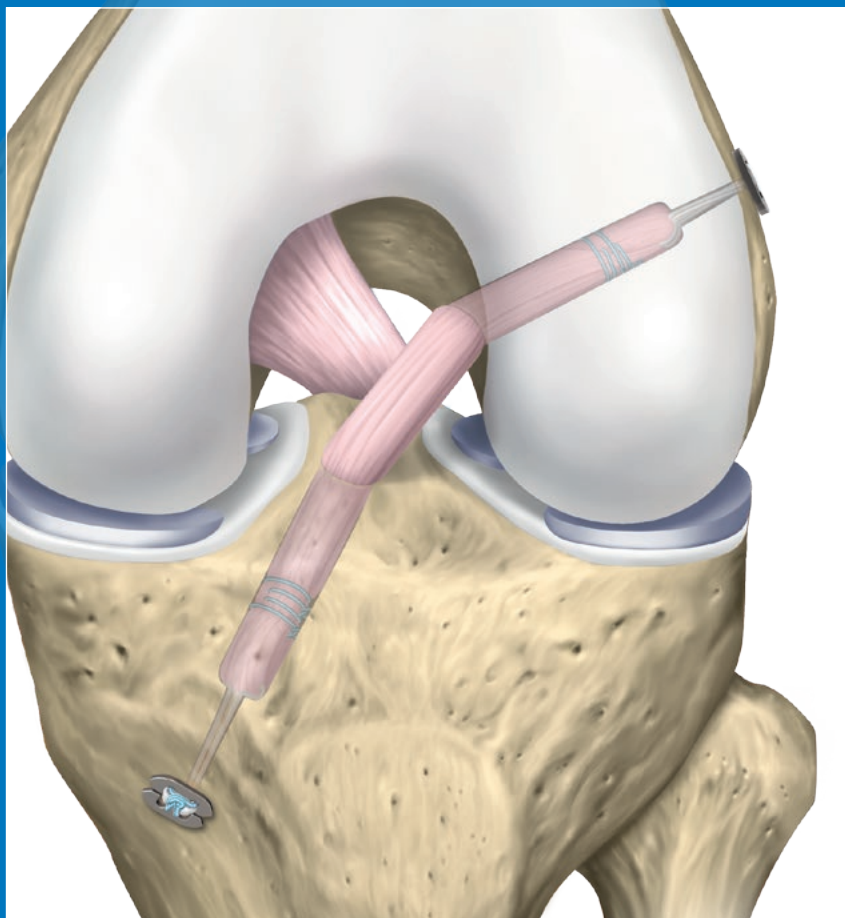


GraftLink® All-Inside ACL Reconstruction with ACL TightRope® RT and TightRope® ABS

Surgical Technique



GraftLink® Minimally Invasive ACL Reconstruction

The GraftLink technique provides the ultimate in anatomic, minimally invasive and reproducible ACL reconstruction.

■ Anatomic

Independent tibial and femoral socket preparation with FlipCutter II and/or low profile reamers facilitate unconstrained placement of the ACL graft.

■ Minimally Invasive

Single hamstring harvest decreases morbidity and loss of strength.* Socket preparation with the FlipCutter II limits soft tissue dissection and preserves bone and periosteum.

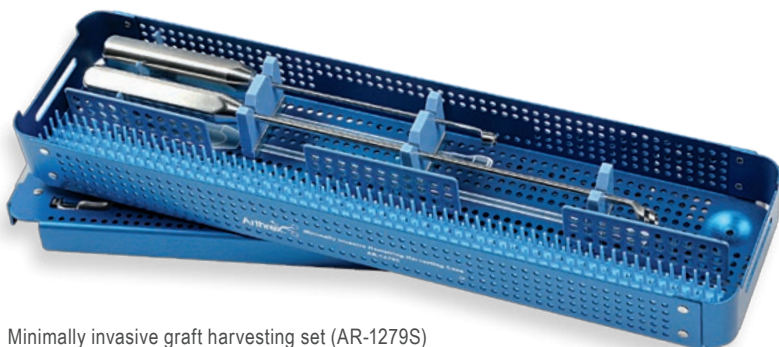
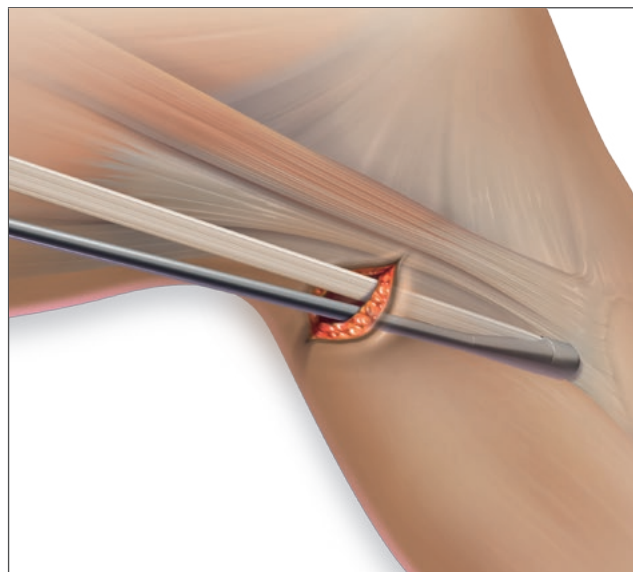
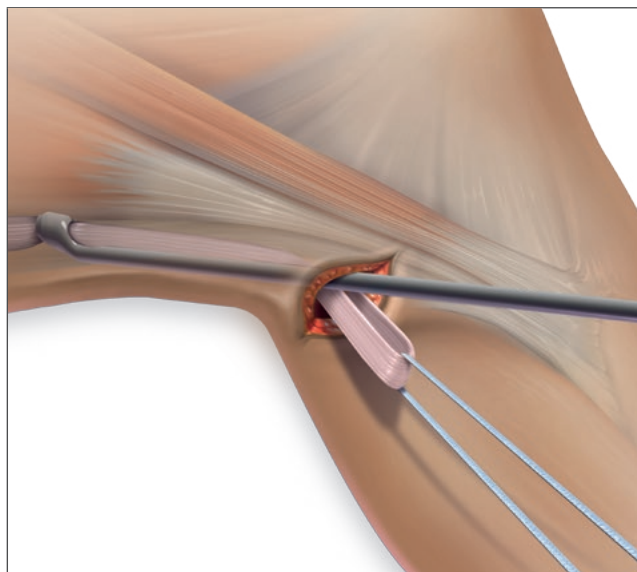
■ Reproducible

The GraftLink workstation simplifies graft preparation. The tapered graft and adjustable femoral and tibial ACL Tight-Rope buttons facilitate graft passing, fine-tuning of graft depth and graft tensioning from the femoral and tibial sides.

