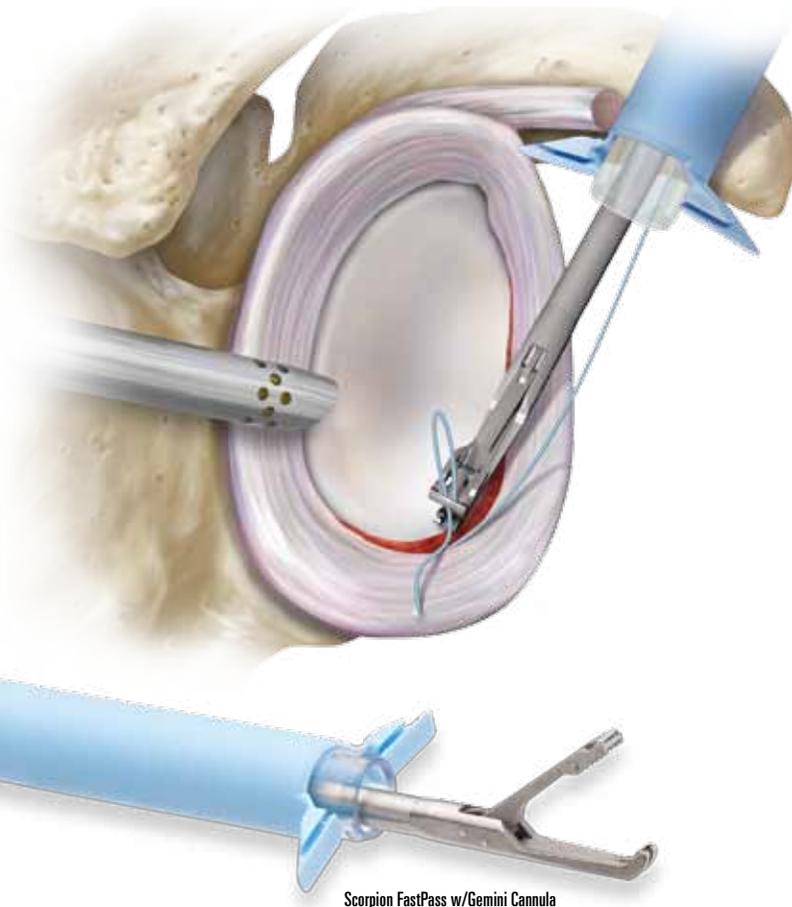


# SCOPE THIS OUT

A Technical Pearls Newsletter for Arthroscopists.....

## Labral Scorpion

The new Labral Scorpion FastPass is a great instrument to pass and retrieve #2 FiberWire through the labrum. The streamlined, low profile jaw is designed to maneuver around the glenohumeral space and fit through a 6 mm cannula. This FastPass device can be used through a single portal to self-retrieve the suture using the suture capturing mechanism in the upper jaw.



Scorpion FastPass w/Gemini Cannula

## Sheathless Arthroscope

Sheathless arthroscopy is now possible with the introduction of the Sheathless Arthroscopes. The 4 mm, 3 mm and 2.4 mm scope shafts have been reinforced in order to eliminate the need for an outer metal sheath for strength. This allows for optimum visualization with increased maneuverability, especially in tight joint spaces. Transferring the fluid inflow to the working cannula provides a constant, large lumen inflow which maintains joint distention while allowing multiple scope-position changes during the case. With the working cannula inflow, the pump runs more efficiently and has reduced turbulence. "Red-out" is eliminated due to maintaining the inflow on the working cannula, thus making the pump inflow more responsive and efficient at lower pressures, without risking the loss of distention. The smooth, atraumatic tip, with no step-off, protects the hyaline cartilage from damage during insertion and while navigating through tight joint spaces.



