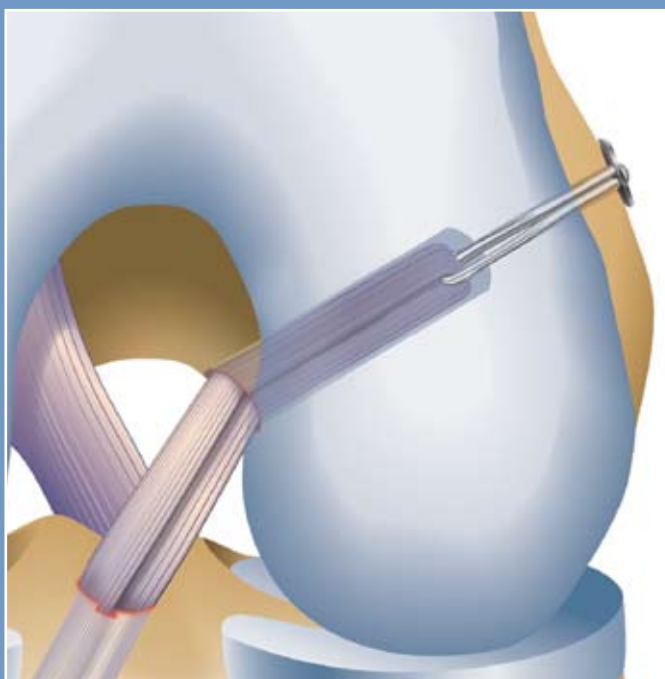




RetroButton™ for Femoral ACL  
Reconstruction and RetroConstruction™

Surgical Technique



# RetroButton ACL Reconstruction



## STRONGER and SIMPLER ACL GRAFT FIXATION

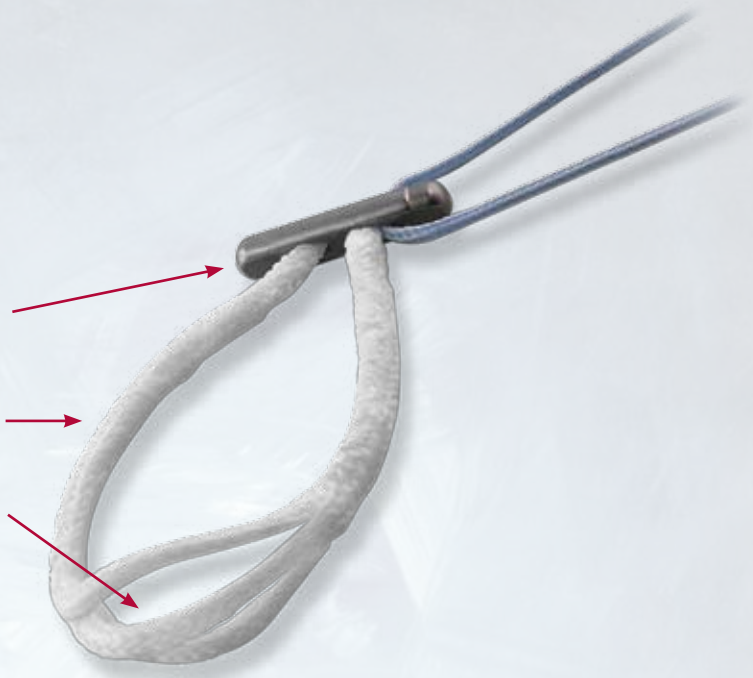
The Arthrex RetroButton passes through a 3 mm guide pin hole to preserve cortical bone for enhanced cortical bone fixation and eliminates the need for overdrilling with larger diameter cannulated drills.

The sturdy, titanium button in two length options has a continuous ultra-high molecular weight polyethylene (UHMWPE) loop with wider surface profile to provide superior strength, stiffness and load distribution.

The RetroButton, in conjunction with retrodrilling or transtibial femoral socket drilling techniques, provides the meticulous surgeon with every anatomical tunnel placement option.

