlighted initial data on human tenocyte (tendon) proliferation when cultured with ACP (Autologous Conditioned Plasma) and whole blood. This Research Corner will focus on work mentioned in our white papers, which provide information on ACP characteristics and performance.

• ***In Vitro Effects of ACP*** (LA0815) highlights cell culture performed not only with human tenocytes, but also with human osteoblasts (bone), chondrocytes (cartilage), and myocytes (muscle). Three different treatments were given - a negative control group of 2% or 5% fetal bovine serum (FBS); a positive, proliferative control group of 10% or 15% FBS; and ACP. After a 5-day culture period, cells were counted and reported in disintegrations per minute (DPM), an indicator of cell proliferation. ACP-treated tenocytes, osteoblasts, chondrocytes, and myocytes demonstrated statistically significant increased proliferation over positive and negative controls ( $p < 0.05$ ).

• ***The Presence of Concentrated White Blood Cells within Platelet-Rich Plasma may be Counterproductive*** (LA0819) discusses why white blood cells (WBCs), especially neutrophils, in PRP may not prove to be beneficial. Many PRP systems contain a high amount of neutrophils, which contain proteolytic enzymes and reactive oxygen species which are indiscriminate in how they attack damaged and healthy tissues. In addition, macrophages, which remove bacteria from damaged tissues, may not be necessary since platelets have also been found to contain antibacterial peptides. Many studies have shown improved skin, bone, and muscle healing without the addition of neutrophils.

• ***In Vitro Comparison of Autologous Conditioned Plasma (ACP) to a Buffy Coat-Based Platelet-Rich Plasma (PRP) Product*** (LA0805) compares proliferation of human tenocytes, osteoblasts, and myoblasts when cultured with ACP and Biomet's GPS system. ACP was either statistically better than or approached significance when compared to positive and negative controls, whole blood, and Biomet after 5 days in culture (Figures 1-3). Even though Biomet may have a higher platelet concentration than ACP, it also has a higher amount of neutrophils compared to ACP and whole blood, which could explain the better performance of cellular proliferation with ACP.

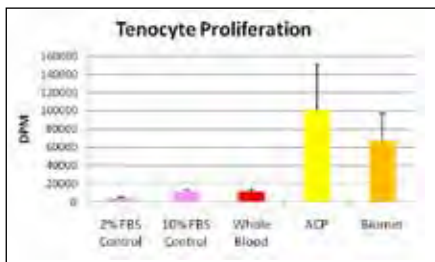


Figure 1

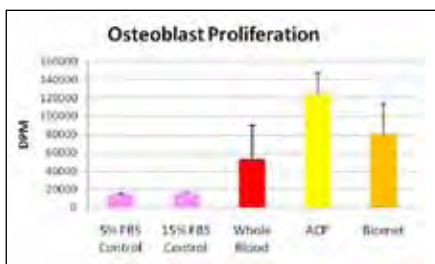


Figure 2

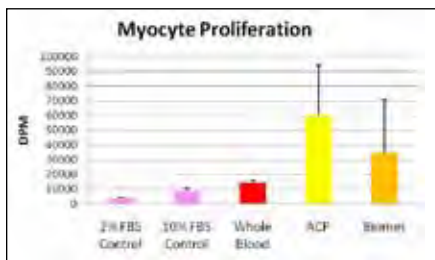


Figure 3

## STO Featured Product Information

BioComposite SwiveLock w/FiberTape Loop .....	AR-2324BCCT
Biceps Tenodesis System .....	AR-1662B
Piloted Headed Reamer, 6 mm .....	AR-1450
Piloted Headed Reamer, 6.5 mm .....	AR-1451
Piloted Headed Reamer, 7 mm .....	AR-1452
Twin Tail TightRope .....	AR-2264
D-Curette, Both Sides Cut, 5.4 mm x 150 mm .....	AR-22020
D-Curette, Both Sides Cut, 3.4 mm x 150 mm .....	AR-23020
Elbow UCL Reconstruction Set .....	AR-7700S
UCL Suture Passing Disposables Kit .....	AR-7715-4.5
Shoulder Arthroplasty Retractor Set .....	AR-9260S-53
Plaple Set .....	AR-8714S
Plaple, 12 mm .....	AR-8714
Plaple, 15 mm .....	AR-8715
Plaple, 20 mm .....	AR-8716
Centerline Device .....	AR-8850
Centerline Instrument Set .....	AR-8850S
Achilles SpeedBridge Kit .....	AR-8928BC-CP
LPS 4.5/5.5/6.7 Screw Instrument Set .....	AR-8946S
RetroConstruction Drill Guide Set .....	AR-1510S
Obturator, 3.5 mm .....	AR-1204F-OB
Insert, 2.4 mm for stepped drill sleeve .....	AR-1204F-24i
Drill Tip Guide Pin, 3.5 mm .....	AR-1250F
ChondroGuard Drill Guide, hip, 4 mm .....	AR-5600-01
ChondroGuard Drill Guide, hip, 6 mm .....	AR-5600-02
DualWave Arthroscopy Pump .....	AR-6480
ACL TightRope .....	AR-1588T
RetroButton Pin II .....	AR-1595S
Scorpion Suture Passer .....	AR-13990
PassPort Button Cannulas, 6 mm .....	AR-6592-06-20 - 06-50
PassPort Button Cannulas, 8 mm .....	AR-6592-08-20 - 08-50
PassPort Button Cannulas, 10 mm .....	AR-6592-10-20 - 10-50
BioComposite Interference Screws .....	AR-1370C - 1400C
BioComposite Interference Screws, Full Thread .....	AR-1370TC - 1404TC
BioComposite Interference Screws, Round Delta Tapered .....	AR-5028C-08 - 11
BioComposite Interference Screws, Delta Tapered .....	AR-5035TC-08 - 11
BioComposite RetroScrews .....	AR-1586RC-07 - 10
Meniscal Cinch .....	AR-4500

For more information or to order, contact your Arthrex representative or call Customer Service at 800-934-4404.



*Scope This Out* is an informational newsletter designed to educate orthopaedic surgeons on state-of-the-art surgical procedures and "pearls" to assist in improving surgical skills. This newsletter is published quarterly by Arthrex, Inc., exclusively for the orthopaedic surgeon community.

For more information or comments regarding the content of this newsletter, contact us at our Corporate Headquarters:

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