Semitendinosis Harvesting and GraftLink® Preparation

In most cases only the semitendinosus is needed to create the GraftLink construct. For a less invasive option, harvest the tendon using the minimally invasive hamstring harvest technique and instruments described in technique guide LT1-0124.

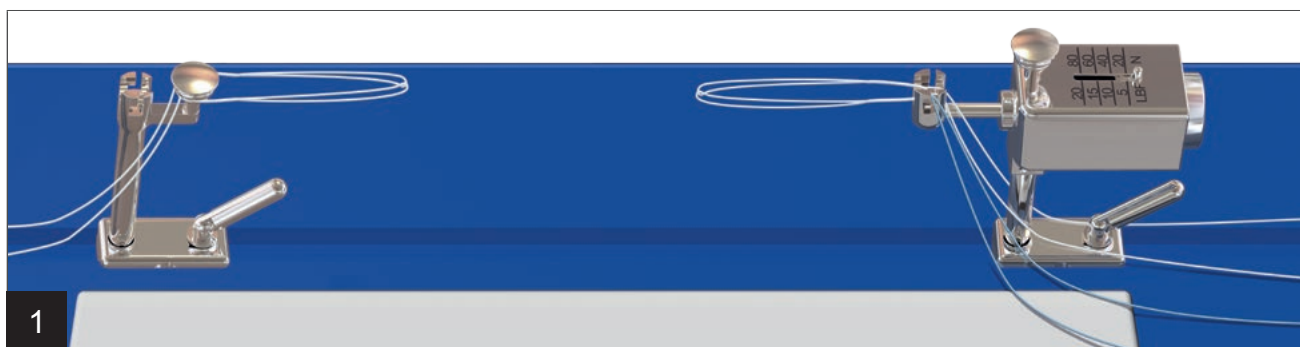
**Data on file*



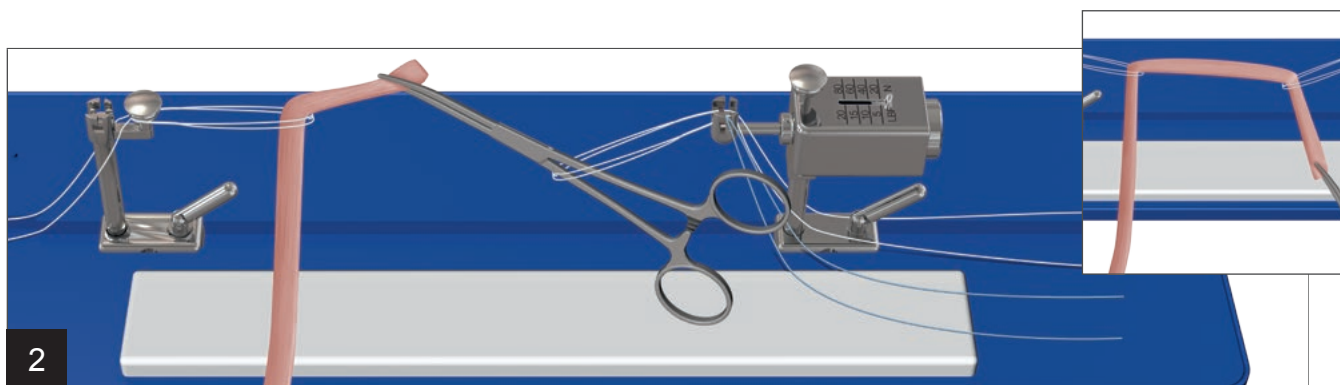
Minimally invasive graft harvesting set (AR-1279S)



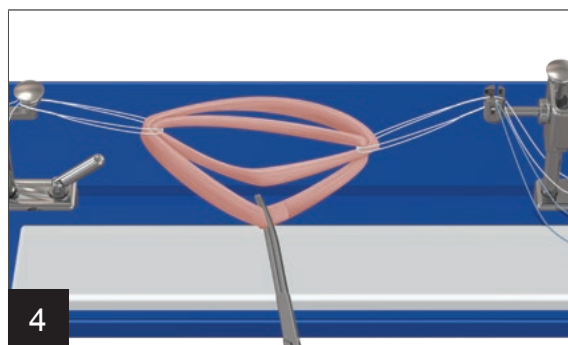
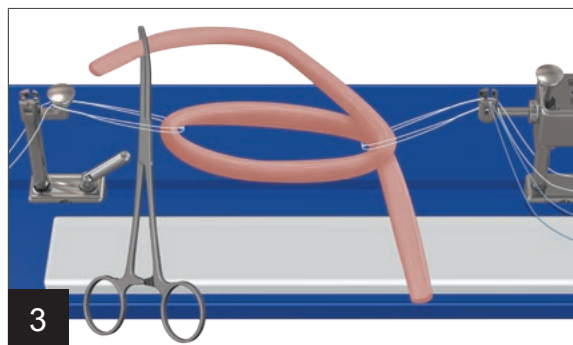
Graft Preparation