## In This Issue

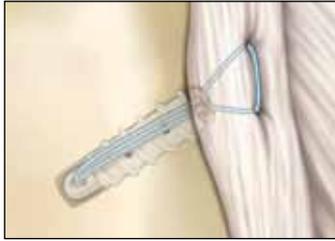
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Gemini Cannula

# PRODUCT INFO

## Upper Extremity



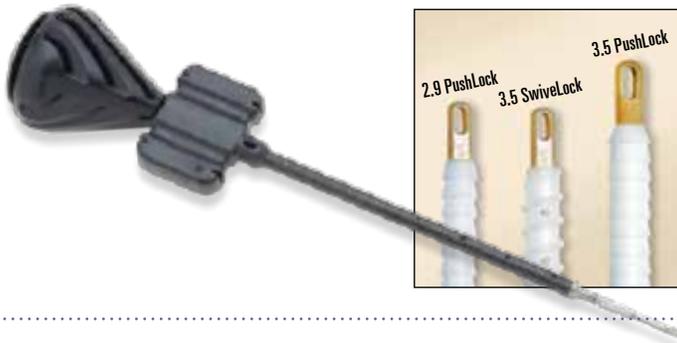
**3.5 mm BioComposite Vented SwiveLock**

The screw-in, knotless BioComposite SwiveLock has been miniaturized for use in the treatment of shoulder instability. The new 3.5 mm x 14.8 mm SwiveLock is sized and utilized similarly to the 2.9 mm x 15.5 mm labral PushLock. The cannulated and vented SwiveLock was designed to minimize the amount of anchor material in the repair, while allowing for bony ingrowth as shown in canine studies (*data on file*).

Knotless labral repair offers many advantages including:

- Low profile constructs that eliminate any possibility for knot impingement
- Quick, suture-first techniques save valuable time and allow the freedom to choose between multiple stitch configuration options
- Suture tension is easily visualized and adjusted before being locked into position with the threaded anchor body

*The 3.5 mm SwiveLock is also available in PEEK.*



### FiberTape/TigerTape Loops for AC Repair Using Dog Bone Buttons

The FiberTape and TigerTape Loops are ideal for AC joint repair using Dog Bone Buttons. The swedged ends of the loops have a smaller diameter than using individual FiberTapes or TigerTapes, so shuttling sutures retrograde through 3 mm and 2.4 mm bone tunnels is significantly easier. Suture management is also easier since the surgeon

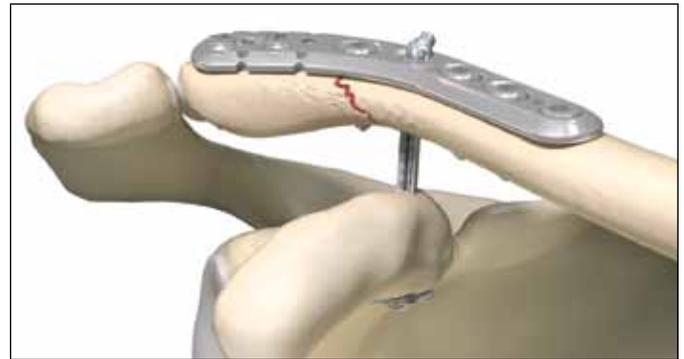
can simply cut the swedged portion of the loop prior to tying a knot, eliminating the chance of tying the wrong suture limbs together.



### Clavicle Plate and Screw System

The Clavicle Plate and Screw System is a cost-effective comprehensive set of plates, screws and instrumentation designed to treat mid-shaft and distal clavicle fractures. The clavicle plates are low profile, precontoured, stainless steel mid-shaft and distal plates that combine locking and nonlocking screw options in each plate.

Secondary fixation to the coracoid is achieved through the plate using AC TightRope technology, particularly the AC Dog Bone Buttons, making the system ideal for treating Type IIb distal clavicle fractures or for fractures that have poor bone quality laterally which can be difficult to achieve adequate screw fixation. Suture holes in the plates allow incorporation of FiberWire or FiberTape into the plate to capture butterfly fragments or to cerclage severely comminuted distal fragments.