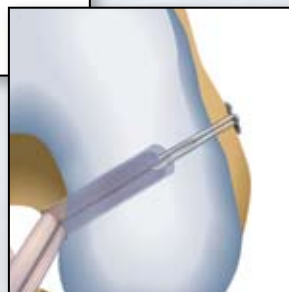
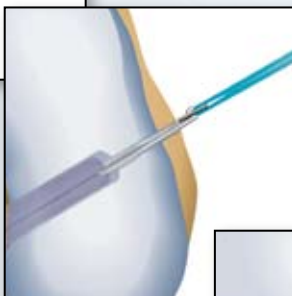
### STRONGER

- 12 or 15 mm titanium button fits through 3 mm hole for greater cortical contact
- Continuous UHMWPE loop available in 10 different lengths
- Wide, atraumatic loop profile protects graft integrity



### SIMPLER

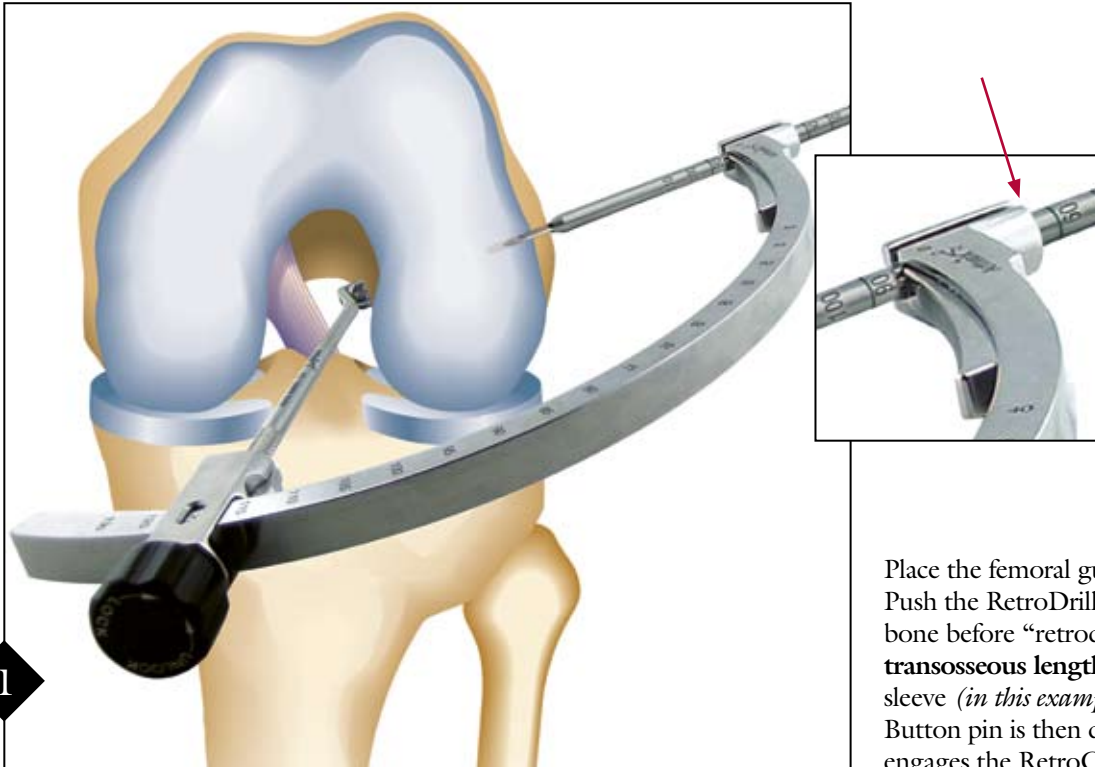
- No overdrilling
- Simplified measuring technique with RetroConstruction and standard transtibial drilling
- RetroButton is passed through a 3 mm guide pin hole, reducing steps and preserving bone
- Implant is preassembled and ready to use out of the package
- Self-flipping button design



