Hip Labral Scorpion

The Hip Labral Scorpion provides a fast and simple way to pass and retrieve suture through a single portal during acetabular labral refixation and reconstruction techniques. Specifically designed for the hip joint, the jaws are inverted so the suture passes from the capsular side of the labrum into the joint space via a small diameter Hip Scorpion Needle. The articulating FastPass jaw automatically catches the suture through a trap door before the device is pulled out of the same portal, minimizing the procedure steps. This versatile device is designed for a simple or cinch stitch and can work with knotted or knotless techniques.

ContourLock DFO Plate System

The ContourLock DFO Plate System is indicated for use as a fixation device during lateral opening wedge osteotomies of the distal femur, up to 20 mm. This next generation, toothless, titanium plating system provides an anatomic contour closely matching patient anatomy in both the coronal and sagittal planes. The toothless design allows for greater correction flexibility without compromising fixation strength by providing four points of fixation both proximal and distal to the correction.
**Knotless SutureTak Instability Repair**

The 3 mm Knotless SutureTak combines a proven and reproducible suture anchor design and insertion procedure with knotless soft tissue fixation. The guide and drill are used to create a pilot hole precisely on the glenoid rim and the suture anchor is inserted through the guide, maintaining the same portal and drill trajectory. The suture is passed and then shuttled into the locking mechanism allowing the user to control the tension of the suture repair for knotless fixation of the soft tissue under direct visualization.

- 57 lbs of secure, low profile knotless suture fixation*
- No risk of knot impingement or knot loosening
- Cannulated design minimizes anchor material volume
- Simple, reproducible percutaneous insertion techniques

*Data on file

**Double-Loaded SwiveLock**

The 4.75 mm BioComposite SwiveLock is now available with two tip-retention sutures instead of just one. The eyelet for the new anchor has been redesigned to sit on the outside of the driver (like a cap) allowing more room inside the driver's cannulation for two sutures. This anchor can benefit surgeons who like to incorporate extra medial sutures into their SpeedBridge constructs or provide more sutures for dog ear reduction laterally. As an additional benefit, the anchor can also be used as a standard suture anchor. Just implant the anchor without passing any additional suture through the eyelet. This can help some ORs minimize inventory by only stocking one SwiveLock instead of both SwiveLocks and Corkscrew FTs.

**Arthroscopic Chronic AC Repair**

A new graft passing instrument system consisting of a Coracoid Passer and a Flexible Obturator is available that allows surgeons to arthroscopically pass a graft around the coracoid to address chronic AC injuries. This system is intended to be used in conjunction with mechanical reduction and fixation of the CC ligaments, particularly with Dog Bone Buttons and FiberTapes.

The Coracoid Passer is designed to fit through a small incision on the clavicle and curve around the coracoid, allowing the surgeon to pass a FiberStick through the cannulation and retrieve it on the lateral side of the coracoid. The Flexible Obturator is designed to shuttle around the coracoid and dilate the soft tissue prior to passing an allograft or autograft. The single use obturator is 230 mm long and 10 mm in diameter and consists of a loop of polyester suture with a silicone over mold.

*Data on file

**ArthroFlex Acellular Dermal Matrix for Superior Capsular Reconstruction (SCR)**

The recent release of a thicker ArthroFlex Acellular Dermal Matrix (ADM) for superior capsular reconstruction provides added strength and reinforcement to restore superior stability in massive rotator cuff tears. The AFLEX301 is a 4.0 cm x 7.0 cm ADM with an average thickness of 3.0 mm (2.5 - 3.5 mm). During mechanical testing, the ArthroFlex ADM tested out at over 550N*.

ArthroFlex is minimally processed through the Matracell process. This validated and patented process renders the ArthroFlex acellular, without compromising biomechanical or biochemical properties of the dermis. This process allows the ADM to retain its growth factors, native collagen scaffold and elastin, while removing the donor cells and > 97% of the donor DNA.

Not all acellular matrices are the same due to processing or just the natural characteristics of the matrix. Some products are made from porcine small intestine submucosa (SIS), porcine bladder matrix, bovine dermis and porcine dermis, which may lack the strength to support the SCR. Many may contain significant DNA, which may lead to rejection, inflammation, encapsulation or absorption.
**Ankle Fusion Plating System**

The titanium Ankle Fusion Plating System provides a complete solution for ankle fusion management with a comprehensive offering of anatomic-specific plates available for either tibiotalar joint or tibiotalocalcaneal arthrodesis. A variety of screw options, including locking, nonlocking, cortical, cancellous and hybrid designs are provided to address all fixation needs. Specific instrumentation is included to help access and prepare the fusion sites.

