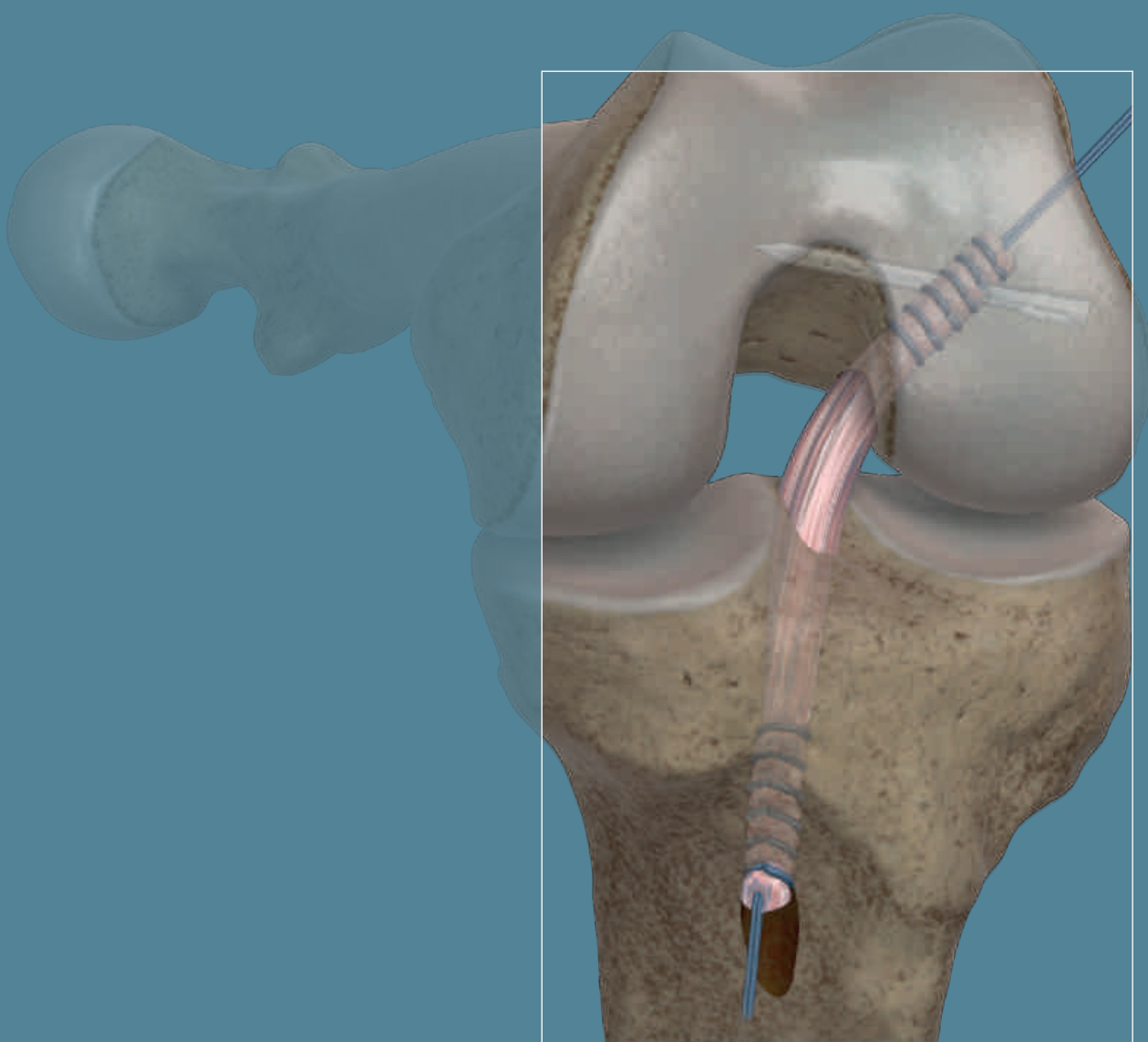




ACL Reconstruction with Bio-TransFix® T3

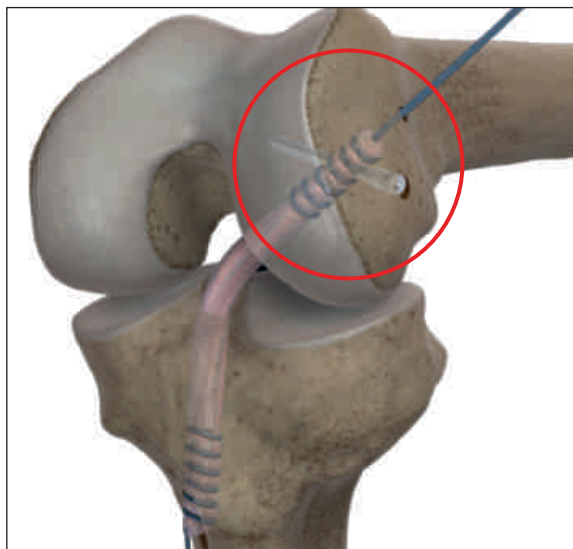
Surgical Technique



ACL Reconstruction with Bio-TransFix T3

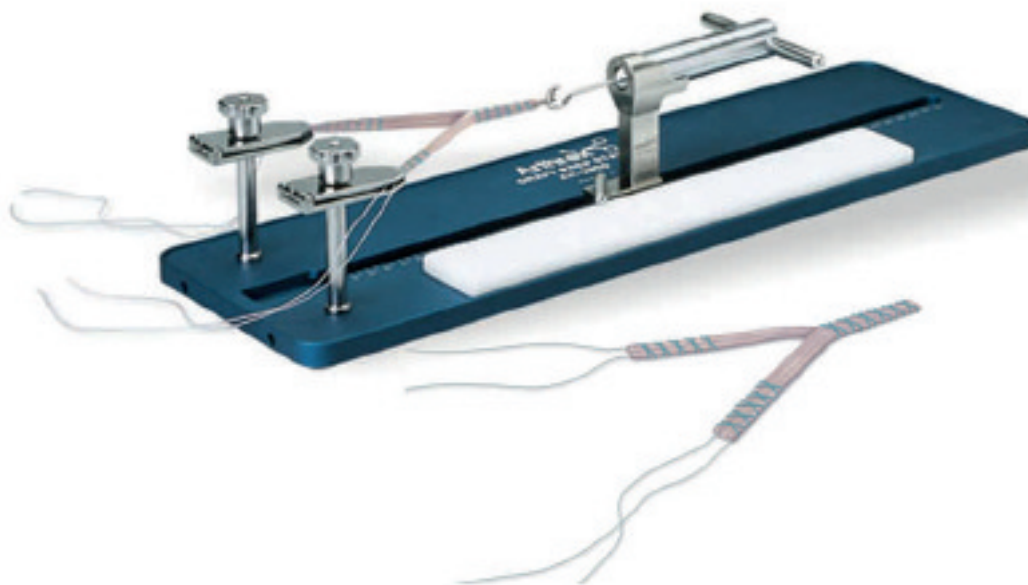
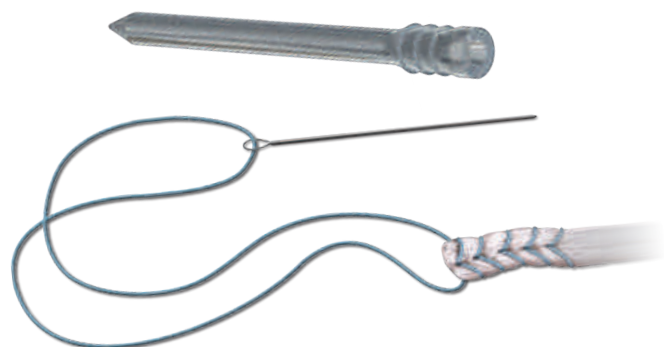
## Introducing the Bio-TransFix T3

The Bio-TransFix T3 builds on ACL Reconstruction with suspensory cross pin fixation. The Bio-TransFix T3 is an extruded Bio Pin with 3.5 mm shaft and 5 mm anchor diameter. This non cannulated absorbable Bio Pin guarantees extended cortical suspension in combination with aperture tunnel compression of the graft.



### Features and Benefits:

- Material of extruded PLLA for extended shear strength
- Suspensory anchor of 5 mm diameter with lamellar structure
- Available in 40 mm and 50 mm length
- Instruments available for anteromedial portal technique as well as for transtibial technique



- Semitendinosus and gracilis tendon autografts or tibialis tendon allografts are mounted on the Graft Prep Station. The tendons are placed around the adjustable post and the free ends are secured in dual stationary clamps.
- Whipstitch the distal graft limbs separately with #2 FiberLoop. The two proximal graft limbs have to be whipstitched together for a length of 25-30 mm. A spring tensioning device may be added to the prep station for graft pretensioning if desired.