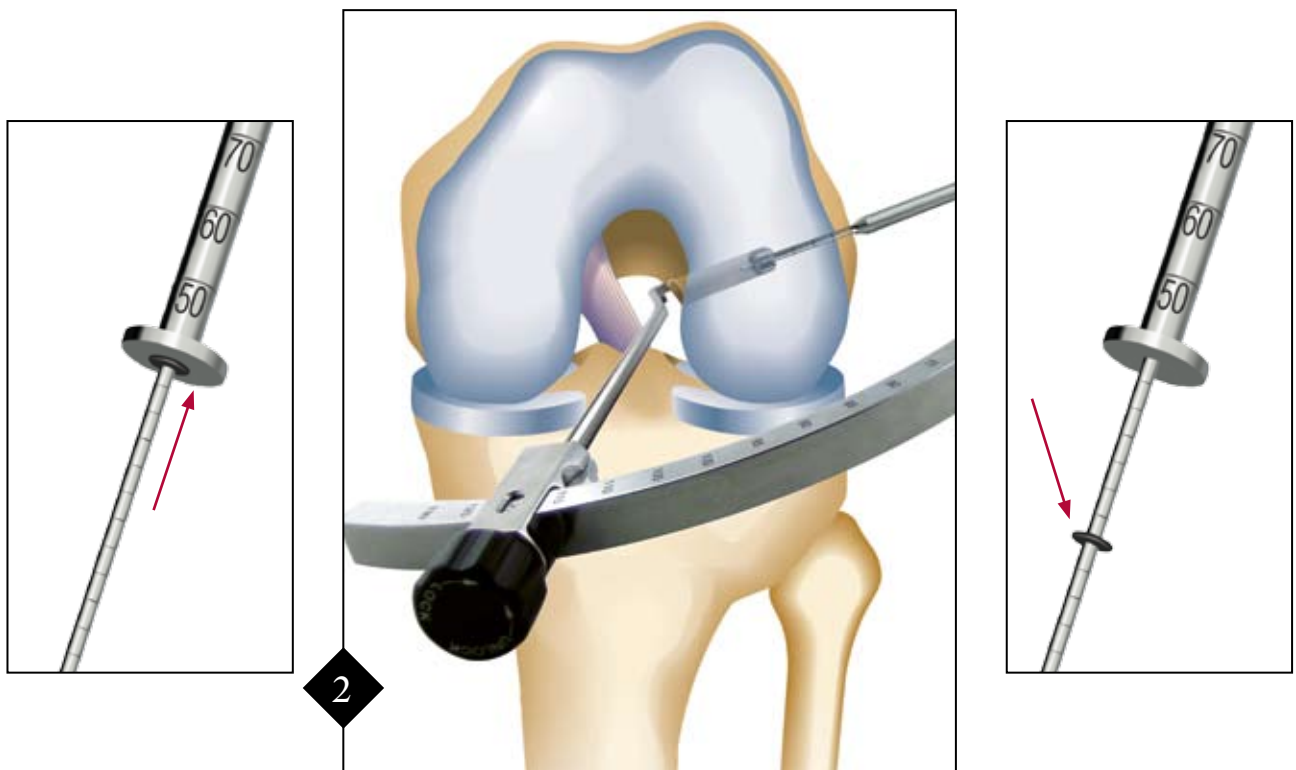
# FEMORAL SOCKET PREPARATION and MEASUREMENT

## OPTION ONE: RetroDrill™

The RetroDrill allows unmatched flexibility in femoral socket preparation for ligament reconstruction and the RetroButton facilitates minimally invasive fixation in sockets that cannot be reached by straight screwdrivers or crosspin guides.



Place the femoral guide into the knee. Push the RetroDrill Guide Sleeve to bone before “retrodrilling” and note the **transosseous length** on the RetroDrill sleeve (*in this example, 65 mm*). The Retro-Button pin is then drilled into the joint and engages the RetroCutter™.

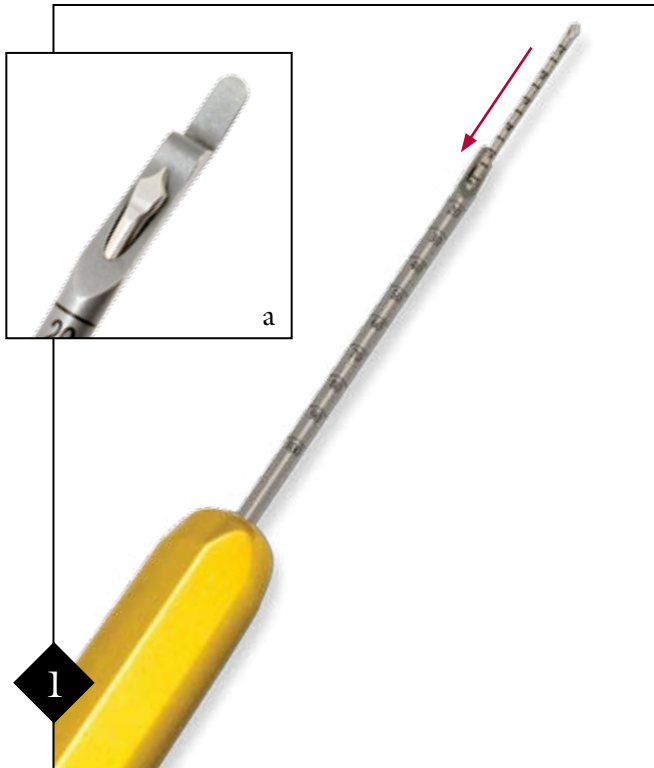


Set the rubber ring to the end of the guide sleeve. The socket is created by drilling on forward and pulling the drill back, away from the bone. **Socket length** is read by counting the 5 mm laser line marks between the guide sleeve and the rubber ring (*in this example, 35 mm*).