**System Features:**
- Anatomically designed for use with all surgical approaches: anterior, lateral and posterior
- Anatomic compression hole accepts a 4.5 mm or 5.5 mm nonlocking lag screw strategically placed to cross the arthrodesis site within the plate resulting in maximal compression
- Maximum fixation points in the talus
- Comprehensive instrumentation for joint preparation, distraction, compression and assistance with optimal fixation

**NEW: Collagen-Coated FiberTape Internal Brace Ligament Augmentation Kits**

Arthrex is the first medical company to offer collagen-coated suture. FiberTape is ultra-high strength, 2 mm width tape with similar structure as FiberWire suture. The tape provides broad compression and increased tissue cut-through resistance, making it an excellent choice for knotless Internal Brace Ligament Augmentation. Internal Brace Kits are now available including FiberTape with a Type-I bovine collagen-coating to offer surgeons a softer coating for improved handling characteristics.

**Flexible Arthroscopy Retractor (FAR)**

The Flexible Arthroscopy Retractor is made of tear-resistant polyurethane and has been designed to retract soft tissue and improve visualization in the posterior aspect of the knee during arthroscopic procedures. Retraction of soft tissue and clear visualization of the posterior tibial plateau is necessary in PCL procedures and can be beneficial for loose body removal, meniscal root avulsion and popliteal cyst debridement.

**Meniscal Resection Instrument**

The MegaBiter has transformed meniscal resection with its large bite width of 5.5 mm. The low profile design assists in reaching the tight recesses in joint spaces. The NEW straight MegaBiter provides the same bite width without the curved tip, allowing access to tissue in tighter joint spaces.
Combat the Saline Shortage with the DualWave

The DualWave Arthroscopy Pump provides each OR with quick solutions for enacting the initiatives pointed out in the recent AANA letter about nationwide saline shortage. Simply connecting an outflow tube set will provide total control of fluid into and out of the joint space. When the color-coded outflow cassette is used, the DualWave is automatically converted into a proactive fluid management system, bringing consistency and fluid reduction to the OR. Providing DualWave-controlled suction will allow a more consistent suction response independent from separate vacuum systems. Experience “cruise control”-like suction that also reduces saline consumption. When paired with ReDeuce Tubing, the excess fluid at the end of each case can be conserved for the next surgery. This is all possible because of the backflow valve on the ReDeuce Patient Side Tubing. Utilizing the cannula outflow tubing with Arthrex cannulas will allow the DualWave to provide continual clearing of fluid, as well as prevent uncontrolled loss of fluid through portal leakage.

Estimated Fluid Savings:
- 20% - Outflow with cannula tubing
- 30% - Outflow without cannula tubing
- 15% - ReDeuce Tubing System

Simplified Single Portal Suture Passing and Retrieving with the Hip Labral Scorpion

- Fast and Simple
  Pass and retrieve FiberWire suture with minimal steps
- Ergonomic
  Low profile design fits through an 8.25 mm cannula
- Anatomic
  Tip geometry accommodates hip joint anatomy
- Atraumatic
  Smooth jaws and rounded edges minimize iatrogenic damage
- Minimal Tissue Penetration
  FiberWire suture is passed using a small diameter Hip Labral Scorpion Needle (AR-16991N)

1. Load 1-2 inches of FiberWire into the groove on the top jaw and squeeze the instrument until the FiberWire enters the slot on the needle.
2. Grab the labrum and squeeze the handle to advance the needle and FiberWire through the tissue.
3. Retract the Scorpion from the tissue with the captured FiberWire in the lower jaw. To release the suture, pull both suture limbs and squeeze the instrument.
Arthroscopic Chronic AC Repair Technique

A new graft passing instrument system, consisting of a Coracoid Passer and a Flexible Obturator (see Page 2), is available that allows surgeons to arthroscopically pass a graft around the coracoid to address chronic AC injuries. This system is intended to be used in conjunction with mechanical reduction and fixation of the CC ligaments, particularly with Dog Bone Buttons and FiberTapes.

Note: Always proceed with caution when working on the medial side of the coracoid. The surgeon should use the Coracoid Passer to first find the top of the coracoid and stay on bone while progressing medially.

1. Use the Coracoid Passer to find the top of the coracoid. Staying on bone, slide the tip around the medial side. Lift the handle to advance the tip so it points laterally. Pass a FiberStick through the cannulation.

2. Use a grasper to retrieve the FiberStick anterior to the clavicle and lateral to the coracoid.

3. Tie the medial limb of the FiberStick to one end of the Flexible Obturator and tie the whipstitched sutures from the graft to the other end. Shuttle the obturator medial-to-lateral until it fully passes around the coracoid.

4. Continue to shuttle the graft around the coracoid.

5. The medial graft limb may be passed posterior on the clavicle to better represent the anatomic footprint of the conoid ligament.

6. Sew the graft limbs together on top of the clavicle to complete the repair.
Joint Preservation with Superior Capsule Reconstruction (SCR)

Q. *Is SCR a new technique? What does it do and how are the long-term results?*
A. The SCR was pioneered by Dr. Teruhisa Mihata in 2007 for patients with irreparable rotator cuff tears. He recently published 24-51 month follow-up on 24 of his patients, showing outstanding outcomes in pain, ASES scores and acromial-humeral distance measurements. This technique recreates a superior capsule to keep the humeral head reduced in the glenoid by attaching tissue from the glenoid to the greater tuberosity.

