

ARTHREX

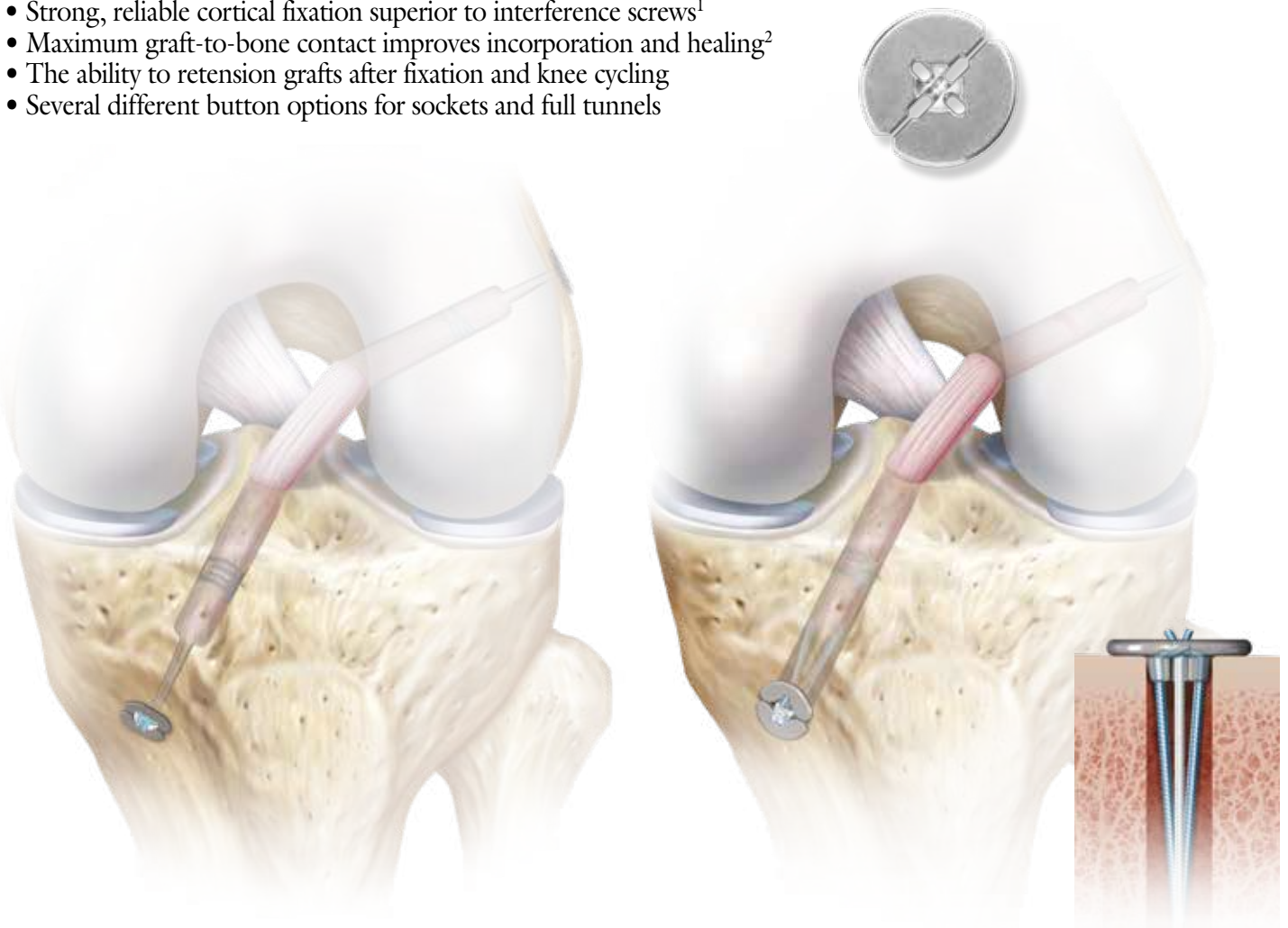
# TightRope® Attachable Button System



# TIGHTROPE® ATTACHABLE BUTTON SYSTEM

The TightRope Attachable Button System (ABS) has revolutionized tibial fixation of ACL and PCL grafts. TightRope ABS loops can be used on all graft types and attached to a variety of button configurations for fixation over “retroreamed” sockets or full tunnels with concave buttons. The advantages of the TightRope ABS implant include:

