

SCOPE THIS OUT

A Technical Pearls Newsletter for Arthroscopists.....

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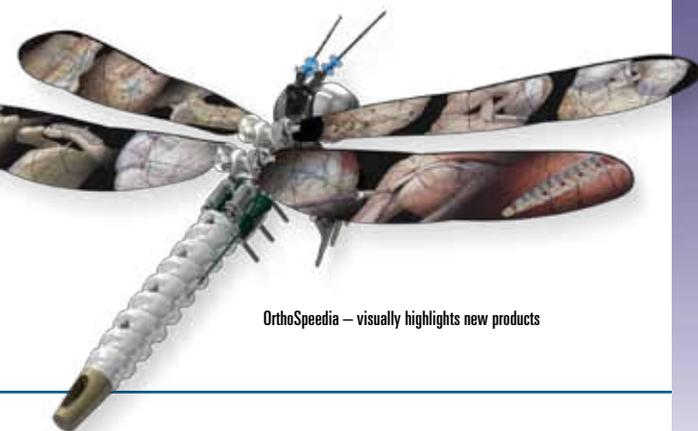
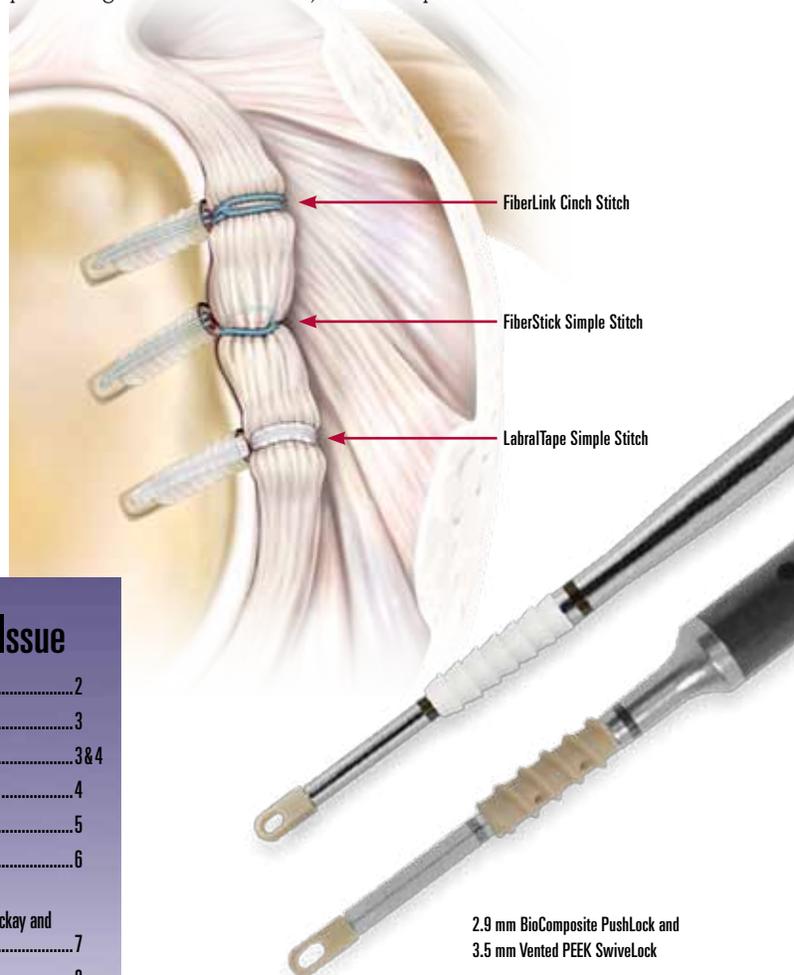
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LabralTape for Knotless Instability Repair

LabralTape is low profile, smooth, all polyethylene and complements the Knotless PushLock and SwiveLock anchors. The suture-first technique of these anchors allows for the use of innovative stitch configurations to best repair the patient's anatomy. LabralTape increases the anchor pull-out strength by 34% and is 37% more resistant to tissue pull-through in a cadaver model, when compared to #2 suture.