### Tissue Elevator and Bone Preparation

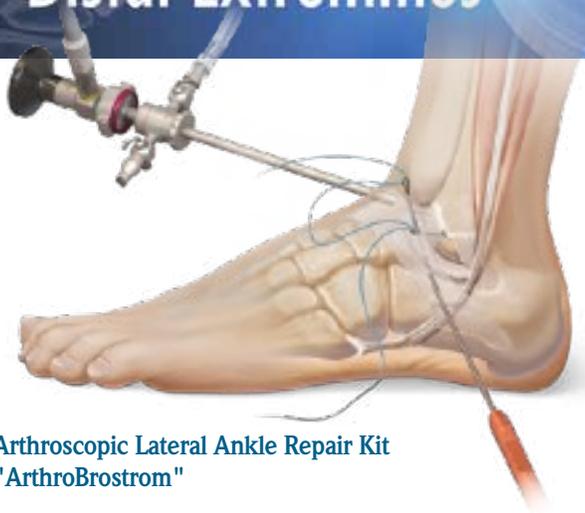
The Tissue Elevator and Bone Preparation System combines new tip designs and a modular handle to give you the ultimate selection of tools for work in the glenohumeral joint and subacromial space. A wide variety of Rasps, Chondro Picks, Curettes, and Tissue Elevators are contained in one system. This provides all the necessary tools to complete shoulder cases, from the routine to the demanding, without asking the circulating nurse to go look for specific instruments scattered about the storage and central processing areas. The shaft length of each tip is long enough to effectively span

the distance from an anterior working portal to the posterior rim of the glenoid allowing the best possible angle of approach to work with ease and efficiency in this area.



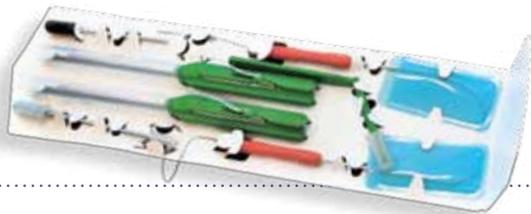
Ball Rasp    Debridement Rasp    Chondro Pick    Ring Curette    Tissue Elevator

PRODUCT INFO  
**Distal Extremities**



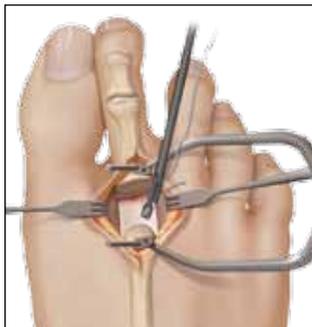
**Arthroscopic Lateral Ankle Repair Kit  
 "ArthroBrostrom"**

Arthrex introduces the first and only arthroscopic lateral ankle repair kit. This kit has been developed to repair lateral ligament instability using a Modified Brostrom technique with an all-arthroscopic approach. 3 mm BioComposite SutureTak anchors are placed in the fibula under arthroscopic visualization. A drill guide with obturator and K-wire are provided to insure correct placement and verify correct positioning of anchors. Specialized SutureLassos are used to pass the suture through the ATFL and inferior extensor retinaculum. The repair is completed as the sutures are tied through a small skin incision and the lateral ligament complex is stabilized. Clinical benefits of the procedure include reduced morbidity from open surgical repair, while providing a stable and strong repair.

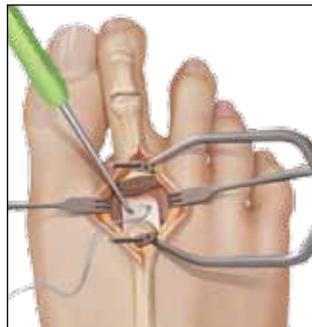


**Resuscitate Your MTP Joint Correction  
 Complete Plantar Plate Repair (CPR)**

The newly released Plantar Plate Repair System helps prevent floating toe, treats crossover toe, and repairs attenuated or torn plantar plate using a dorsal incision (approach). There have been techniques to treat torn plantar plate from a plantar approach, but because of the amount of dissection as well as wound healing complications many surgeons do not advocate plantar approaches. *continued*



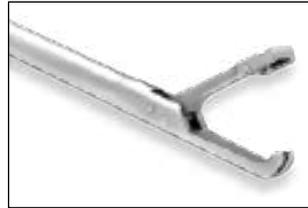
Mini Scorpion DX CPR Technique



Micro SutureLasso CPR Technique

The Mini Scorpion DX and Micro SutureLasso provides state-of-the-art suture passing options for the plantar plate

Also being released are two disposable kits and one instrument set as a unique system to treat plantar plate pathology. The CPR Micro SutureLassos and Mini Scorpion DX provide state-of-the-art suture passing options for the plantar plate, while the Mini Joint Distractor aids in visualization of the plantar plate. The surgical treatment that we describe reconstructs the anatomic structures that lead to the instability of the second MTP joint. A plantar plate repair and lateral soft tissue reefing can restore the normal alignment of the joint with anatomic repair.