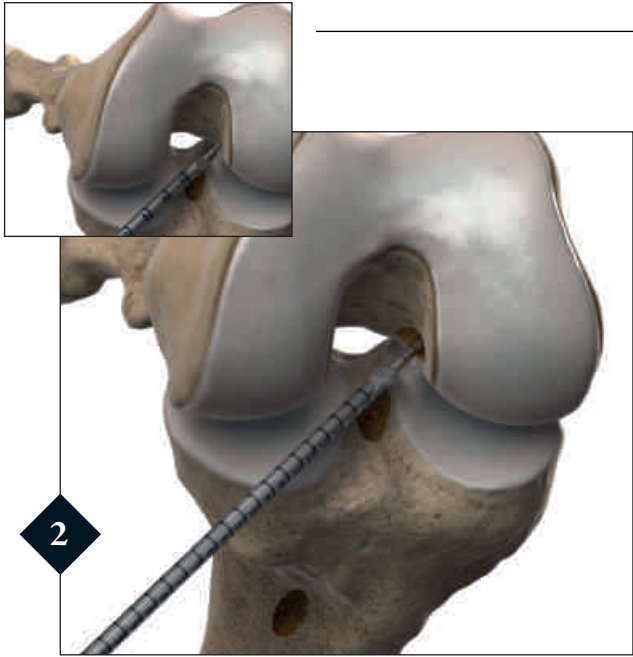
**Note:** Whipstitch soft tissue graft with #2 FiberWire on proximal and distal limb for a minimum of 25 mm length to assure optimum fixation strength.



1

#### Tibial Tunnel Preparation

- Tibial tunnel is created by using standard technique/ instrumentation (Example: Retroconstruction Drill Guide)
- Place guide pin approximately 1 cm above the pesanserinus and 1.5 cm medial to the tibial tuberosity and drill through the anatomical footprint of the resected ACL



2

#### Femoral Socket Preparation

- The femoral tunnel is created by referencing the "over-the-top" position in
  - transtibial technique with 90° knee flexion
  - anteromedial technique with hyperflexion (>110°) using Transportal Guide
- Positioning of a 2.4 mm Drill Tip Guide Pin (with eyelet) out of the thigh and through the skin
- Use the Low Profile Reamer equal or 0.5 mm less to the graft diameter and drill the femoral tunnel to a depth of 25-30 mm

*Note: Drill the femoral socket to a depth of 10 mm longer than the desired TransFix T3 pin placement.*

#### Instrumentation for Transtibial Approach

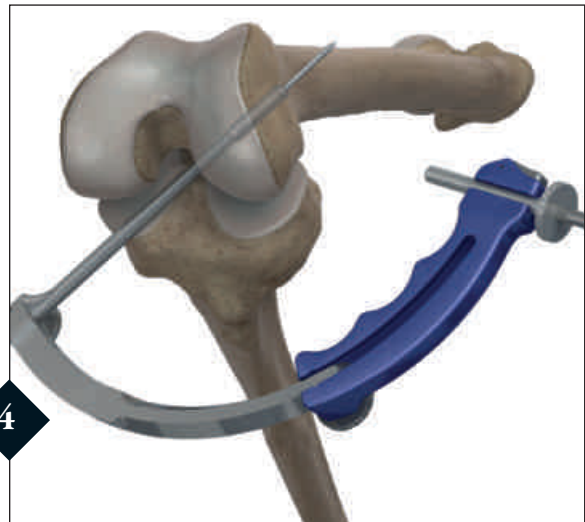
AR-1975T3 with AR-1977T3-XXP



3

#### Instrumentation for AM Portal Approach

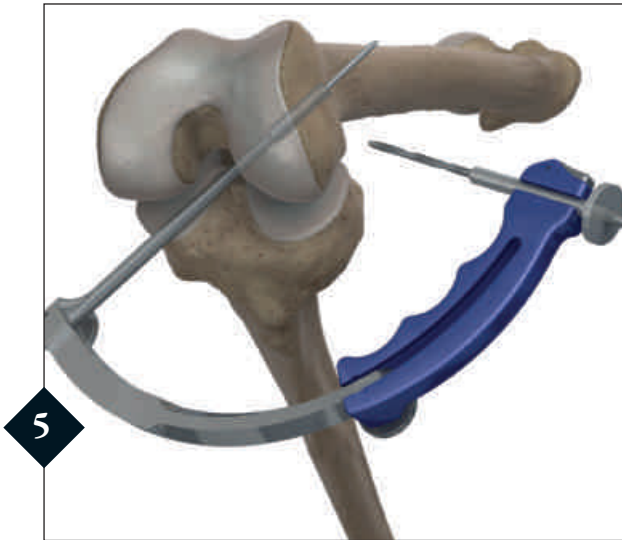
AR-1510H with AR-1510T3 and AR-1977T3-XXMP