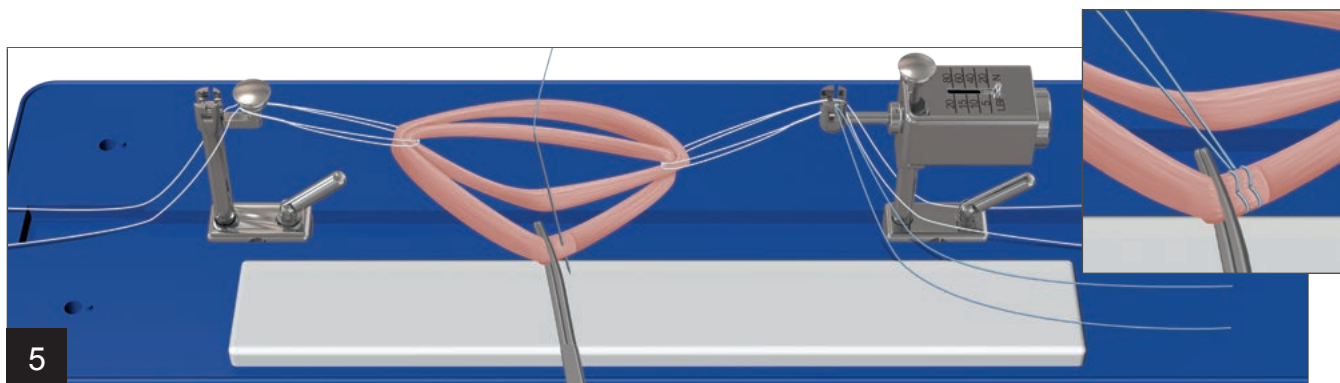
Place the ACL TightRope RT into the button holder on the GraftLink attachment with tensioner. This will be the femoral side. Place an ACL TightRope ABS loop into the post of the other GraftLink attachment. This will be the tibial side.



Pull one end of the graft through both of the TightRope loops leaving one "short end" and one "long end" (inset).

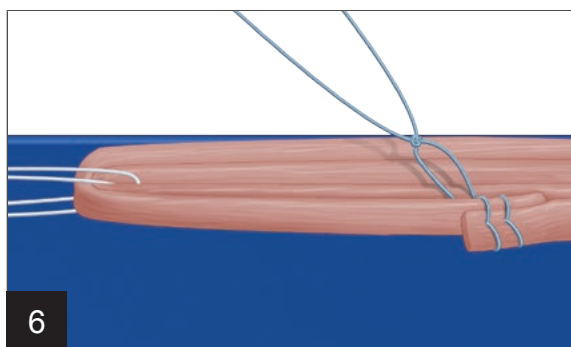


Pull the other "long end" of the graft through both TightRope loops in the opposite direction until both ends meet.

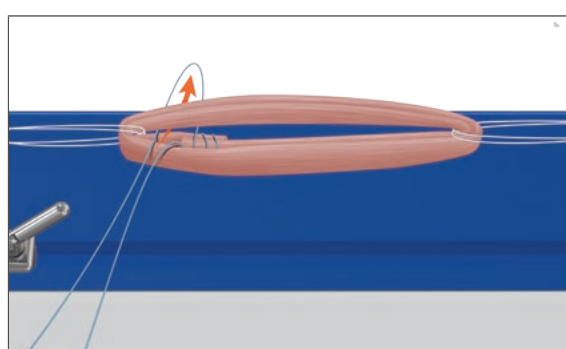
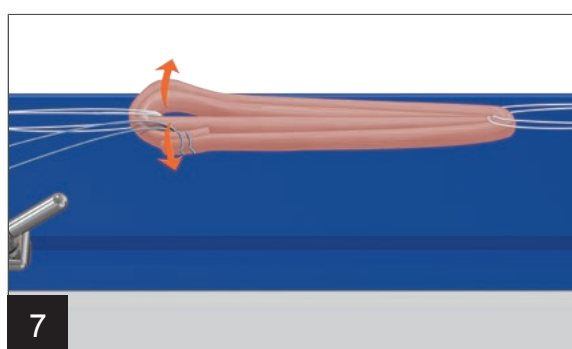
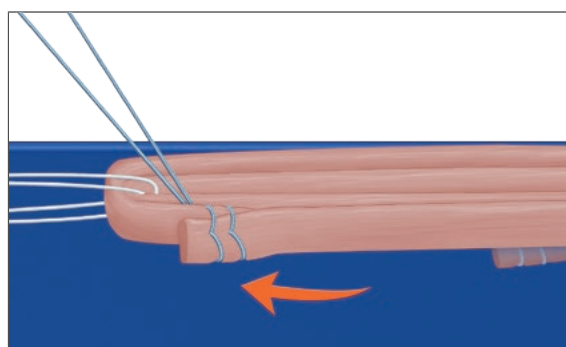


Stitch the ends of the graft together with a #2 FiberWire. This can be done by overlapping the ends or by suturing them end-to-end, depending on the length of the graft.

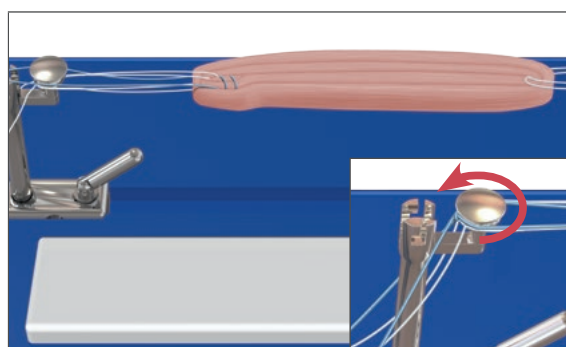
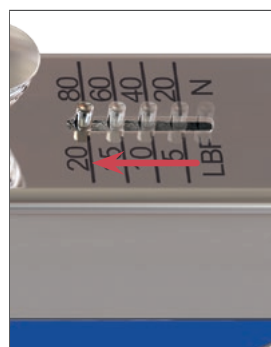
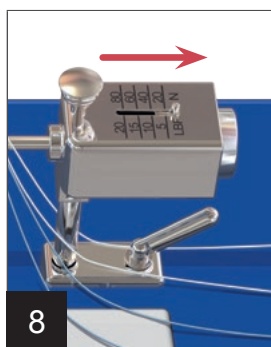
Graft Preparation



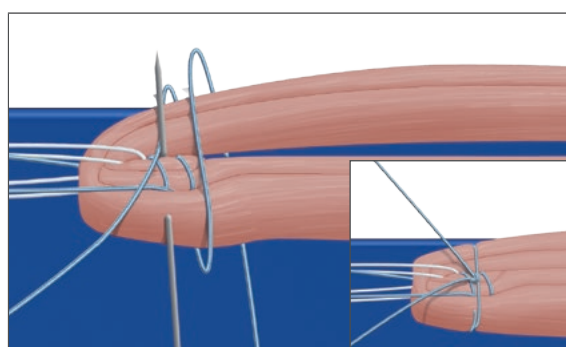
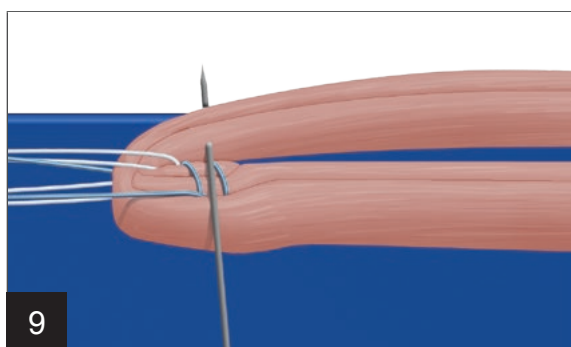
Tie the suture tails. Rotate the graft so that the sutured portion is near the tibial end.