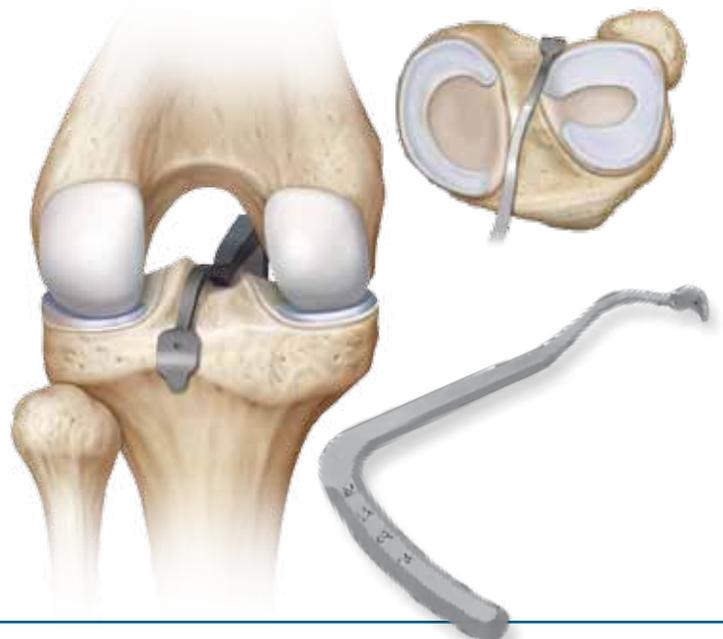


Mini Scorpion DX

PRODUCT INFO  
**Knee and Hip**

**Anatomic Contour PCL Tibial Guide**

These transistibial PCL guides, developed in conjunction with the Mayo Clinic, greatly simplify tibial pin positioning by referencing anatomic constants. The "over-the-back" hook grasps the distal edge of the posterior facet, guiding the pin into the proper position in the sagittal plane. The wide, convex tip helps position the guide properly in the coronal plane, between the mamillary bodies. The unique left- and right-specific curves facilitate positioning around the ACL for isolated PCL reconstructions – which can often lead to medialized placement of the tunnel with straight guides. These curves also guide the surgeon with proper positioning of the guide in the coronal plane adjacent to the anteromedial tibial crest for proper pin position.



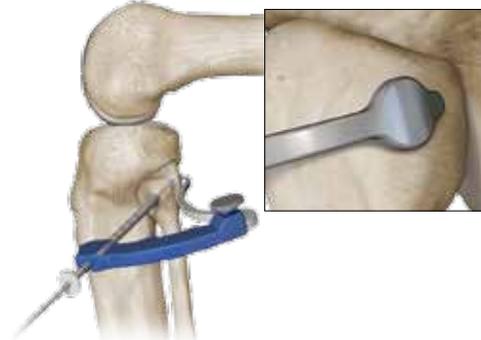
## Collateral Ligament Set

*"The Collateral Ligament Reconstruction Set is based upon over a decade of international scientific research to improve safety and accuracy of your posterolateral and medial/posteromedial reconstructions."*

-Robert F. LaPrade, M.D., PhD; and Lars Engebretsen, M.D., PhD

### Fibular Marking Hook

The unique fibular marking hook provides anatomic precision for minimally invasive and open techniques for fibular-based reconstructions. The shape of the fibular marking hook tightly contours the fibular head, enabling surgeons to get around anatomic structures when placing the 8 mm diameter paddle. This is designed specifically to fit onto the fibular attachment of the popliteofibular ligament (PFL).