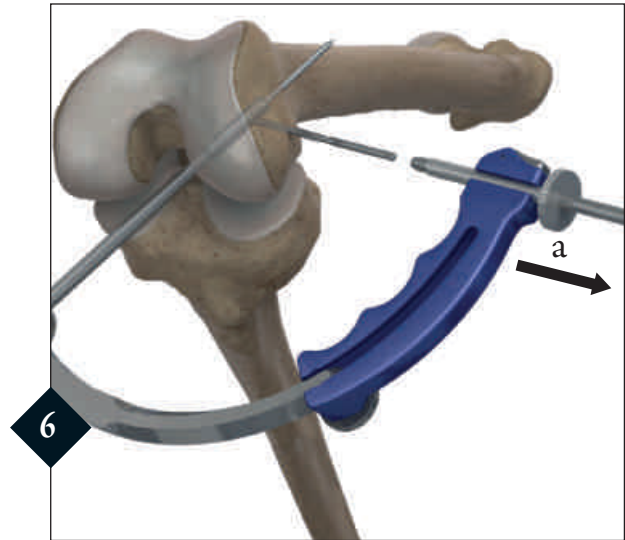
4

The TransFix T3 technique may be implanted by using the transtibial approach (3) or by using the anteromedial portal (4). In this technique guide the medial portal option is illustrated.

## Medial Portal Option

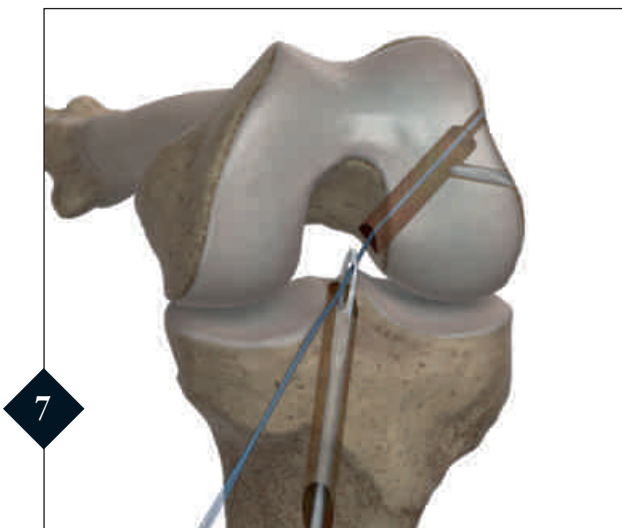


- The tunnel hook/guide assembly is inserted over the 2.4 mm Drill Tip Guide Pin through the anteromedial portal into the femoral socket
- Assemble 3.0 Quick Chuck Drill (AR-1265-3D) with drill extension for Quick Chuck Drill (AR-1265-3E) and drive the drill through the TransFix T3 Drill Sleeve (AR-1976T3-THS)
- A small skin incision is made and the drill is advanced to the lateral femoral cortex
- Drill from lateral-to-medial until the pin touches the tunnel hook



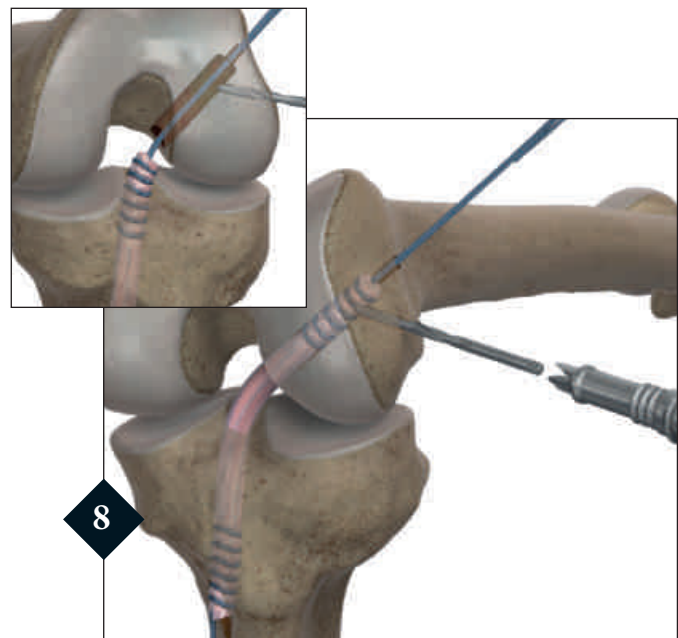
- Pull back the drill extension (a), leaving the drill in the femur
- Remove the medial portal aiming guide system

**Note:** In order to secure the drill pin in place, hold it with a clamp while disassembling the Quick Chuck Extension



- Replace 2.4 mm Drill Tip Guide Pin with a FiberWire #5 shuttle suture
- Place a suture grasper into the tibial tunnel and withdraw FiberWire #5 out of the tunnel