OrthoSpeedia – visually highlights new products

In This Issue

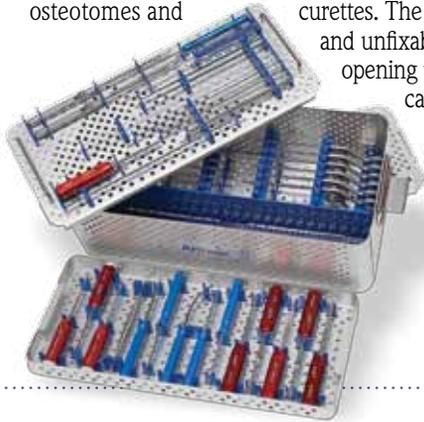
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PRODUCT INFO

Upper Extremity

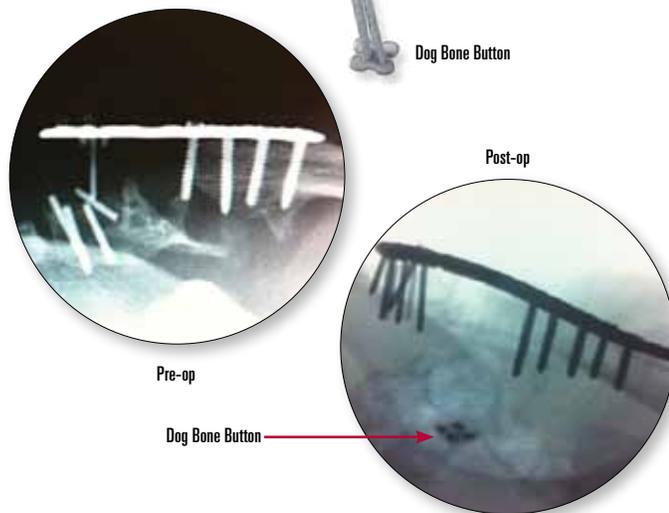
Elbow Arthroscopy Instrument Set

The Elbow Arthroscopy Instrument Set is the first and only comprehensive set of instruments available for elbow arthroscopy. Precision manufactured to the highest quality standards and thoughtfully designed around the feedback of leading elbow arthroscopists, the set enables improved portal placement, unique instruments designed for tissue retraction/elevation, microfracture, precise soft tissue resection with arthroscopic scissors and punches, loose body graspers, osteotomes and curettes. The previously unreachable and unfixable can now be addressed, opening up new horizons in patient care for elbow pathology.



Coracoid Fixation Using the Clavicle Plate System

One of the major advantages of the Clavicle Plate and Screw System is the ability to integrate coracoid fixation into the plate using AC TightRope technology, particularly FiberTapes, a Dog Bone Button and a Distal Plate Button that seats into any compression slot of any plate. This integrated technology makes the system ideal for treating Type IIb distal clavicle fractures or for fractures that have poor bone quality laterally, which can make achieving adequate screw fixation difficult. Coracoid fixation is also an ideal solution for revision cases, as illustrated in the images below.



2.4 mm Cannulated Drill for AC and Distal Clavicle Fracture Repair

The 2.4 mm Cannulated Drill is ideal for drilling clavicle and coracoid tunnels for the AC Dog Bone Button and distal clavicle coracoid fixation. The drill features a hubless design and utilizes the same drill sleeve as the 3 mm drill. A 2.4 mm tapered section allows surgeons to drill the smallest tunnels possible, removing 35% less bone than 3 mm tunnels and 65% less bone than 4 mm tunnels.

Both the 2.4 mm and 3 mm drills feature a threaded inner stylet that allows one-step tunnel drilling, and suture passing is made easier by using the new FiberTape Loops and TigerTape Loops.



Collagen Coated FiberWire

FiberWire is now available with a Type I bovine collagen coating that offers a softer feel for improved handling characteristics. This new coating, along with the unique designs and superior mechanical performance of FiberWire, further supports Arthrex as being a leader in innovation.



SwiveLock Tenodesis Trials

The SwiveLock Tenodesis system has simplified all-arthroscopic proximal biceps tenodesis. The implants feature a unique, PEEK, forked tip that is used to steer the biceps tendon to the bottom of the bone socket and hold it in position, while the interference screw is advanced. There is no need to externalize or whipstitch the tendon.

Following surgeon requests for an instrument to estimate the size of the tendon prior to selecting a SwiveLock Tenodesis implant, we are now happy to announce the availability of optional, reusable, SwiveLock Tenodesis Trials. The trials, available in 7, 8 and 9 mm, were not designed to provide accurate measurements of the biceps tendon itself, instead they are intended to mimic the PEEK fork at the end of the SwiveLock Tenodesis implant and preview how the tendon will fit alongside the implant in the bone socket.