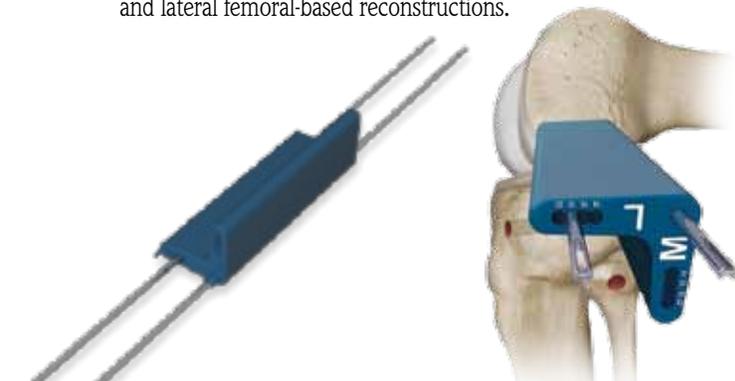
### Tibial Collateral Ligament Marking Hook

The Tibial Marking Hook is designed for both posterolateral and medial/posteromedial tibia-based reconstructions. The ergonomic 8 mm diameter paddle provides tactile feedback upon entry into the posterior popliteal sulcus and confirms the exit point of the Zebra Guide Pin during posterolateral corner reconstructions.



### Parallel Drill Guide

The Parallel Drill Guide has been designed to increase the efficiency of anatomic tunnel drilling by reducing divergent tunnels and allowing precision placement at multiple incremental distances for both medial and lateral femoral-based reconstructions.



## GraftLink Biomechanical Testing

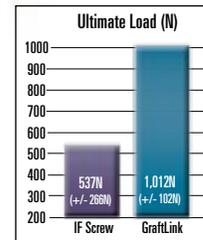
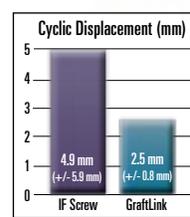
The tibia is typically considered the "weak link" of ACL graft fixation because of decreased bone density and vector of graft pull. Historically, large interference screws have been used to compress bone against the tibial tunnel. Using the GraftLink construct together with the TightRope ABS Button fixation system facilitates dependable cortical fixation without any interference of the graft/socket interface.



This allows full footprint and socket filling with the graft and an optimal biologic environment for healing. Recent biomechanical testing of the GraftLink construct shows superior fixation versus traditional interference screw fixation of the tibial side.

**Methods:** ACL grafts were fixed into 18 DEXA and scanned porcine tibias were reconstructed; 9 with a tapered 28 mm Interference Screw and 9 with the GraftLink, using the TightRope ABS. Mechanical testing was performed using an INSTRON.

### Results:



**Conclusion:** The results of this study suggest that the GraftLink construct, with ACL TightRope ABS, is mechanically stronger than reconstruction using a typical interference screw.



## Synergy<sup>HD3</sup> Update

The Synergy<sup>HD3</sup> System will be released at the end of May. The pre-orders for the system are rolling in daily, as the technologically advanced system has created an enormous buzz in the marketplace. The success of the presold systems speaks to two facts: the stagnant video marketplace needed leap-frog advancement and the Synergy<sup>HD3</sup> System has met that need and expanded the expectations of the capabilities of future video equipment. A console that combines a state-of-the-art 1080p HD video processor, high output LED light source and full-image management capabilities in one intuitive, simple-to-use tablet is the future of visualization systems.



# Pointers & Pearls

## Simplified, All-Inside PCL Reconstruction

**Joel L. Boyd, M.D.**

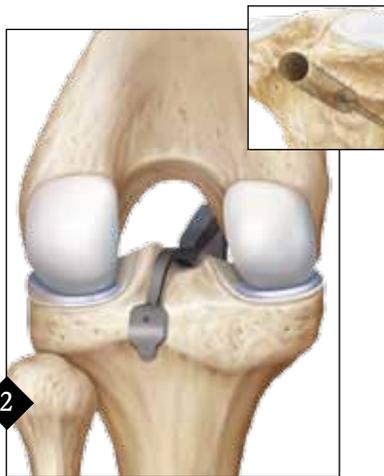
Associate Professor University of Minnesota; Team Physician Minnesota Vikings; and Team Physician Minnesota Wild