Invert the graft strands so that the sutured tendon is moved to the inside of the construct. Pass one of the suture tails through the graft construct so it exits on the opposite side.

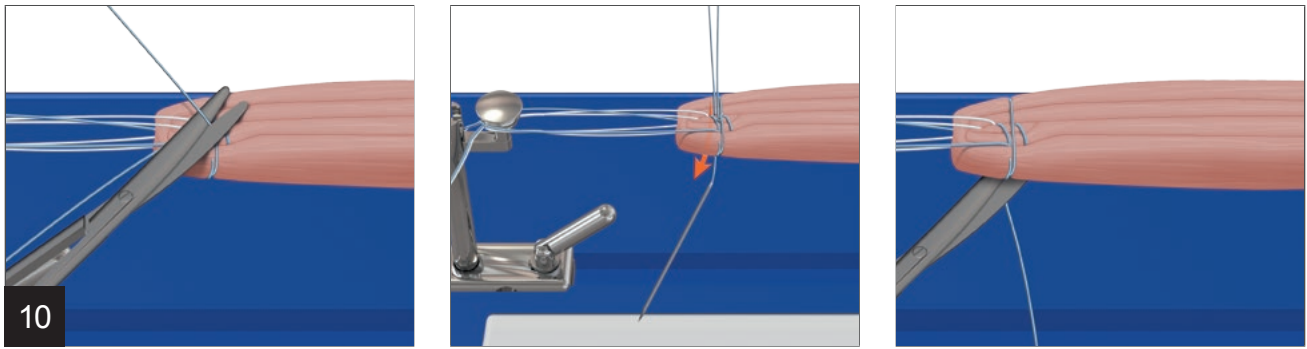


Once stitching is complete and the graft is positioned correctly, the graft prep attachments can be pulled apart to tension the graft before final stitching. Graft tension can be read off of the GraftLink attachment with the tensioner. Wrap the tails of the FiberWire suture around the attachment post 3-4 times until it is captured. These sutures can be used for backup fixation on the tibial side.

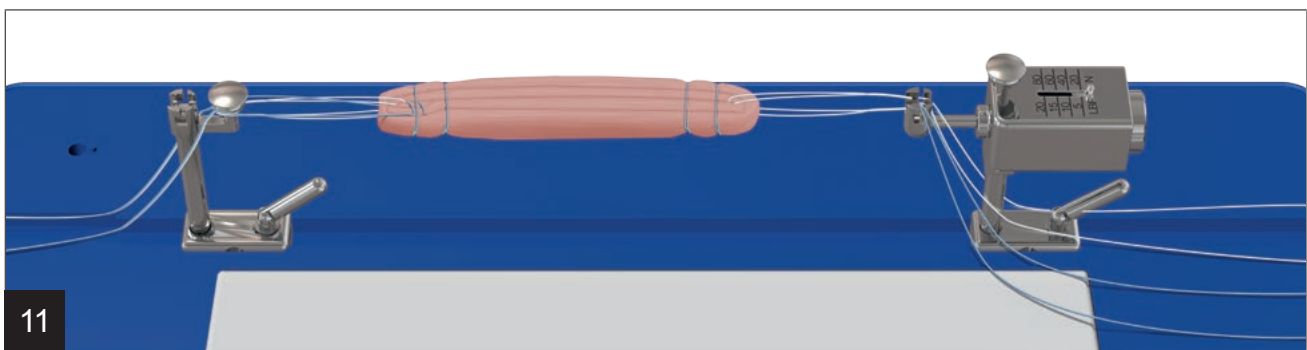


Using a #2 FiberWire on a straight needle, pass through one inner limb and one outer limb of the graft from inside/out. Wrap the suture around the graft and pass the needle through the other two limbs of the graft from outside/in. This will ensure that the knot is "buried" within the graft when tied.

Graft Preparation

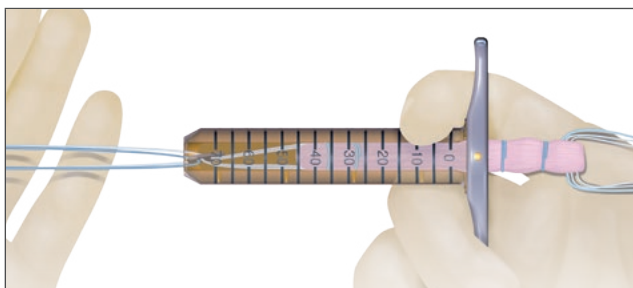


After tying a knot, cut off the suture tail without the needle. Pass the needled end back through the graft and pull until the knot buries inside of the tissue. This will reduce suture bulk and facilitate graft sizing and passage.



Repeat suturing once on the tibial end and twice on the femoral end for a total of four stitches. Additional tension can now be placed on the graft for conditioning.

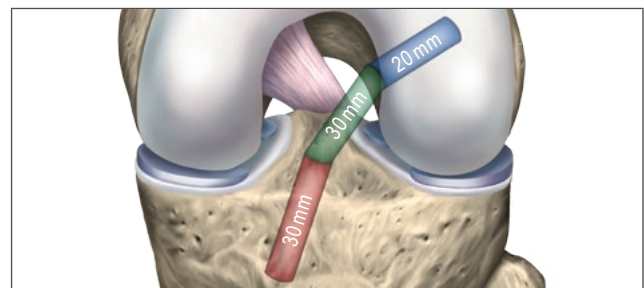
Graft Sizing



Arthrex graft tubes are ideal for sizing and compression of the GraftLink construct. These full-circumference, full-length clear tubes facilitate graft compression, sizing and preparation. The unique transparent tubes with an etched ruler allow visualization of the graft during diameter and length sizing. The funneled entrance and attachable handle ease the entry of grafts into the sizer, allowing compression of up to 2 mm. Small holes in the graft tubes allow hydration of the graft or injection of biologics along the entire length.