PRODUCT INFO

Knee and Hip

BioComposite GraftBolt

There is always a balance of strong fixation and ease of insertion in any graft fixation device. With the GraftBolt's tapered sleeve design and deployable tabs (*that only engage the graft when the screw is inserted*), Arthrex offers a solid transtibial fixation solution with a simple, reproducible surgical technique and the choice of either PEEK or BioComposite material.

The *new* BioComposite GraftBolt offers the same solid tibial fixation as our PEEK GraftBolt, but in a bioabsorbable material for optimal integration of the implant. The BioComposite Sheaths will be implanted using the same instrumentation platform as the PEEK and will follow the same technique protocol of matching the implant to the final dilator used to prepare the tunnel.



The CoolCut CaliBlator

Anatomic socket placement is paramount to successful knee ligament reconstruction. Despite extensive research on the location of the native ACL and PCL, identification and referencing of the ligament attachments and bony landmarks can be difficult in a live arthroscopic setting. The direct measurement technique has been shown to reproducibly locate the average center of the native ACL in a surgical setting.



The CoolCut CaliBlator further simplifies direct measurement by allowing surgeons to arthroscopically measure the femur and tibia and mark desired guide pin location. The mark can then be referenced for FlipCutter guide placement or placement of a standard guide pin and Low Profile Reamer. The unique curvature of the CaliBlator fits around the femoral notch and tibial plateau, while the numbered graduations facilitate intraarticular measurement. The tip provides sufficient surface area for pin-pointed debridement of soft tissue, while allowing adequate low-power ablation to effectively "mark" tissue and bone for accurate guided-pin referencing.

Nav-X Steerable Graspers

The Nav-X product line of steerable arthroscopic instruments includes three new additions to complement the already available Steerable Monopolar Ablation Probes. The Nav-X Steerable Graspers include a suture retriever, an alligator style grasper and a loose body grasper. The graspers provide unconstrained access in the hip joint to manipulate suture and soft tissue and to facilitate removal of loose bodies without added portals. Each device has a locking ring handle providing jaw security when needed, and a fully rotating and steerable tip that can move in a 360° pattern to align quickly and easily.



PRODUCT INFO

Distal Extremities

InternalBrace – Ligament Augmentation Repair Kit – *double the fixation strength of your lateral ankle ligament repair*

This simple, safe and reproducible procedure can augment the standard lateral ankle ligament repair procedure. The *InternalBrace* can support the primary Brostrom repair using SwiveLocks in combination with FiberTape. The FiberTape acts as a bridge between the fibula and talus and parallels the ATF ligament, adding needed support for the ligament to heal in the normal anatomic position. The *InternalBrace* is placed superficial to the anterior talofibular ligament and capsule. The *InternalBrace* Ligament Augmentation Repair Kit will include two 3.5 mm SwiveLock anchors, one 4.75 mm SwiveLock anchor, and FiberTape with preloaded needles.



The *InternalBrace* offers the surgeon and patient many benefits. A cast is generally not needed and mobilization can start early, which improves patient comfort and earlier rehabilitation. *InternalBrace* also offers resistance against secondary injury.



actual size

SLAM (ScaphoLunate Axis Method)



Arthrex introduces a new and novel technique for scapholunate reconstructions. Developed for Stage III-IV scapholunate dissociations, the technique known as the ScaphoLunate Axis Method or (SLAM) reapproximates the scaphoid and lunate using a biologic graft. A specialized graft anchor fixates the tendon graft from the lunate to the scaphoid along the central articulating axis of the two bones. A Tenodesis Screw in the scaphoid completes the repair and provides an all inside, centrally placed biologic reconstruction. The remaining tendon tails can be incorporated dorsally to control rotary subluxation of the scaphoid, if desired.

A convenience kit includes all the necessary components to complete the procedure along with a guide set that contains a specialized C-ring guide and mallet to aid in perfect graft placement. Initial biomechanical studies show promise over traditional reconstruction techniques for scapholunate dissociations.



StarFish – arthroscope, rotation control at the tip of your finger

The StarFish is a rotational control device that easily attaches to the proximal end of the arthroscope to enable the surgeon to change the direction of view of the arthroscope with one hand. The arms of the StarFish project proximally, towards the camera head, allowing the surgeon to quickly and efficiently rotate the arthroscope with the tip of the thumb or the index finger of the hand holding the arthroscope. This ergonomic method of controlling the direction of view of the arthroscope enables the surgeon's noncamera-head hand to be continually engaged in instrument manipulation, which results in faster operative times by eliminating the need for two-handed scope operation.