*"PCL reconstruction can be a challenging surgery. Many of the difficult issues encountered during PCL reconstruction can be eliminated with the use of next generation instrumentation and implants like FlipCutter and TightRope ABS. FlipCutter instrumentation facilitates safe tibial socket drilling, away from the neurovascular bundle. FlipCutter instrumentation can also be used on the femoral side when an outside/in femoral socket is preferred. The creation of sockets instead of full tunnels is helpful with multi-ligament reconstructions with the preservation of bone and space in the femur and tibia. Using the TightRope ABS for tibial fixation greatly simplifies graft passing and tensioning. TightRope ABS allows use of a shorter graft length, which leads to a stiffer construct and helps to resist graft creep. I've been using the technique described below for the past year and have been able to reduce surgical time and improve post-operative stability and recovery."*



1

A soft tissue graft is prepared by folding over the TightRope ABS implant and stitching the tails together with a #2 FiberLoop. The graft should be prepared to a length of 9 cm. Taper the stitched end to ease graft passing into the femur.



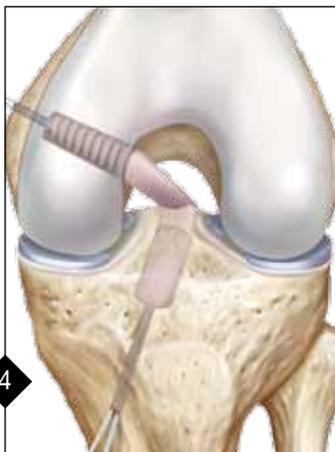
2

The Anatomic Contour Guide is used to guide the FlipCutter to the appropriate position on the tibia. The socket is drilled at least 35 mm deep. The femur is drilled through an anterolateral portal to at least 25 mm deep using a Low Profile Reamer.



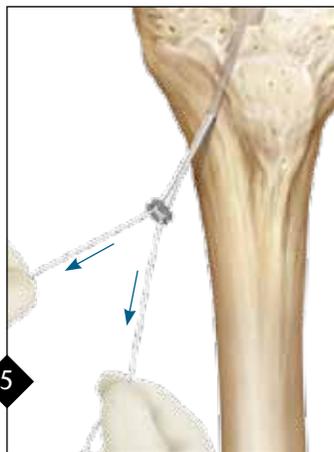
3

The TightRope ABS is passed into the tibia using a passing suture. The graft is advanced all the way to the bottom of the socket by pulling on the inner loop of the implant to avoid shortening. The stitched portion of the graft can then be easily passed into the femoral socket with a passing suture.



4

The femoral end of the graft is pulled into the femoral socket and fixed with a BioComposite Screw through the anterolateral portal.



5

The TightRope ABS Button is loaded onto the loop and the graft is tensioned by pulling on the TightRope shortening strands until desired tension is reached.



# IN THE Loop

## Load-Sharing, Rip-Stop Rotator Cuff Repair

In his new book, *“The Cowboy’s Companion – A Trail Guide for the Arthroscopic Shoulder Surgeon”*, Stephen Burkhart, M.D.\*, describes a unique approach utilizing FiberTapes for challenging rotator cuff repairs that include either poor tendon quality or a short medial tendon stump. FiberTape is #2 FiberWire with a 2 mm wide overbraid that has been shown to have 30% higher resistance to pulling through tendon than standard #2 suture and can be used to augment a single row repair using Corkscrew FT Suture Anchors. One or two FiberTapes are used to create the rip-stop. The FiberTapes are secured laterally with knotless SwiveLock Anchors in a modified SpeedFix repair – that not only reinforces the medial stitches, but also shares the load carried by the simple sutures.