Socket Creation



The length from the end of the femoral socket to the end of the tibial socket should be at least 10 mm longer than the graft to ensure that the graft can be tensioned fully.

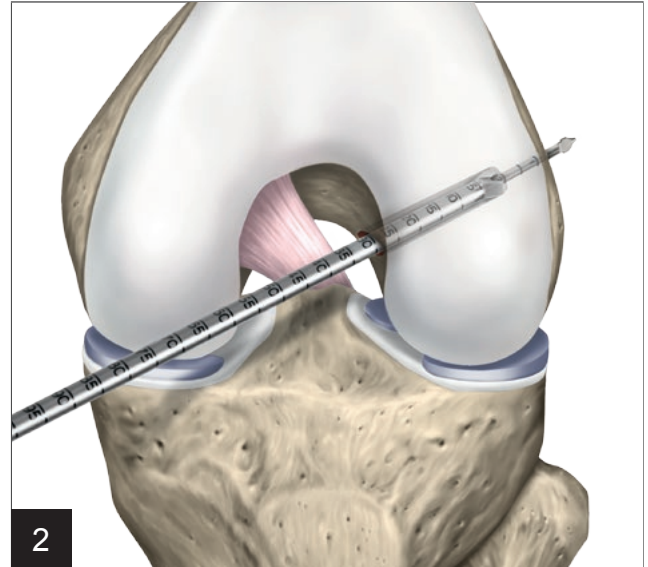
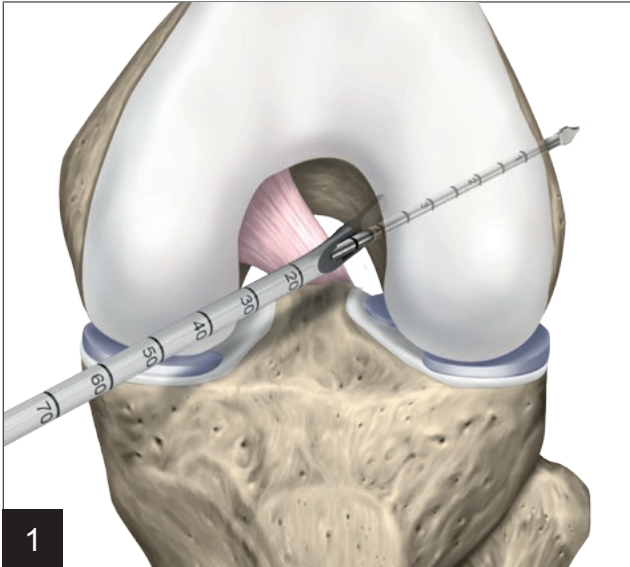
Example: 70 mm graft length

Assuming a maximum intraarticular length of 30 mm, there will be approximately 20 mm of graft in the femoral and tibial socket. Drill the femur 20 mm deep and the tibia approximately 30 mm deep to allow an extra 10 mm for tensioning.

Femoral Socket Preparation

The femoral socket should be created either through the medial portal or from outside / in, using a FlipCutter II.

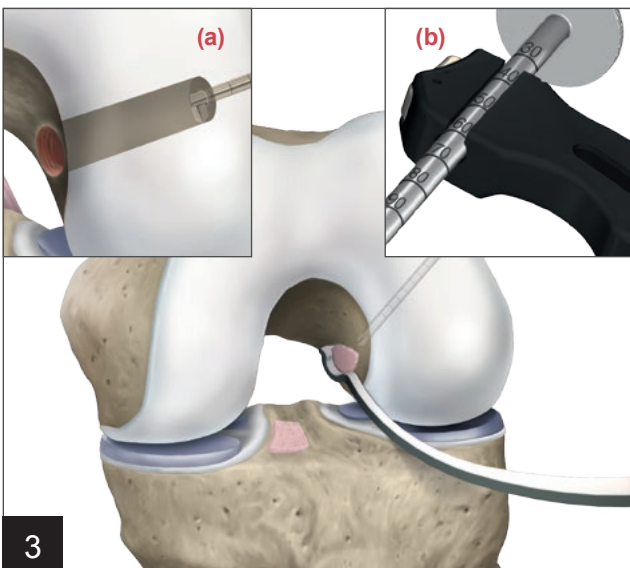
Medial Portal Option



For medial portal drilling, use the TightRope drill pin, transportal ACL guides and low profile reamers.

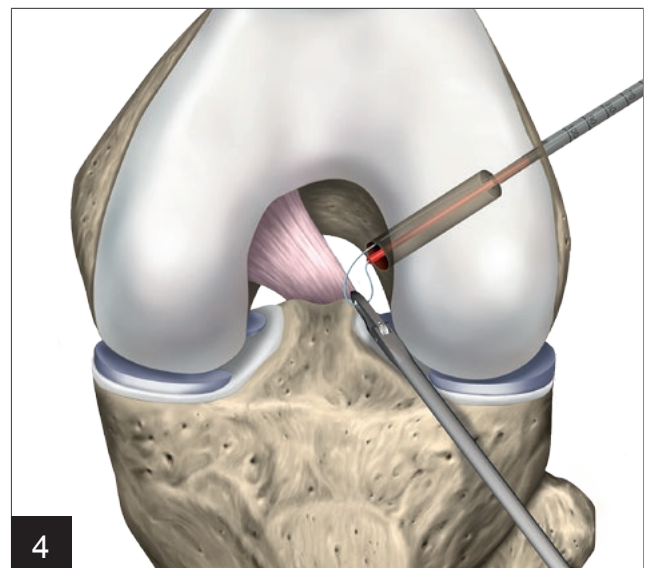
Note the intraosseous length from the TightRope drill pin. After socket drilling, pass a suture with the TightRope drill pin for later graft passing.