Lateral Ankle Reconstruction Implant System



Ankle instability is one of the most common injuries in many sports with chronic instability affecting 4-5% of patients after their initial ankle sprain. While the Brostrom-Gould or Modified Brostrom-Gould technique has also been described as an anatomic repair, patients whose ligaments are so severely damaged should consider an augmented ankle reconstruction using a free tendon graft and rigid interference screw fixation with the Tenodesis System. The Tenodesis Screw System has a proven clinical record with 512,000 screws implanted since 2001. The patented technique is clinically reproducible. The Lateral Ankle Reconstruction Implant System combines, in one system, the necessary instruments and BioComposite Tenodesis Screws for an anatomic repair.



PowerRasp Update

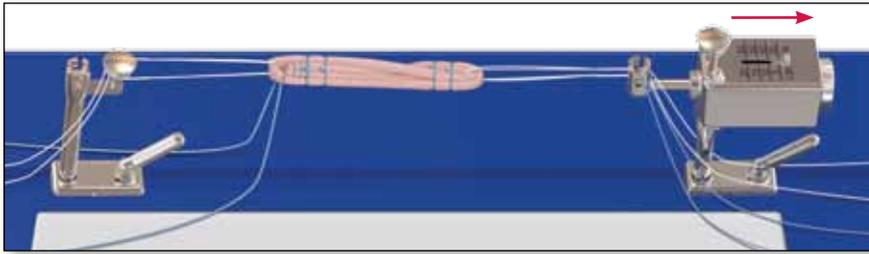
What's better than a burr? The PowerRasp! The reciprocating motion of the PowerRasp quickly creates a smooth flat surface during bone debridement procedures. The PowerRasp is available in 3.5 mm, 4 mm and 5.5 mm widths to accommodate use in all joint spaces and anatomy – ideal for subacromial decompression, notchplasties, eminenceplasties and removal of bone spurs in virtually every joint in the body. The aggressive rasp surface quickly and efficiently removes bone, while the smooth sides and rounded tip of the PowerRasp protect against damage to surrounding tissue during operation. The PowerRasp easily connects to any Arthrex Shaver Handpiece for fast and convenient transitions from shaver to rasp function. Feel the power, speed and precise control of the next generation in bone debridement with the PowerRasp.



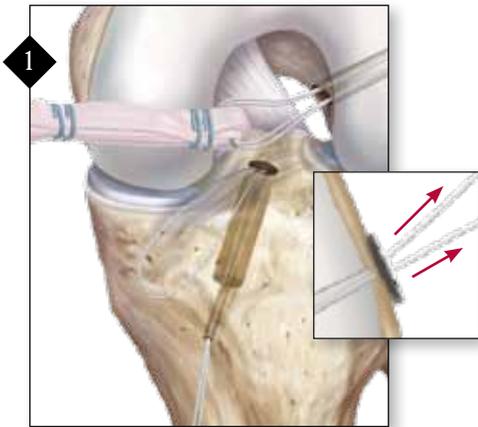
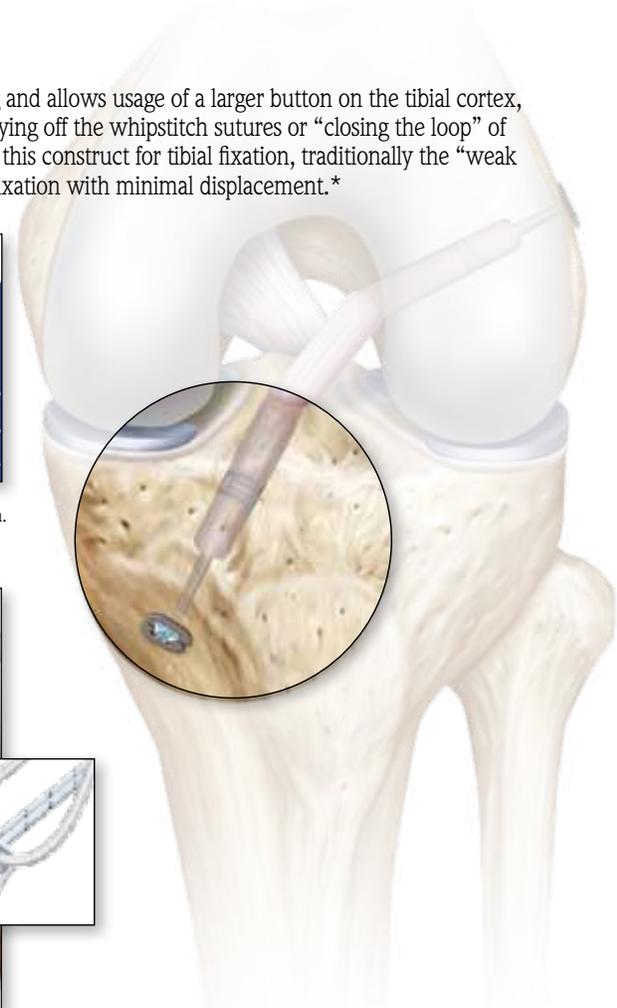
Pointers & Pearls