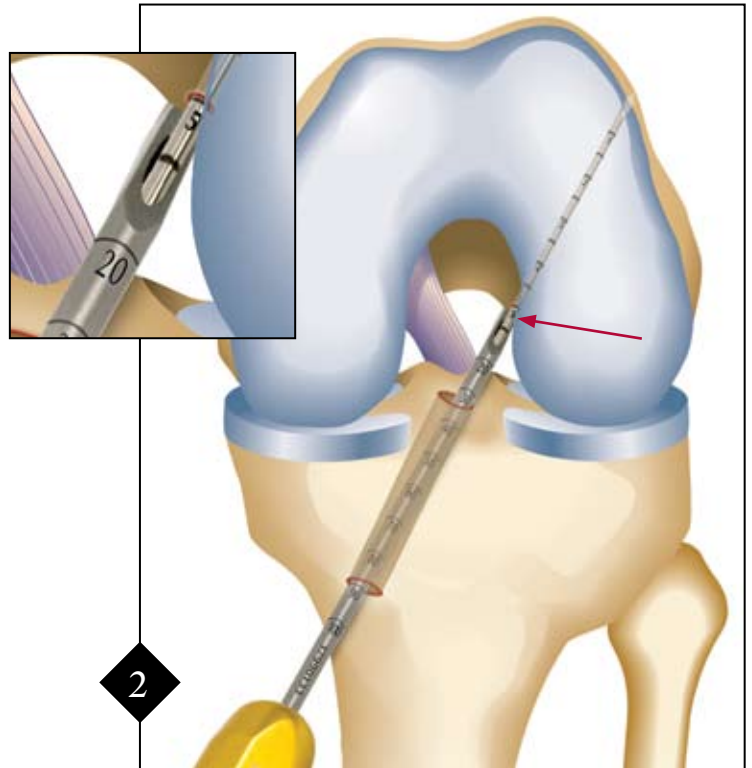


## OPTION TWO: *Transtibial Femoral Preparation*

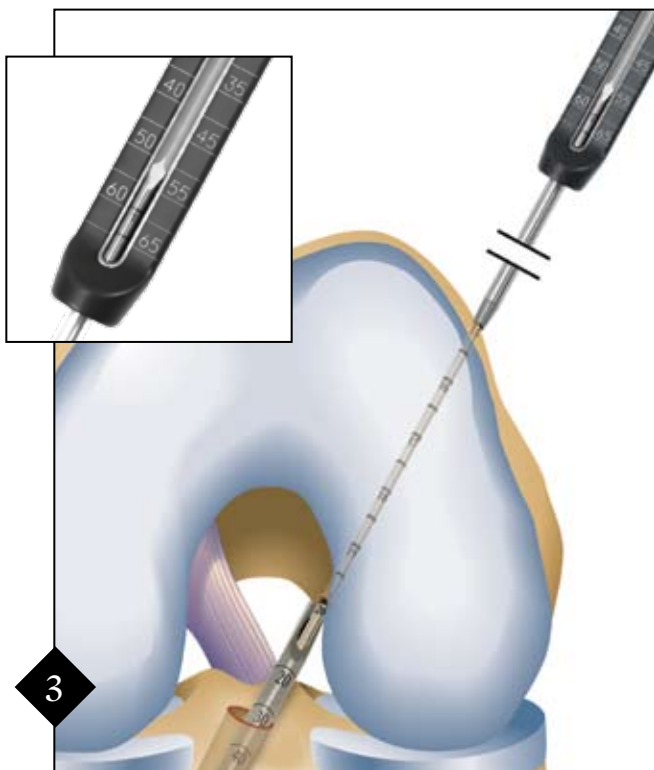
The RetroButton technique for transtibial drilling simplifies measuring and eliminates overdrilling of the cortex.