- Strong, reliable cortical fixation superior to interference screws<sup>1</sup>
- Maximum graft-to-bone contact improves incorporation and healing<sup>2</sup>
- 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.<sup>1</sup>

## 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.



*TightRope ABS Button*  
8 mm × 12 mm  
AR-1588TB



*TightRope ABS Button*  
round, 14 mm  
AR-1588TB-1



*TightRope ABS Button*  
oblong, 3.4 mm × 13 mm  
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

# 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 loop can be assembled around closed-end grafts such as BTB and Achilles bone blocks.



*TightRope ABS Loop*



*Open TightRope ABS Loop*

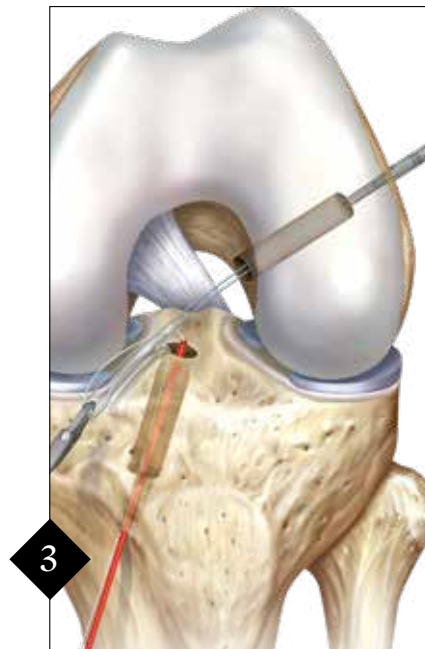
*Autograft Hamstring  
GraftLink® Construct*