“Closing the Loop” on GraftLink

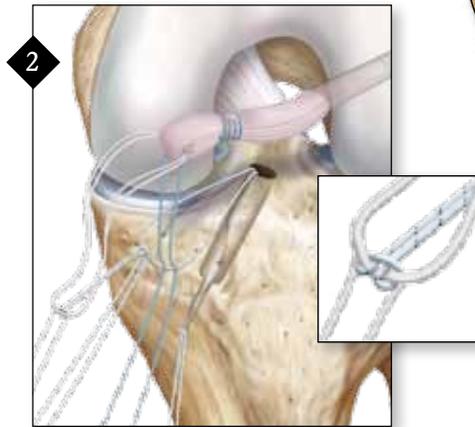
The TightRope ABS (Attachable Button System) for GraftLink simplifies tibial implant passing and allows usage of a larger button on the tibial cortex, when desired. The ABS system also facilitates backup fixation of the GraftLink construct by tying off the whipstitch sutures or “closing the loop” of the GraftLink construct. Recent biomechanical studies have shown impressive strength with this construct for tibial fixation, traditionally the “weak link” in ACL reconstruction. Closing the loop with TightRope ABS averages over 1000N of fixation with minimal displacement.*



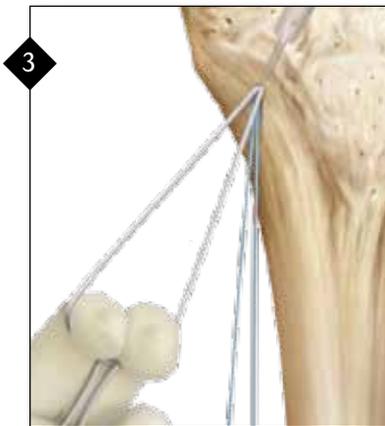
On the GraftLink Graft Prep Station, the FiberLoop whipstitch sutures may remain intact and be used as supplemental fixation.



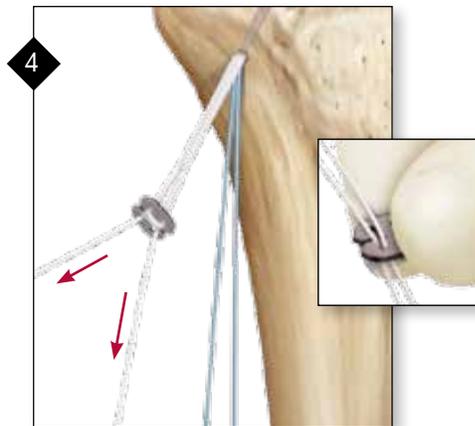
1 The femoral side of the graft is passed per the standard GraftLink technique, leaving some room for retensioning if desired.



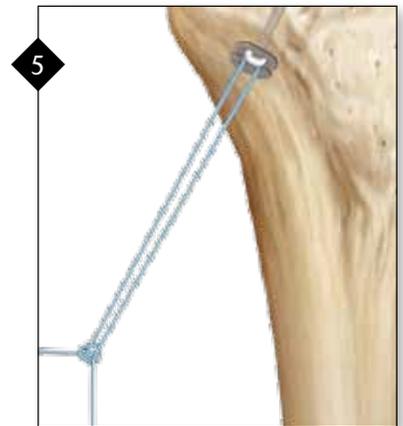
2 Cinch a suture around the end of the TightRope ABS loop to use for passing (inset). Load the cinch suture and the whipstitch tails from the graft into the tibial passing suture. Pull distally on the tibial passing suture to deliver both the TightRope ABS loop and the whipstitch sutures out of the tibia distally.