FlipCutter Option



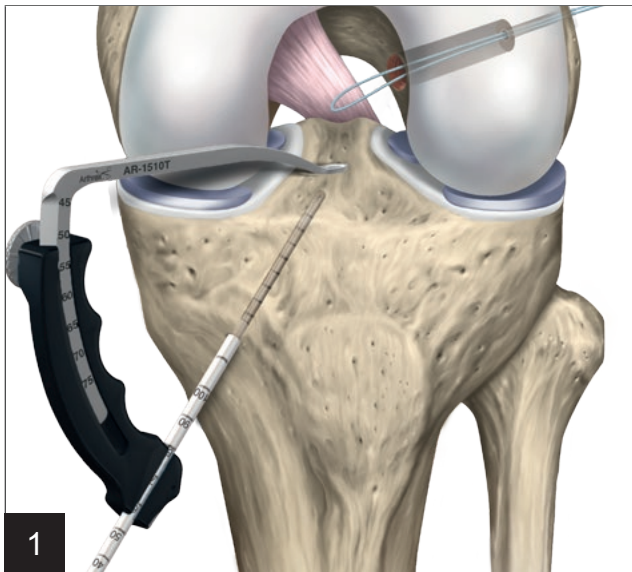
The FlipCutter may also be used to create the femoral socket (a).

Note the intraosseous length on the drill sleeve when pushed down to bone (b).

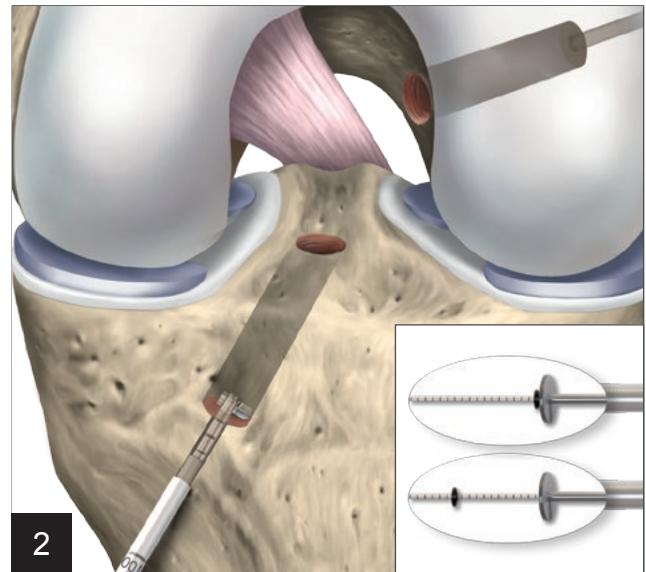


After “flipcutting”, pass a FiberStick suture through the stepped drill sleeve and dock for later graft passing.

Tibial Socket Preparation

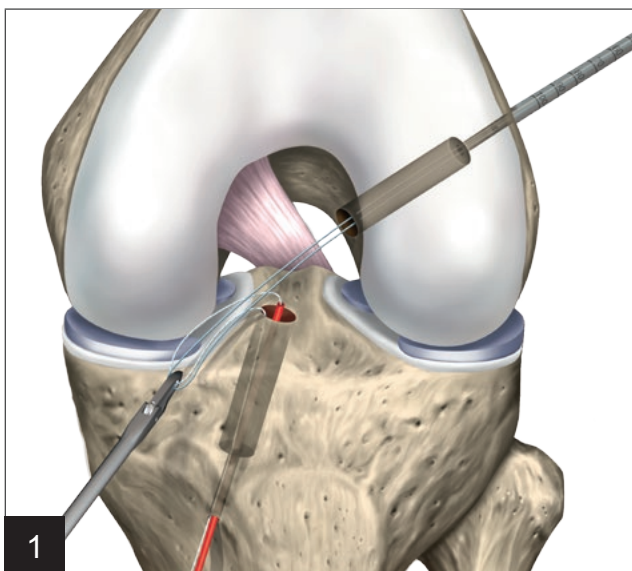


Drill the FlipCutter into the joint. Remove the marking hook.



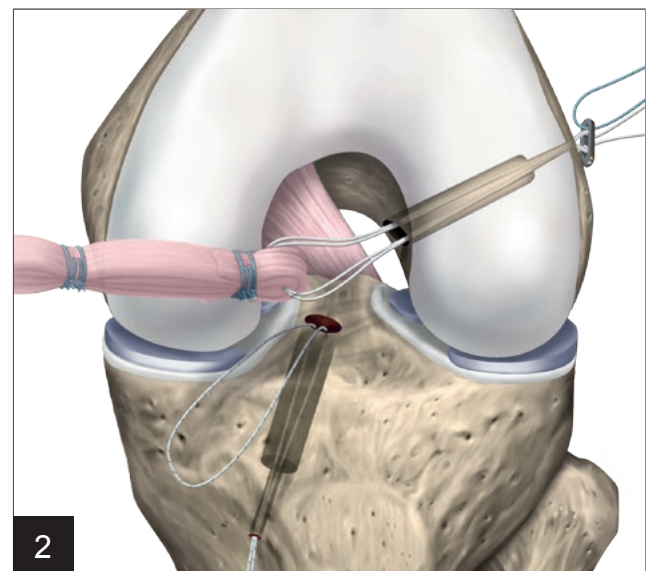
Flip the blade and lock into cutting position. Drill forward, with distal traction, to cut the socket. Use the rubber ring and 5mm markings on the FlipCutter to measure socket depth (inset).

Graft Passing



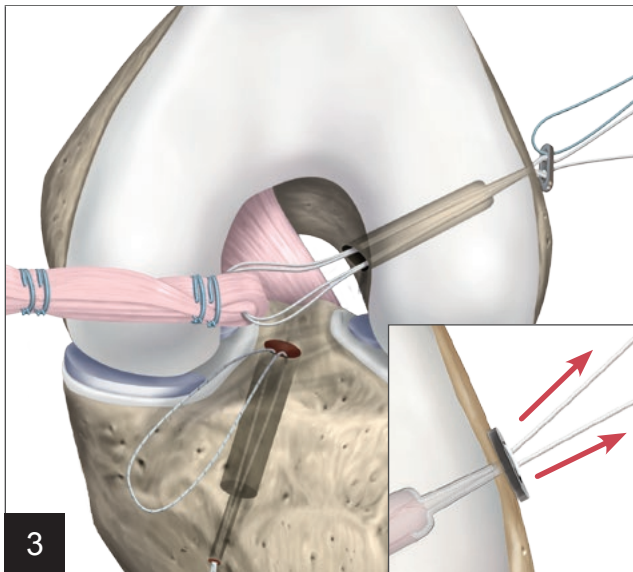
Straighten the FlipCutter blade and remove from the joint. Pass a TigerStick into the joint and retrieve both the tibial TigerStick and the femoral FiberStick out the medial portal together with an open suture retriever. Retrieving both sutures at the same time will help avoid tissue interposition that can complicate graft passing.