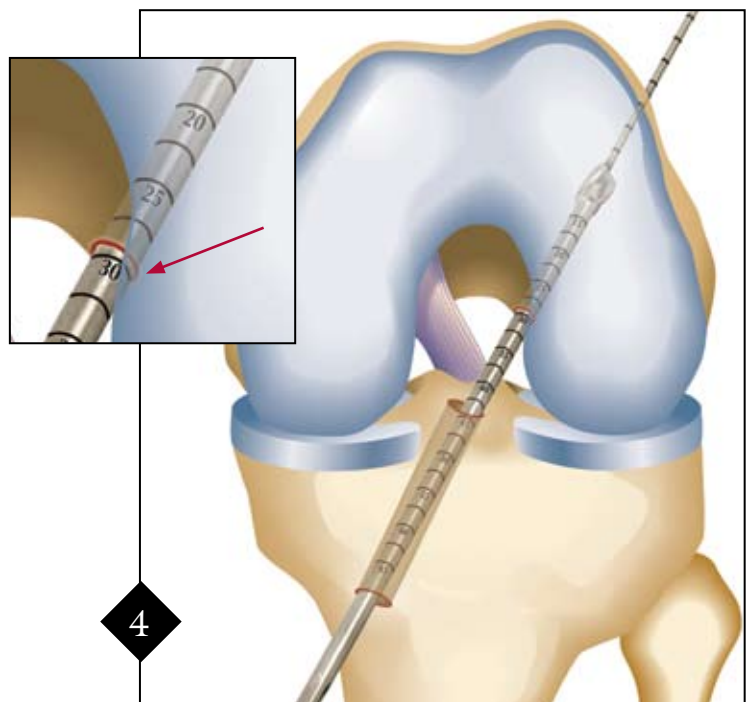
Preload the RetroButton pin into the Transtibial Femoral ACL Drill Guide (TTG) by placing the end of the pin through the cannulated tip (a). The RetroButton pin has a spade tip that should rest just above the cannulation of the TTG.



The TTG is inserted into the knee through the tibial tunnel and the tip is placed in the “over the top” position. (Alternatively the TTG may be placed through the anteromedial portal). The RetroButton pin is advanced into the femur until the lateral cortex is felt, the drill is then stopped. The intraosseous length is given by reading the measurement on the RetroButton pin closest to the femoral notch. In this case, 5 or 50 mm.



Alternatively, the pin is drilled to the 20 mm mark and the long RetroButton Depth Guide is placed over the tip of the RetroButton pin and advanced to bone. **Intraosseous length** is read where the tip of the pin ends on the depth guide, in this case, 50 mm.



The Cannulated Headed Reamer is then placed over the RetroButton pin and the femoral socket is drilled to the desired length. In this case, 30 mm.

## IMPLANT SIZING

RetroButtons are available in 12 mm and 15 mm titanium button lengths and loop sizes from 15 mm to 60 mm in 5 mm increments. Use the following formula to choose the appropriate length of loop.

### *For 12 mm titanium buttons:*

Transosseous length - socket length + 10 = RetroButton loop length

### *For 15 mm titanium buttons:*

Transosseous length - socket length + 12 = RetroButton loop length

### *Example: for 12 mm titanium button:*

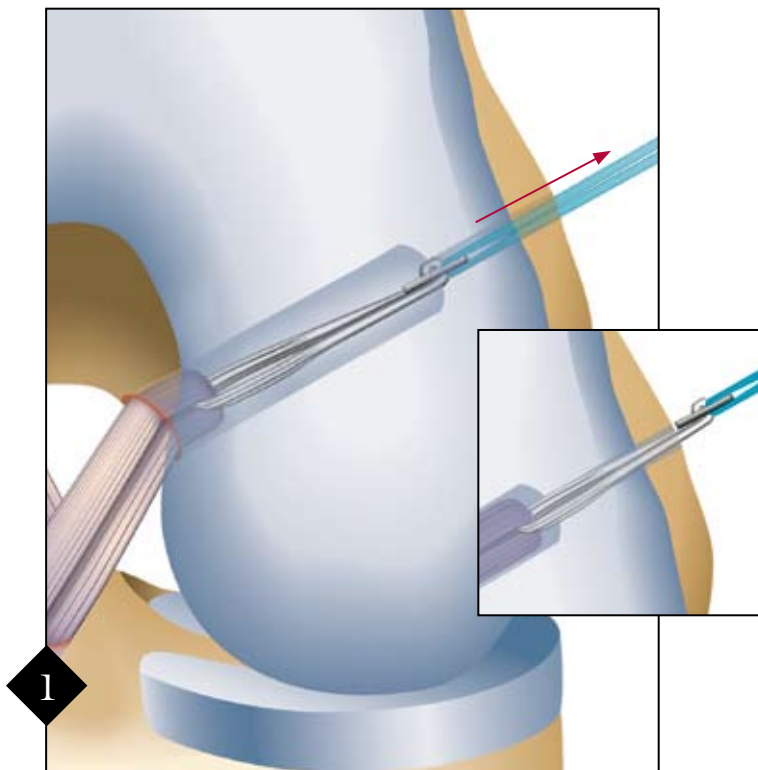
Transosseous length 50 mm - socket length 30 mm + 10 = 30 mm loop length