3 Advance the graft into the tibia by pulling on the inside of the ABS loop and whipstitch sutures.



4 Load the TightRope ABS Button onto the loop. Pull on the white shortening strands to advance the button to bone and tension graft. *Note: Ensure the button has a clear path to bone, as to not entrap soft tissue under the button.*



5 Load the whipstitch sutures into the button and tie a knot for backup fixation.

*Studies on file at Arthrex, Inc.

IN THE Loop

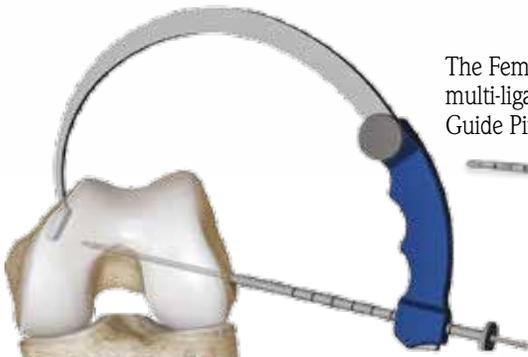


Anatomic Femoral Drilling During Multi-ligament Reconstructions

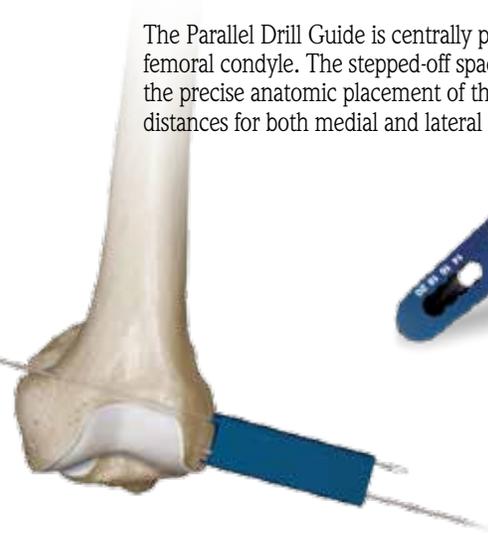
“The Collateral Ligament Reconstruction Set is based upon over a decade of international scientific research to improve the safety, accuracy, and efficiency of posterolateral and medial/posteromedial knee reconstructions. The ergonomics of the collateral ligament instruments are based upon detailed anatomic studies which have lead to precise, biomechanically-validated anatomic reconstructions for individual components and the main structures of both the posterolateral and medial structures of the knee.”

- Robert F. LaPrade, M.D., PhD

The Femoral Collateral Marking Hook facilitates divergence from additional tunnels during staged or multi-ligament procedures by enabling the surgeon to see the trajectory and exit point of the Zebra Guide Pin.



The Parallel Drill Guide is centrally placed over the first Zebra Guide Pin against the femoral condyle. The stepped-off spacers on the end of the Parallel Drill Guide confirm the precise anatomic placement of the second Zebra Guide Pin at multiple incremental distances for both medial and lateral femoral-based reconstructions.



These anatomic posterolateral and medial/posteromedial reconstructions utilize BioComposite Interference Screws, TightRope RT, SwiveLock, and Corkscrew anchors. The TightRope RT provides a flush, secondary point of fixation offering surgeons the ability to tension the graft in line with the socket to the desired depth and knee-flexion angle. Once the graft tension and positioning are confirmed, the BioComposite Interference Screws are used for aperture fixation. The whipstitch on the end of the graft can be used with the SwiveLock for backup fixation on the anterior part of the tibia during the posterolateral reconstruction.

What's in My Bag?

F E A T U R I N G



Gordon Mackay, M.D.
BMI Kings Park Hospital, Scotland, UK



and James McWilliam, M.D.
Specialty Orthopaedics, Harrison, NY



InternalBrace Ligament Augmentation Repair

Q. If the Brostrom is such a successful procedure, why do you need an InternalBrace?

A. **McWilliam:** Schon has shown that early rehabilitation is detrimental to the Brostrom repair. Clanton has shown that the Brostrom repair is weaker than intact ligaments. The addition of the *InternalBrace* will enhance the lateral ligament construct allowing early rehabilitation.*

Q. Where do you put the InternalBrace if you are going to do a secondary repair of the ligaments?

A. **Mackay:** Above ATFL mimics normal anatomy, it's easy to identify visually that way to put it on top of the Brostrom repair. *InternalBrace* goes superficial to the capsule and ligaments (Brostrom repair) and deep to the inferior extensor retinaculum.