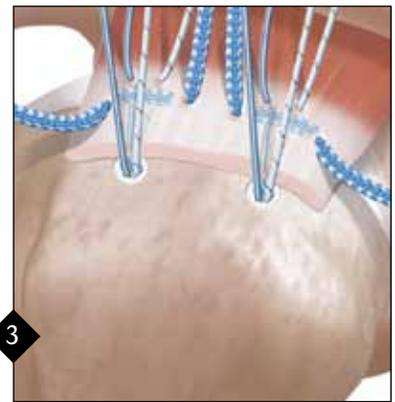
1

FiberTapes are passed in inverted mattress configuration 3 mm lateral to the musculotendinous junction



2

Two BioComposite Corkscrew FT Anchors are placed



3

Sutures are passed medial to the FiberTape rip-stop stitches



4

The FiberTapes are secured laterally with knotless BioComposite SwiveLock Anchors



5

FiberWires are tied, completing the repair

### 66% Increase in Strength

Biomechanical testing showed that the load-sharing, rip-stop repair had a significantly higher ultimate load ( $616 \pm 185$  N) than a standard single row repair ( $371 \pm 102$  N).

*Data on file*



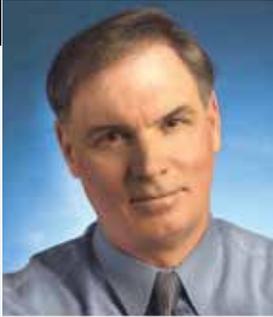
Standard single row repair



Load-sharing, rip-stop repair

\*Burkhart, Stephen, *The Cowboy’s Companion – A Trail Guide for the Arthroscopic Shoulder Surgeon*. Lippincott Williams and Wilkins, 2012. ([www.lww.com](http://www.lww.com))

# What's in My Bag?



**Featuring James Bradley, M.D.**

*Professor University of Pittsburgh, Team Physician Pittsburgh Steelers*

## Sheathless Arthroscopy



**Q. Dr. Bradley, can you describe how long you have performed sheathless arthroscopy and its advantages in arthroscopic fluid management and joint visualization?**

A. I have utilized sheathless arthroscopy primarily in the shoulder for more than three years. Transferring the fluid inflow to the side port of an 8.25 mm partially threaded or Gemini Cannula provides a constant, large lumen inflow that never loses joint distention during multiple scope-position changes during the case. Joint distention is now not dependent on the scope sheath for inflow. Therefore, I never have to deal with loss of distention or “red-out” from scope-viewing portal changes during the procedure, which may help to significantly reduce surgery time, procedure inefficiency and extravasation risk.

**Q. Does the 4 mm outer diameter without an inflow sheath allow you to navigate in tighter joint spaces and what indications are best performed with a smaller diameter sheathless scope?**

A. A smaller scope diameter allows me to better maneuver in less accessible areas throughout the joint. It is especially helpful in smaller joints such as the elbow and ankle where intra-articular space is limited. A 4 mm scope with a high flow sheath is about 6 mm in diameter compared to a 4 mm sheathless scope. But equally salient is no matter how smooth the sheath/scope junction is in the traditional set-up, there still is an edge that can cause iatrogenic cartilage damage. I now worry less about cartilage contact damage.

**Q. What makes the Arthrex Sheathless Arthroscope different from traditional arthroscopes?**

A. The stronger stainless steel shaft has been reinforced to within 3 cm from the tip to eliminate the need of an outer metal sheath for strength. The recessed, scratch-resistant sapphire lens protects it from inadvertent shaver/burr instrument damage. The smooth, atraumatic tip with no step off compared to an outer inflow sheath protects hyaline cartilage from damage during insertion and navigating through tight joint spaces. I still use a metal scope sheath and obturator to first enter the joint, and then replace it with a threaded cannula with inflow tube attached to the side port to maintain distention.

**Q. What are the benefits to the surgeon, hospital and patient with sheathless arthroscopy?**

A. Fluid inflow is more efficient with reduced turbulence since the side port and cannula lumen is greater than a high flow sheath. This makes the pump inflow more responsive and efficient at lower pressures without risking a loss of distention and visualization during the case. Rapidly changing scope-viewing portals whenever I need during the case gives me the best viewing angles for my arthroscopic, diagnostic and repair procedures.

In my practice, sheathless arthroscopy significantly reduces OR time, fluid usage and extravasation risk. Our scope damage and repair costs have been minimal with this approach. Since the sheathless scope and camera are now significantly lighter without the inflow sheath and inflow tubing, I can place the sheathless arthroscope and camera into a Gemini Cannula and let it go, basically “hands-free”, which permits me to perform surgical steps without an assistant holding the scope.