*Quad Tendon With  
FiberTag™ Suture*

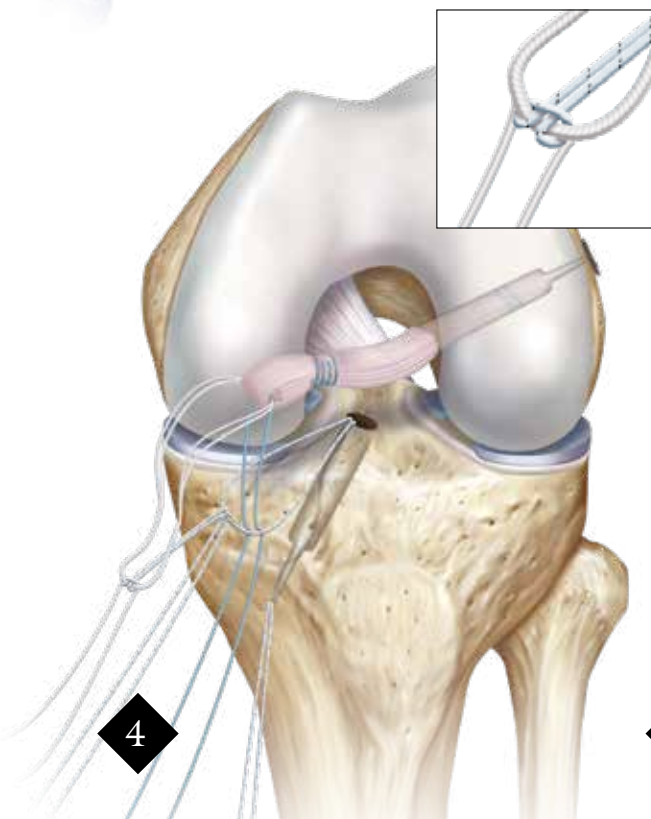
*Patellar Tendon*

*Presutured Allograft  
GraftLink Construct*

## Fixation Over Tibial Sockets Prepared With Short FlipCutter® II Reamer



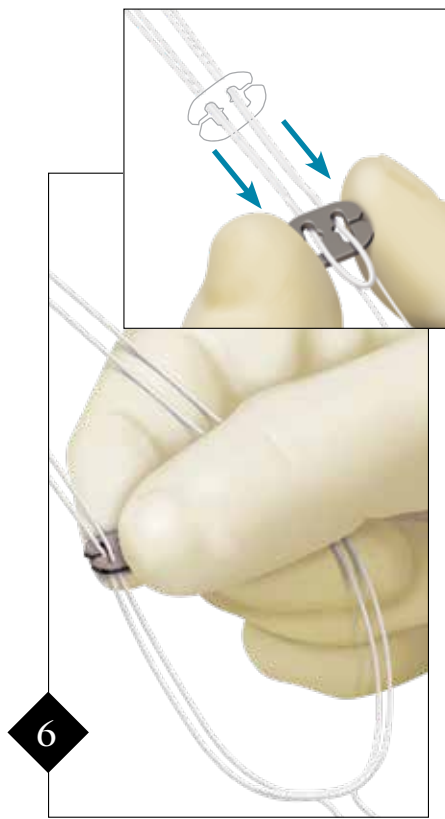
A tibial socket can be prepared with the short FlipCutter II and the side-release RetroConstruction guide. FlipCutter reamers create socket diameters from 6 mm-13 mm while only leaving a small perforation through the cortex. Use a FiberStick™ suture to shuttle the graft retrograde into the socket.



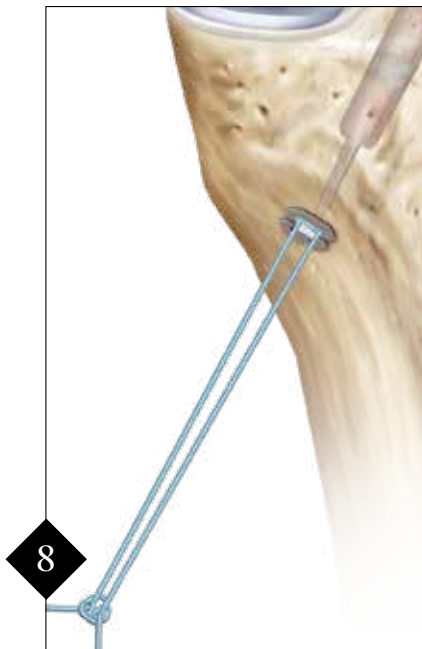
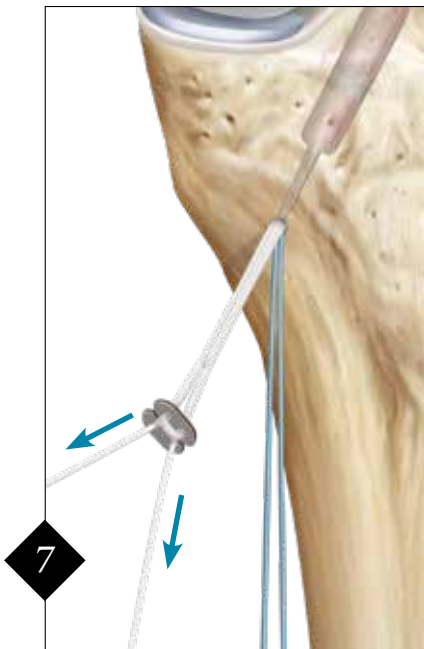
Pass the TightRope® ABS loop through the tibial socket by attaching a passing suture to the spliced area. Also, pass any backup sutures attached to the graft.



Once the ABS loop is passed, remove the passing suture and pull on the inside of the loop and backup sutures to fully insert the graft into the tibial socket.



Load the preferred TightRope ABS button or 11 mm concave ABS button onto the proximal portion of the loop by passing each side through their respective slots on the button.



Pull on the tensioning strands to advance the button towards the bone. Load the backup sutures into the slots before the button enters the skin. Perform final tensioning by pulling TightRope® strands; cycle the knee and retension, if desired. Backup sutures may now be tied over the button.

## Fixation Over Full Tunnels



The concave ABS buttons are indicated for tunnels of 4 mm- 13 mm in diameter.