Q. Can you make the InternalBrace too tight?

A. **Mackay:** Yes. Extensive tension would likely lead to failure of the *InternalBrace* or joint pain/stiffness. Make sure you check the range of motion before you fully insert the second anchor of the construct. I use a hemostat between the FiberTape and the bone, while tensioning the anchor.

Q. What happens if someone resprains their ankle after they have had an InternalBrace?

A. **Mackay and McWilliam:** I would recommend a trial of bracing and physical therapy followed by revision surgery if symptoms persisted. The presence of previously placed FiberTape is unlikely to interfere with revision surgery. Many revision ligament repairs are treated with a ligament reconstruction. This too, is unlikely to be impaired by a previous *InternalBrace* procedure.

Q. Why not just protect the repair in a cast to allow it to heal?

A. **McWilliam:** Cast immobilization leads to joint stiffness, muscle atrophy, and focal osteoporosis. These conditions delay and, in many cases, hinder full recovery. Early motion and physiologic stress enhance collagen organization and healing, improving strength of the final construct.

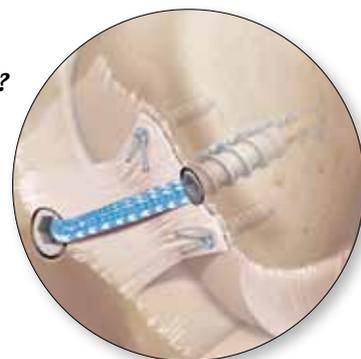
Q. If the InternalBrace is placed intra-articularly, will it cause synovitis or an inflammatory reaction or impingement?

A. **Mackay:** It would appear to be inert and well tolerated but some may be happier with extra-articular positioning. We use FiberWire in the joint without concern.

McWilliam: It appears that FiberTape (and FiberWire) is largely inert based upon its extensive history of use in the knee (ACL and meniscus) and shoulder (labrum and rotator cuff).

Q. How does the InternalBrace work acutely?

A. **Mackay and McWilliam:** Torn ligaments heal. After an ankle sprain, these ligaments heal in a lengthened condition. Excessively long or loose ligaments lead to recurrent instability. A principle of ankle sprain treatment is early mobilization. Unfortunately, this early mobilization may increase the ligaments propensity to heal in a lengthened manner, possibly increasing the likelihood of recurrent stability. An acute *InternalBrace* provides a "check-rein" to allow the ligaments to heal in a physiologic manner, at appropriate tension.



*Foot Ankle Int., Nov. 2008; 29(11): 1126-30 and AJSM, 2012, in press.