## GRAFT PREPARATION

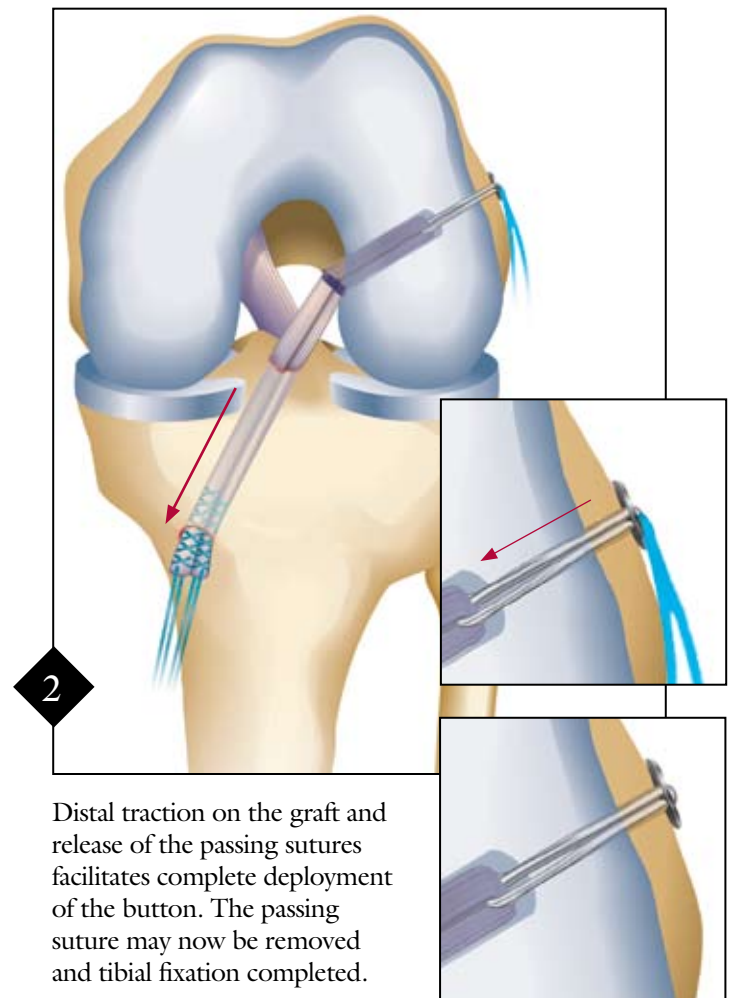
The graft is folded in half over the RetroButton loop and tension is applied. A sterile marker is used to draw a line on the graft a distance that equals the femoral socket from the looped end of the graft. This will be used to indicate when the button has exited the femoral cortex.



## GRAFT PASSING FEMORAL FIXATION



Passing sutures are pulled and the graft is passed into the femoral socket. When the line on the graft reaches the orifice of the femoral socket, the button will exit the femoral cortex and begin to flip horizontally.



Distal traction on the graft and release of the passing sutures facilitates complete deployment of the button. The passing suture may now be removed and tibial fixation completed.