Q. *What are the potential risks of SCR or are patients better off with a reverse TSA?*
A. The SCR does not burn any bridges and can be performed arthroscopically. The procedure carries minimal risk, as compared to a reverse total arthroplasty, which has increased risk of infection, failure, fracture, neurovascular complications and many more. Japanese surgeons have accepted the SCR technique as the reverse was just recently approved for use in Japan, July 2014.

Q. *Can you comment on your own clinical experiences and patient results?*
A. We have refined this challenging procedure to make it simpler for the surgeon and less painful for the patient. My patients have been uniformly excited about their outcomes. Having had multiple failed attempts at rotator cuff repairs, they have all commented at how much easier the rehabilitation has been and how much less pain they have had. My results are consistent with Dr. Mihata’s report.

Q. *How do you perform the procedure?*
A. I use a 3.5 mm ArthroFlex dermal allograft. We measure the defect and cut the graft to size. Beach chair positioning is preferred as this allows the arm to be placed neutrally for fixation so as not to over tighten the graft. The graft is placed arthroscopically with a PASTA Bridge fixation medial to the labrum on the glenoid and a SpeedBridge laterally on the greater tuberosity. We retain the labrum for stability. We attach the graft to the infraspinatus to prevent escape of the head. The anterior margin of the graft is not required to be attached as it may constrain the head and limit motion if too tight.

Q. *Your experiences would suggest this is a promising technique. What are your thoughts looking forward?*
A. There are limited solutions between repair and arthroplasty for patients with irreparable massive rotator cuff tears without arthritis. I see this becoming the newest option in our bag to help the younger, nonarthritic active patients.
Novel Technique for Elbow Injuries

Dr. Jeff Dugas, Fellowship Director of the Sports Medicine Institute at the Andrews Sports Medicine and Orthopedic Center in Birmingham, Alabama is pioneering a novel technique for elbow UCL surgery. With the recent rise in Tommy John surgeries and all the injuries on the medial side of the elbow, there is a renewed interest in repairing lower level UCL injuries. This new technique not only repairs but also augments the ligament with a collagen-coated FiberTape creating an “Internal Brace” type construct protecting the repair. After inserting the 3.5 mm PEEK SwiveLock loaded with the FiberTape and a #0 FiberWire in a bone socket in the sublime tubercle or the humeral epicondyle the native ligament is repaired starting at either the proximal or distal attachment sites. The FiberTape then spans the previously repaired ligament and is appropriately tensioned with the second SwiveLock. This may be ideal for a pitcher who had torn their UCL during the summer season and a Tommy John surgery would not allow them the appropriate time to recover and play in the spring of their senior year. Typical full recovery time to competitive pitching is six to seven months.

After drilling a bone socket in the sublime tubercle at the UCL attachment site, a 3.5 mm PEEK SwiveLock is inserted with a collagen-coated FiberTape and a #0 FiberWire.

The #0 FiberWire from the SwiveLock is passed through the adjacent ligament with a free needle. This suture is then utilized to place additional stitches as necessary to perform a complete repair of the ligament.

The final repair with collagen-coated FiberTape spanning the repaired ligament creating an Internal Brace Ligament Augmentation Repair.
Biomechanical Testing of ArthroFlex Allograft vs. Fascia Lata Autograft as a Suitable Medium for Superior Capsule Reconstruction

**Objective:** To investigate and compare the maximum load of ArthroFlex allograft vs. fascia lata autograft when used as part of superior capsule reconstruction.

**Methods and Materials:** Four samples were prepared using different combinations of repair and graft medium. Each end of the graft medium was secured to 10/20lb and 20/40lb foam blocks, representing the humerus and superior glenoid, respectively. All samples were pulled to failure using an INSTRON 8871 Axial Table Top Servohydraulic Dynamic Testing System (INSTRON< Canton, MA), mode-of-failure was recorded. A test set-up and failed sample are illustrated in Figure 1.

**Results:** A test results summary is presented in Table 1 and illustrated in Figure 2. Due to the small sample size per group, no statistical analysis was performed. However, the results indicate that samples prepared with the ArthroFlex graft demonstrated substantially higher maximum loads than those prepared with the fascia lata autograft. Three of the four samples failed due to tissue tear through at one end of the construct. However, one ArthroFlex sample failed due to eyelet breakage; the suture and graft remaining intact.

<table>
<thead>
<tr>
<th>Table 1. TEST RESULTS SUMMARY</th>
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<tr>
<td>Graft Medium</td>
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<td>Fascia Lata</td>
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<td>ArthroFlex</td>
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**Conclusion:** Samples prepared with the ArthroFlex allograft demonstrated maximum loads 2.5 times greater than the fascia lata autograft test group, with one of two samples remaining intact during construct failure. Therefore, the ArthroFlex allograft is a stronger option for use in superior capsule reconstruction.