### Quickset – Injectable Macroporous Calcium Phosphate

Calcium phosphate bone cements (CPCs) have been shown to play a significant role within orthopaedic surgery. These types of products have been well-studied and a recent meta-analysis of randomized trials came to the following conclusions: 1.) The use of CPCs will result in a lower prevalence in loss of fracture reduction compared to autograft, and 2.) CPCs will result in less pain at the fracture site compared to controls managed with no graft.<sup>1</sup> Because these products have been shown to be effective, Arthrex worked to release a CPC that met our high quality and performance demands. When analyzing the type of CPC to provide to our customers, we wanted to ensure it had the following key features: 1.) ease of use, 2.) injectability, 3.) interconnected macroporosity, and 4.) ability to harden and provide structural support without shrinking at the defect site. The Quickset product provides all four of these key features.



Quickset is provided within a closed, dual-chambered mixing syringe. The mixing syringe contains a mixture of calcium phosphates and an organic polysaccharide polymer in one chamber and a sodium phosphate mixing solution in the other chamber. The syringe facilitates the transfer of the liquid into the powder chamber and has a mixing element, allowing for mixture until a paste is created. The paste can be injected through a cannula into the bone void that is being treated. The polysaccharide polymer included in the mixture optimizes the viscosity and cohesiveness of the injectable paste; it also establishes the 70% interconnected porosity which is made up of micro and macroporosity. Immediate porosity is present as the CPC crystallizes and reaches a compressive strength of 24 MPa within a 24-hour period of time. The final product that is left filling the bony void is a CPC that will allow for a more optimal process of resorption and healing due to its interconnected macroporosity.



Reference:

1. Bajammal SS, et al, *The use of calcium phosphate bone cement in fracture treatment. A meta-analysis of randomized trials*, J Bone Joint Surg AM. 2008 June; 90(6): 1186-96.

### STO Featured Product Information

Labral Scorpion FastPass.....	AR-13998
Sheathless Arthroscope, 30°, 134 mm.....	AR-3350 5030
Sheathless Arthroscope, 70°, 134 mm.....	AR-3350 5070
Gemini Cannula.....	AR-6572
BioComposite SwiveLock, 3.5 mm.....	AR-2325BCC
PEEK SwiveLock, 3.5 mm.....	AR-2325PSLC
FiberTape Loop.....	AR-7275
TigerTape Loop.....	AR-7275T
Clavicle Plate and Screw System.....	AR-2650S
Tissue Elevator Instrument Set includes:.....	AR-1344S
Quick Connect Handle.....	AR-2003NR
Tissue Elevator Instrument Case.....	AR-1344C
Tissue Elevator, 15° down.....	AR-1344-15
Tissue Elevator, 15° down 30° left.....	AR-1344-1530L
Tissue Elevator, 15° down 30° right.....	AR-1344-1530R
Tissue Elevator, 30° down.....	AR-1344-30
Debridement Rasp.....	AR-1344-DR
5.4 mm D-Curette.....	AR-1344-LC
Ball Tip Rasp.....	AR-1344-MR
Chondro Pick, angled.....	AR-1344-P
Ring Curette.....	AR-1344-RC
Elevator, standard design, 15°.....	AR-1344SE-15
Elevator, standard design, 30°.....	AR-1344SE-30
Lateral Ankle Repair Kit.....	AR-8936BC-CP
Mini Scorpion DX.....	AR-8999
Anatomic Contour PCL Guide, left.....	AR-1510PTL
Anatomic Contour PCL Guide, right.....	AR-1510PTR
Fibular Marking Hook.....	AR-5500
Tibial Collateral Marking Hook.....	AR-5501
Parallel Drill Guide.....	AR-5503
Synergy <sup>HD3</sup> Console.....	AR-3200 0001
Synergy <sup>HD3</sup> Camera Head.....	AR-3210 0001
BioComposite Corkscrew FT, 5.5 mm.....	AR-1927BCF
FiberTape.....	AR-7237-7
Arthrex Quickset, 5 cc.....	ABS-3005
Arthrex Quickset, 8 cc.....	ABS-3008
Arthrex Quickset, 16 cc.....	ABS-3016

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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