Note: A PassPort Button Cannula may also be used in the medial portal to prevent tangling.



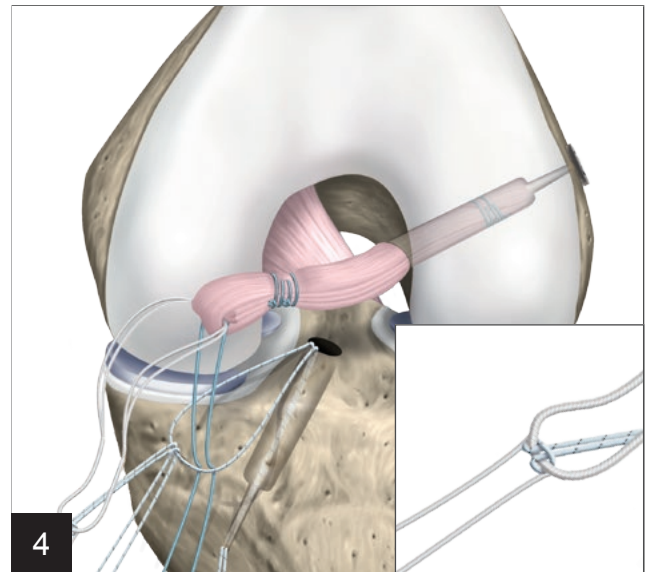
Pass the blue button suture and the white shortening strands through the femur. Remove slack from sutures and ensure equal tension. Clamp or hold both blue and white sutures together and pull them together to advance the button out of the femur. Use markings on the loop and arthroscopic visualization of the button to confirm exit from the femoral cortex. Pull back on the graft to confirm the button is seated.

Tibial Socket Preparation

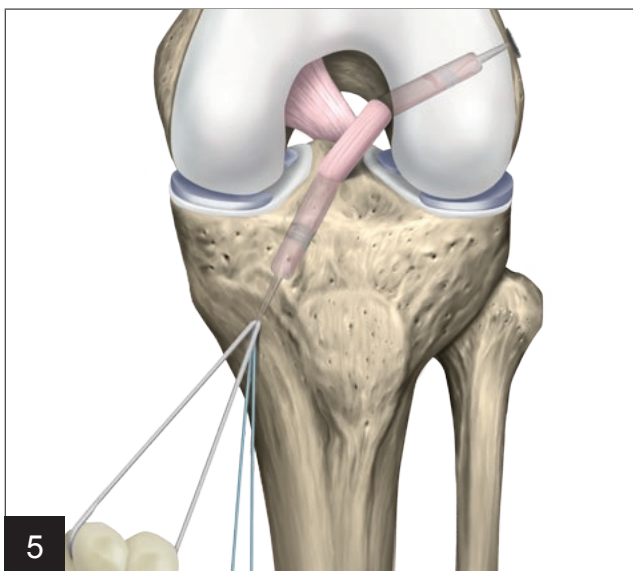


3 While holding slight tension on the graft, pull the shortening strands proximally, one at a time to advance the graft. Pull on each strand in 2 cm increments.

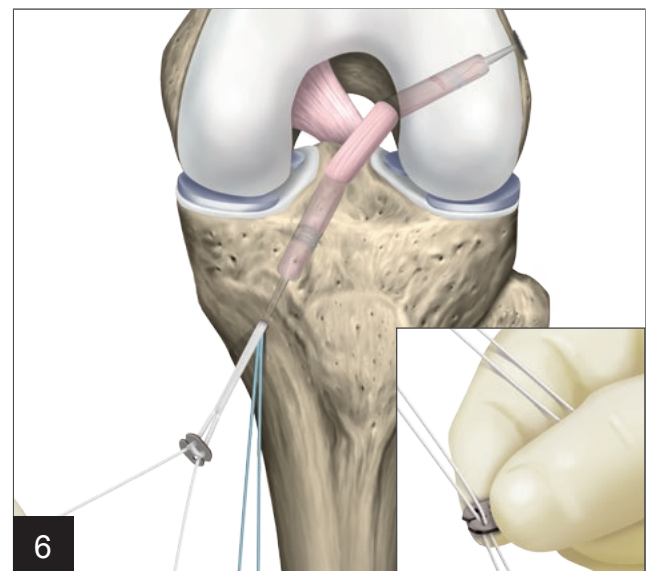
Note: The graft can be fully seated into the femur or left partially inserted until tibial passing is complete. The latter option allows fine-tuning of graft depth in each socket.



4 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.