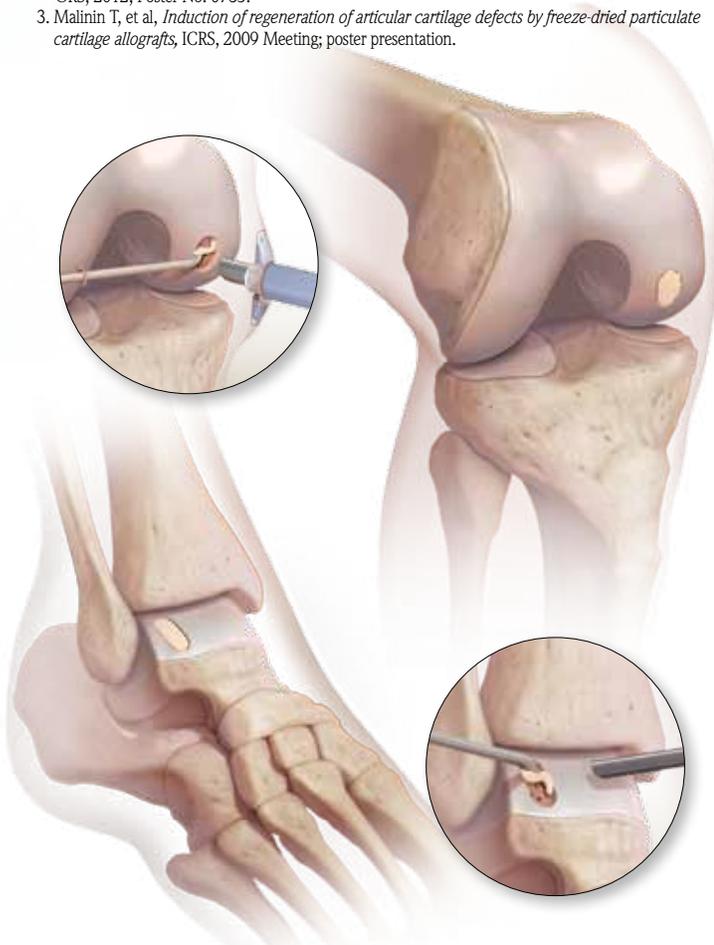
BioCartilage

BioCartilage was designed to provide a reproducible, simple and inexpensive method to augment traditional microfracture procedures. BioCartilage is developed from articular allograft cartilage that goes through a dehydration process and is then micronized. The small particle size improves its injectable nature after it is mixed with an autologous blood solution and increases the surface area of the product, providing attachment sites for the patient's bone marrow cells. BioCartilage is a scaffold that contains the extracellular matrix that is native to articular cartilage including key components such as type II collagen, proteoglycans such as aggrecan, and additional cartilaginous growth factors.

The principle of BioCartilage is to serve as a scaffold over a microfractured defect, providing a tissue network that can potentially signal autologous cellular interactions. Marrow elements will travel through the microfracture holes and interact with the scaffold created by BioCartilage, instead of being expected to create its own fibrin scaffold as typically anticipated from a marrow stimulation procedure. Scientific evidence exists supporting the premise that an allograft cartilage scaffold, used as an adjunct to microfracture, should improve the degree and quality of tissue healing within a properly prepared articular cartilage defect.¹⁻³

References:

1. Cheng N, et al, *Chondrogenic differentiation of adipose-derived adult stem cells by a porous scaffold derived from native articular cartilage extracellular matrix*, Tissue Engineering, 2009; 15(2): 231-41.
2. Chadha N, et al, *Porous Cartilage-Derived Matrix Scaffolds for Repair of Articular Cartilage Defects*, ORS, 2012; Poster No. 0735.
3. Malinin T, et al, *Induction of regeneration of articular cartilage defects by freeze-dried particulate cartilage allografts*, ICRS, 2009 Meeting; poster presentation.



STO Featured Product Information

BioComposite PushLock, 2.9 mm x 15.5 mm.....	AR-1923BC
PEEK SwiveLock, 3.5 mm x 14.8 mm.....	AR-2325PSLC
Elbow Arthroscopy Instrument Set.....	AR-8650S
Clavicle Plate and Screw Set.....	AR-2650S
Drill for AC Repair, cannulated, 2.4 mm.....	AR-2257D-24
Drill for AC Repair, cannulated, 3 mm.....	AR-2257D-30
#2 FiberWire, 38" (blue) w/Tapered Needle, collagen-coated.....	AR-7200B
FiberTape, 2 mm, 7" (blue)	
each end tapered to #2 FiberWire, collagen-coated.....	AR-7237-7B
#2 FiberLoop w/Straight Needle, 20" (blue), collagen-coated.....	AR-7234B
SwiveLock Tenodesis Trial, 7 mm.....	AR-1662T-7
SwiveLock Tenodesis Trial, 8 mm.....	AR-1662T-8
SwiveLock Tenodesis Trial, 9 mm.....	AR-1662T-9
BioComposite GraftBolt w/Screw, 7 mm.....	AR-5100C-07
BioComposite GraftBolt w/Screw, 8 mm.....	AR-5100C-08
BioComposite GraftBolt w/Screw, 9 mm.....	AR-5100C-09
BioComposite GraftBolt w/Screw, 10 mm.....	AR-5100C-10
CoolCut CaliBlator.....	AR-9802C
Nav-X Steerable Grasper, Alligator Hook.....	AR-6528-03
Nav-X Steerable Grasper, Loose Body.....	AR-6528-04
Nav-X Steerable Suture Retriever.....	AR-6528-05
InternaBrace Ligament Repair Augmentation Kit.....	AR-1678-CP
SLAM Drill Guide Set.....	AR-8826S
SLAM Implant Delivery System.....	AR-8826DS
StarFish Scope Attachment.....	AR-3370-0006
PoweRasp, 4 mm x 13 cm.....	AR-8400PR
PoweRasp, 5.5 mm x 13 cm.....	AR-8550PR
Graft Prep Station Base.....	AR-2950
GraftLink Prep Attachment.....	AR-2951-1
GraftLink Prep Attachment w/Tensiometer.....	AR-2951-2
TightRope ABS.....	AR-1588TN
TightRope ABS Button.....	AR-1588TB
Fibular Marking Hook.....	AR-5500
Parallel Drill Guide.....	AR-5503
Zebra Guide Pin, 2.4 mm, open eyelet.....	AR-1250Z
BioCartilage, 1 unit.....	1614

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

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