TightRope® Attachable Button System (ABS) Implant
All-Inside ACL Reconstruction

Surgical Technique
**Introduction**

The 2-piece TightRope® Attachable Button System (ABS) implant easily passes through narrow bone tunnels and allows increased cortical fixation with the assembly of a large button over the cortical bone. Use the TightRope ABS for tibial fixation during all-inside ACL reconstruction using the GraftLink® technique or graft fixation over small bone tunnels created during transtibial ACL reconstruction.

- The slotted buttons can be loaded over the TightRope implant and locked into place
- Larger attachable button options extend footprint, maximizing button-to-bone contact against the cortex
- Buttonless TightRope implant facilitates passing through narrow bone tunnels
- Four-point, knotless locking system provides strong, stiff graft fixation
The TightRope® ABS implant has revolutionized tibial fixation of ACL and PCL grafts. TightRope ABS loops can be used on all graft types and attach to a variety of button configurations for fixation over “retroreamed” sockets or full tunnels with new concave buttons. The advantages of the TightRope ABS include:

- Strong, reliable cortical fixation superior to interference screws
- Maximum graft-to-bone contact improves incorporation and healing
- The ability to retension grafts after fixation and knee cycling
- Several different button options for sockets and full tunnels

**ABS Buttons**
Ideal for use over tibial sockets created with a FlipCutter® II reamer, the ABS loops pass easily through small-diameter tunnels and allow attachment of ABS buttons against the tibial cortex. ABS buttons are available in multiple sizes and shapes and provide strong, reliable cortical fixation.

**Concave ABS Buttons**
Ideal for full tunnels, the centering feature of these buttons maintains position over the tunnel and provides a better seal at the cortex than standard flat buttons. The concave surface countersinks sutures and knots. The 14 mm and 20 mm buttons have slots for the TightRope loop along with 2 holes for additional sutures.

**References**
Graft Options

TightRope® ABS fixation can be used in conjunction with any graft type. The TightRope ABS loop allows fixation of grafts that can be passed around a closed loop (hamstrings) or sutured to the graft (quad tendon). The Open TightRope ABS construct can be assembled around closed-end grafts such as BTB and presutured GraftLink® allografts.
Prepare the GraftLink construct with a single semitendinosus graft as described in the GraftLink technique guide (LT1-0157-EN). Load an ACL TightRope RT implant on the femoral side and a TightRope ABS implant on the tibial side. Size the femoral and tibial graft diameters for socket preparation and size the overall graft length to ensure appropriate socket depth.

**Bone Socket Creation**

The femoral socket can be created either through the medial portal using the TightRope drill pin and low-profile reamers (1) or with the inside/out technique using the RetroConstruction™ guide and a FlipCutter® reamer (2).
Pass the femoral ACL TightRope® RT implant. Pull on the femoral shortening strands to advance the graft into the femoral socket. Place a shuttle suture into the TightRope ABS implant and pass the suture through the tibia.

A tibial socket can be prepared with the Short FlipCutter® II reamer and the side-release RetroConstruction guide. FlipCutter reamers create socket diameters from 6 mm-13 mm while only leaving a small perforation through the cortex. Use a FiberStick® suture to shuttle the graft retrograde into the socket.
Pull the TightRope® ABS implant out of the tibia. Pull on the inside of the implant to pass the tibial side of the graft. Pass the strands of the TightRope ABS implant into the slots of the TightRope ABS button. Slide the button down to the end of the implant.

Pull on each of the tensioning strands alternately to slide the button down to bone. Place the backup FiberWire® sutures into the buttons slots as well. Place the knee in the desired amount of flexion and pull on the tensioning strands for final tensioning of the graft.

Cycle the knee and recheck tension. Retension if necessary. When tensioning is complete, a knot may be tied over the button for backup fixation. Cut the tensioning strands, leaving at least a 1 cm tail.

### Ordering Information

#### Implants

- ACL TightRope ABS Button: AR-1588TB
- TightRope ABS Button, round: AR-1588TB-1
- TightRope ABS Button, oblong: AR-1588TB-2
- Concave ABS Button, 11 mm w/ 4 mm Collar: AR-1588TB-3
- Concave ABS Button, 14 mm w/ 7 mm Collar: AR-1588TB-4
- Concave ABS Button, 20 mm w/ 9 mm Collar: AR-1588TB-5
- ACL TightRope ABS Implant: AR-1588TN
- Open TightRope ABS Implant: AR-1588TN-1
- ACL TightRope RT Implant: AR-1588RT
- Double-Loaded TightRope RT Implant: AR-1288-70 – 110
- Double-Loaded BTB TightRope Implant: AR-1288TB-70 – 110
- Autograft GraftLink® Convenience Pack: AR-1588AU-CP

#### TightRope ABS Tibial Fixation Kits

- TightRope ABS Implant w/ 11 mm Concave ABS Button: AR-1588TN-2
- TightRope ABS Implant w/ 14 mm Concave ABS Button: AR-1588TN-3
- TightRope ABS Implant w/ 20 mm Concave ABS Button: AR-1588TN-4

#### Instruments

**For FlipCutter Technique**
- RetroConstruction™ Drill Guide Set: AR-1510S
- Short FlipCutter II Reamers, 5 mm - 13 mm: AR-1204AS-50 – 130

**For Medial Portal Technique**
- Transportal ACL Guides, 4 mm - 8 mm: AR-1405LP – AR-1411LP
- Low Profile Reamers, 5 mm - 11 mm: AR-1405LP
- ACL TightRope Drill Pin: AR-1595T

#### Accessories

- Suture Retriever: AR-12540
- Suture Cutter, 4.2 mm, straight: AR-12250
- Graft Tube Set: AR-1886-S
- GraftPro® Graft Preparation System: AR-2950DS

#### Suture

- #2 FiberLoop® Suture w/ Straight Needle: AR-7234
- #2 TigerLoop® Suture w/ Straight Needle, w/TigerWire® Suture: AR-7234T
- FiberWire Suture, 38” (blue): AR-7250
- FiberStick® Suture, #2 FiberWire Suture, 50”: AR-7209
- TigerStick® Suture, #2 TigerWire Suture, 50”: AR-7209T
- #2 FiberWire Suture, w/2 Straight Needles: AR-7246-02
This description of technique is provided as an educational tool and clinical aid to assist properly licensed medical professionals in the usage of specific Arthrex products. As part of this professional usage, the medical professional must use their professional judgment in making any final determinations in product usage and technique. In doing so, the medical professional should rely on their own training and experience, and should conduct a thorough review of pertinent medical literature and the product’s Directions For Use. Postoperative management is patient-specific and dependent on the treating professional’s assessment. Individual results will vary and not all patients will experience the same postoperative activity level or outcomes.

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