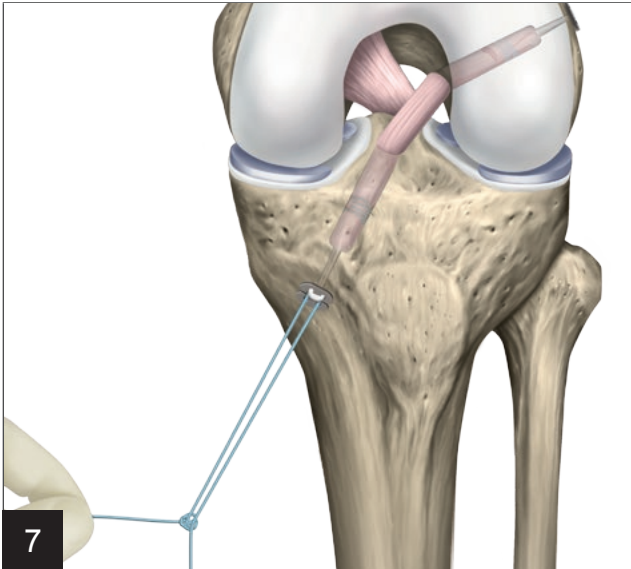


5 Advance the graft into the tibia by pulling on the inside of the ABS loop and whipstitch sutures.

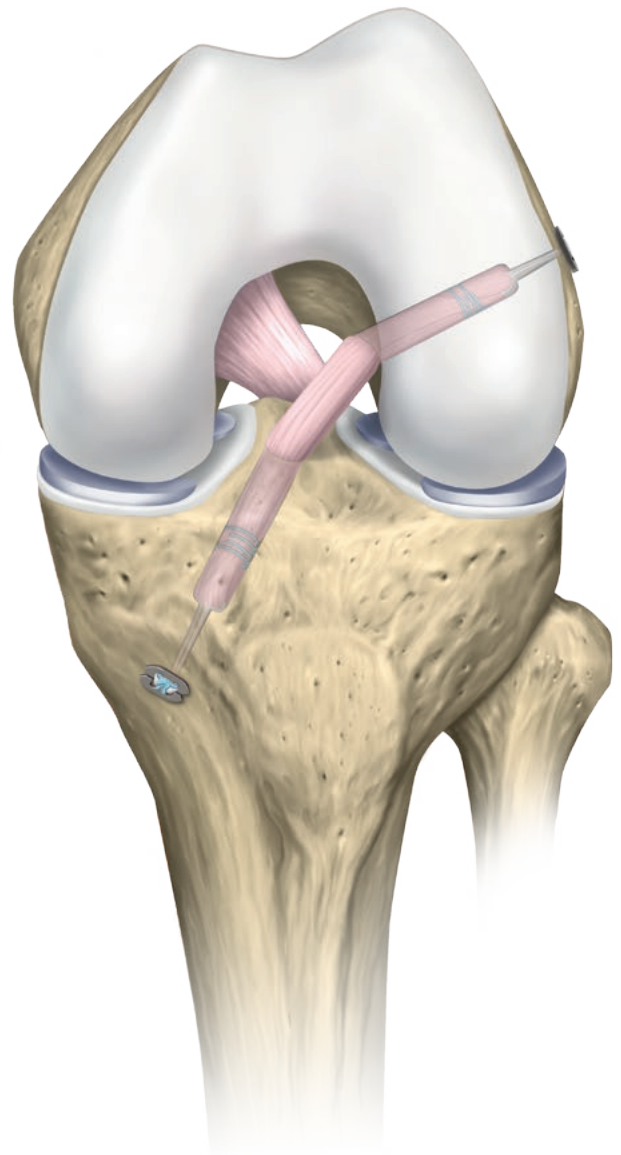


6 Load the TightRope ABS button onto the loop. Pull on the white shortening strands to advance the button to bone and tension graft.

Note: Ensure the button has a clear path to bone, so as to not entrap soft tissue under the button.



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



Ordering Information

Implants

Product Description	Item Number
ACL TightRope® RT	AR-1588RT
TightRope® ABS	AR-1588TN
TightRope® ABS button	AR-1588TB
ACL TightRope® convenience pack	AR-1588RTS
TightRope® ABS, button, round, Ø 14 mm	AR-1588TB-1

Instruments (For FlipCutter® Technique)

Product Description	Item Number
RetroConstruction™ drill guide set	AR-1510S
Footprint femoral ACL guide, right	AR-1510FR
Footprint femoral ACL guide, left	AR-1510FL
Short FlipCutter® II, 5 mm - 13 mm Diameter: 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13 mm	AR-1204AS-XX AR-1204AS-50 to AR-1204AS-130
FlipCutter® II, 6 mm - 13 mm Diameter: 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 13 mm	AR-1204AF-XX AR-1204AF-60 to AR-1204AF-130

Instruments (For Medial Portal Technique)

Product Description	Item Number
Transportal ACL guides (TPGs), 4 mm - 8 mm	AR-1800-04-08
Low profile reamer, 5 mm - 13 mm Diameter: 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13 mm	AR-14XXLP/AR-14XXLP-05 AR-1405LP to AR-1413LP
TightRope® drill pin, open	AR-1595T
TightRope® drill pin, closed	AR-1595TC

Accessories

Product Description	Item Number
Arthrex CoolCut™ calibrator, ablator, ACL reconstruction	AR-9802C
GraftLink® compression tubes	AR-1886-S
Suture retriever	AR-12540
Graft sizing block	AR-1886
Graft prep station base	AR-2950
GraftLink® prep attachment	AR-2951-1
GraftLink® prep attachment with tensioner	AR-2951-2
Suture cutter for ACL TightRope®	AR-4520

Suture

Product Description	Item Number
#2 FiberWire® braided polyblend suture, blue, 38" / 97 mm with DP straight needles	AR-7246
#0 FiberWire®, 38" / 97 mm (blue) w/tapered needle, 22.2 mm 1/2 circle	AR-7250
FiberStick™, #2 FiberWire®, 50" / 127 mm (blue) one end stiffened	AR-7209
TigerStick®, #2 TigerWire®, 50" / 127 mm (white / black) one end stiffened	AR-7209T
#2 FiberLoop® w/straight needle, 20" / 51 mm (blue), 76 mm needle w/7 mm loop	AR-7234
#2 TigerLoop™ w/straight needle, 20" / 51 mm w/TigerWire® (white / green), 76 mm needle w/7 mm loop	AR-7234T

Ordering Information

GraftPro™ Graft Preparation System (AR-2950DS) Includes

Product Description	Item Number
GraftPro™ board	AR-2950D
GraftPro™ posts	AR-2950AP
Cutting board clamp	AR-2950CB
GraftPro™ case	AR-2950DC
GraftPro™ GraftLink® tensioner	AR-2950GT
GraftPro™ GraftLink® holder	AR-2950GH
GraftPro™ button holder	AR-2950BH
GraftPro™ soft tissue clamp	AR-2950SC

Graft Tube Set (AR-1886-S) Includes

Product Description	Item Number
Graft tube flange	AR-1886-001
Graft tube tray	AR-1886C-01
Graft tube, 5 mm - 13 mm Diameter: 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 11.5, 12, 12.5, 13 mm	AR-1886- XXX AR-1886-050 to AR-1886-130

Please note that not all products advertised in this brochure/surgical technique guide may be available in all countries. Please ask the Arthrex Customer Service or your local Arthrex Representative before ordering if the desired product is available for delivery. Thank you very much.



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.

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