11 mm w/4 mm collar  
AR-1588TB-3

*Use with 4 mm-7 mm tunnels*

*Compatible with FlipCutter® reamer*



14 mm w/7 mm collar  
AR-1588TB-4

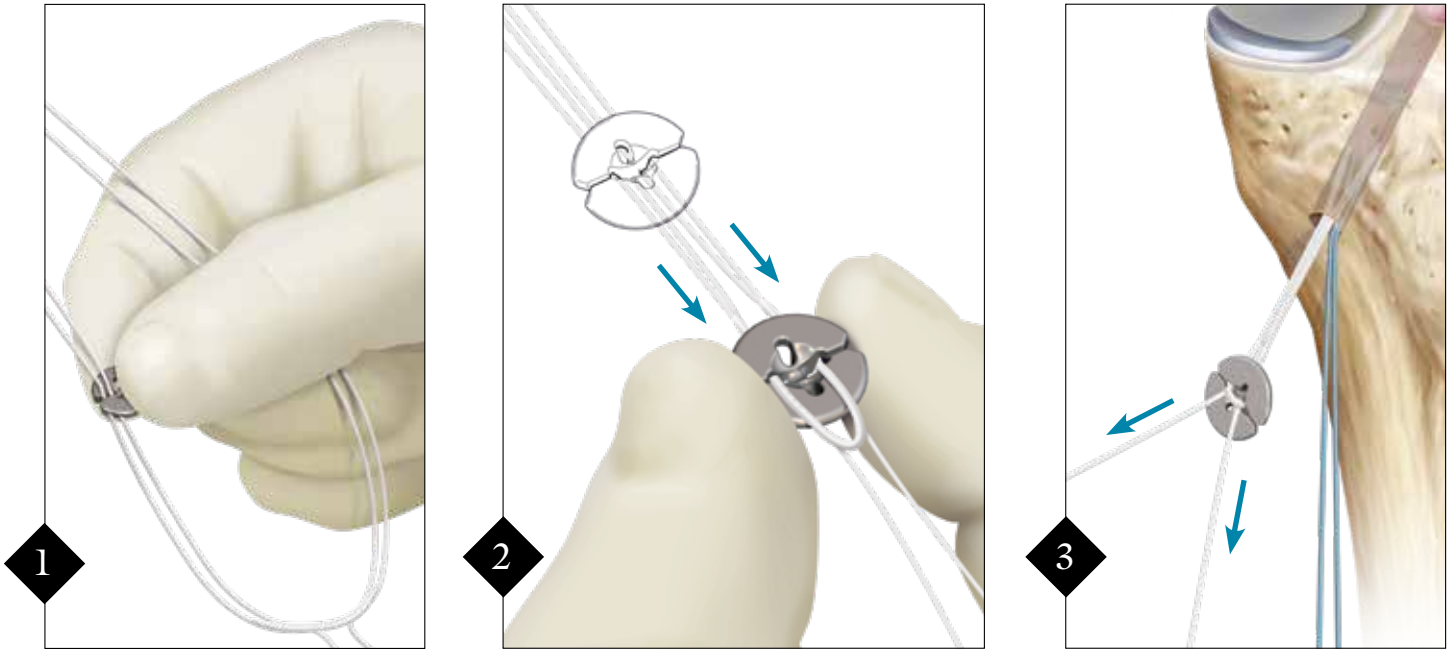
*Use with 7 mm-9 mm tunnels*



20 mm w/9 mm collar  
AR-1588TB-5

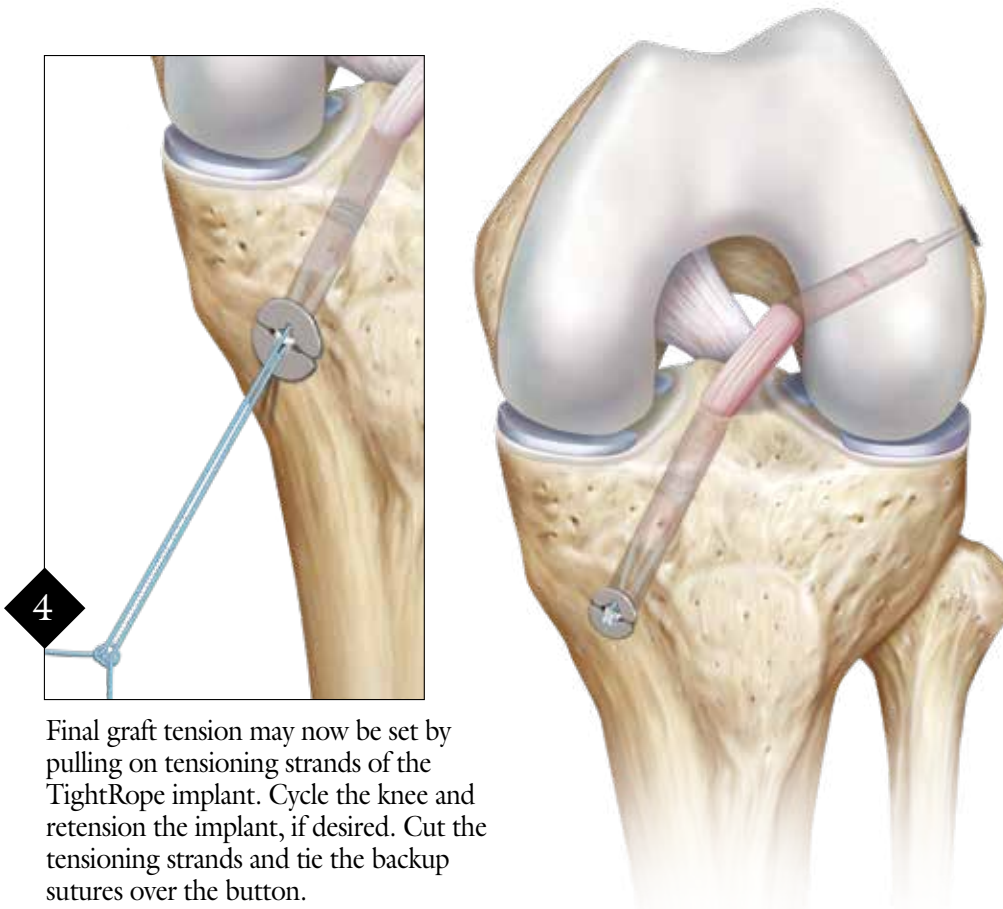
*Use with 9 mm-13 mm tunnels*

## Fixation Over Full Tunnels



After passing the graft transtibially, attach the TightRope® ABS button to the proximal ABS loop by inserting each side into its respective slot and pulling the button down to the spliced area where it will be locked onto the loop. If backup sutures are going to be used, place them through the additional holes in the button.

Pull the TightRope ABS tensioning strands to advance the button to bone. Ensure the collar of the button enters the tunnel and the button is lying flat on the cortex.



Final graft tension may now be set by pulling on tensioning strands of the TightRope implant. Cycle the knee and re-tension the implant, if desired. Cut the tensioning strands and tie the backup sutures over the button.

## Ordering Information

### *TightRope® ABS Loops*

TightRope ABS	AR-1588TN
Open TightRope ABS	AR-1588TN-1

### *TightRope ABS Buttons*

TightRope ABS Button, 8 mm × 12 mm	AR-1588TB
TightRope ABS Button, round, 14 mm	AR-1588TB-1
TightRope ABS Button, oblong, 3.4 mm × 13 mm	AR-1588TB-2

### *TightRope Concave ABS Buttons*

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

### *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

## References

- 1) Smith PA, DeBerardino TM. Tibial fixation properties of a continuous-loop ACL hamstring graft construct with suspensory fixation in porcine bone. *J Knee Surg.* 2doi:10.1055/s-0034-1394167.
- 2) Smith PA, Stannard JP, Pfeiffer FM, et al. Suspensory versus interference screw fixation for arthroscopic anterior cruciate ligament reconstruction in a translational large-animal model. *Arthroscopy.* 2016;32(6):1086-1097. doi:10.1016/j.arthro.2015.11.026.



*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.*

View U.S. patent information at [www.arthrex.com/corporate/virtual-patent-marking](http://www.arthrex.com/corporate/virtual-patent-marking)