## Ordering Information

### 12 mm titanium RetroButtons:

RetroButton, 15 mm loop	AR-1588-15
RetroButton, 20 mm loop	AR-1588-20
RetroButton, 25 mm loop	AR-1588-25
RetroButton, 30 mm loop	AR-1588-30
RetroButton, 35 mm loop	AR-1588-35
RetroButton, 40 mm loop	AR-1588-40
RetroButton, 45 mm loop	AR-1588-45
RetroButton, 50 mm loop	AR-1588-50
RetroButton, 55 mm loop	AR-1588-55
RetroButton, 60 mm loop	AR-1588-60

### 15 mm titanium RetroButtons:

RetroButton, long, 15 mm loop	AR-1589-15
RetroButton, long, 20 mm loop	AR-1589-20
RetroButton, long, 25 mm loop	AR-1589-25
RetroButton, long, 30 mm loop	AR-1589-30
RetroButton, long, 35 mm loop	AR-1589-35
RetroButton, long, 40 mm loop	AR-1589-40
RetroButton, long, 45 mm loop	AR-1589-45
RetroButton, long, 50 mm loop	AR-1589-50
RetroButton, long, 55 mm loop	AR-1589-55
RetroButton, long, 60 mm loop	AR-1589-60

### Accessories:

<b>RetroButton Drill Pin, 3 mm (required for transtibial technique)</b>	<b>AR-1590</b>
<b>RetroButton Depth Guide, long (required for transtibial technique)</b>	<b>AR-1270</b>
Transtibial Femoral ACL Drill Guide (TTG), 4 mm, for 6 and 7 mm drill holes, purple	AR-1806
Transtibial Femoral ACL Drill Guide (TTG), 5 mm, for 7 and 8 mm drill holes, red	AR-1803
Transtibial Femoral ACL Drill Guide (TTG), 6 mm, for 8 and 9 mm drill holes, green	AR-1804
Transtibial Femoral ACL Drill Guide (TTG), 7 mm, for 10 and 11 mm drill holes, gold	AR-1801
Transtibial Femoral ACL Drill Guide (TTG), 8 mm, for 12 and 13 mm drill holes, blue	AR-1805
Cannulated Headed Reamer, 7 mm	AR-1407
Cannulated Headed Reamer, 7.5 mm	AR-1407.5
Cannulated Headed Reamer, 8 mm	AR-1408
Cannulated Headed Reamer, 8.5 mm	AR-1408.5
Cannulated Headed Reamer, 9 mm	AR-1409
Cannulated Headed Reamer, 9.5 mm	AR-1409.5
Cannulated Headed Reamer, 10 mm	AR-1410
Cannulated Headed Reamer, 10.5 mm	AR-1410.5

### RetroDrill Guide Set (AR-1866RS):

Tibial ACL Guide for RetroConstruction, 45°	AR-1866R-45
Tibial ACL Guide for RetroConstruction, 50°	AR-1866R-50
Tibial ACL Guide for RetroConstruction, 55°	AR-1866R-55
Tibial PCL Guide Marking Hook for RetroConstruction, 60°	AR-1880R
Femoral ACL Guide for RetroConstruction, 120°	AR-1888R
Femoral ACL Guide for RetroConstruction, 120°, 6 mm offset tip, 120°	AR-1888RH
Femoral ACL Guide for RetroConstruction, 90°	AR-1888RP
Femoral PCL Guide for RetroConstruction, 80°	AR-1848R
RetroDrill Guide Sleeve	AR-1876R
Long Adapteur Drill Guide C-Ring	AR-1875L
Jacob's Chuck Handle	AR-1415
Chuck Key	AR-8241
RetroDrill Guide Set Instrument Case, autoclavable	AR-1866RC
Femoral ACL Guide for RetroConstruction, 120°, 5 mm offset tip, 120°	AR-1888RH-05
Femoral ACL Guide for RetroConstruction, 120°, 4 mm offset tip, 120°	AR-1888RH-04

### RetroDrill Disposables:

RetroCutter, 6 mm	AR-1204R-06S
RetroCutter, 6.5 mm	AR-1204R-065S
RetroCutter, 7 mm	AR-1204R-07S
RetroCutter, 7.5 mm	AR-1204R-075S
RetroCutter, 8 mm	AR-1204R-08S
RetroCutter, 8.5 mm	AR-1204R-085S
RetroCutter, 9 mm	AR-1204R-09S
RetroCutter, 9.5 mm	AR-1204R-095S
RetroCutter, 10 mm	AR-1204R-10S
RetroCutter, 10.5 mm	AR-1204R-105S
RetroCutter, 11 mm	AR-1204R-11S
RetroCutter, 12 mm	AR-1204R-12S
RetroDrill Guide Pin, 3 mm, cannulated (for RetroCutters)	AR-1250RP



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*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.*

U.S. PATENT NOS. 5,350,383; 6,716,234 and PATENT PENDING

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