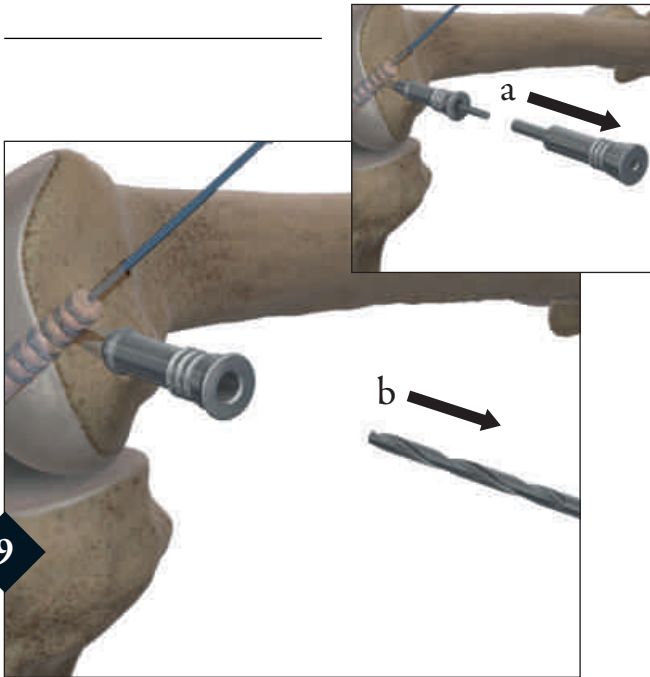
**Option:** Insert arthroscope into femoral tunnel to verify concentric Drill Pin position.



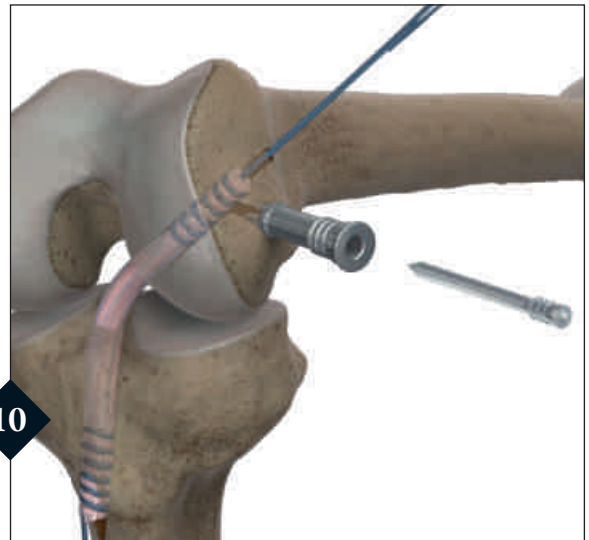
- Pull in the graft using the FiberWire #5 shuttle suture
- Advance TransFix<sup>®</sup> T3 Top Hat Body (AR-1976T3-TH) and TransFix<sup>®</sup> T3 Top Hat Extension (AR-1976T3-THE) over the 3 mm Drill Pin
- Use a mallet to impact the Top Hat Body into the bone
- Stop when collar of Top Hat Body reaches the cortical bone

**Note:** The skin incision might be widened a little bit before fixing the Top Hat Body into the cortical bone.





- Remove Top Hat Extension (a) and 3 mm Drill Pin (b) while keeping the Top Hat Guide Sleeve in place



- Insert TransFix T3 implant with Impactor into Guide Sleeve (AR-1973T3-TH)
- Keep the graft tensioned while inserting Bio-TransFix T3 implant using a mallet



- When depth stop of the impactor reaches the rim of the Guide Sleeve, the implant is flush with the cortical bone

**Option:** Final confirmation of implant depth could be performed while placing the arthroscope into the fixed guide sleeve.

- Verify the security of the graft
- Remove Impactor and Top Hat Guide Sleeve



- Tibial graft fixation should be done in 20-30° knee flexion
- Secure tibial fixation is obtained with a 35 mm Delta Tapered BioComposite Interference Screw. The Delta Screw tapers 1.5 mm from proximal to distal (i.e. 8.5 mm to 10 mm diameter). A distal screw diameter, that is 1 mm larger than the tunnel diameter, should be selected.
- A tunnel notcher is used to create a superior notch in the rim to ease screw insertion. A guide wire is positioned anterior to the graft and subsequently secured in the joint with a clamp to control screw migration during insertion.

## Ordering Information

### **Implants**

TransFix T3 Pin PLLA, 3.5 x 50 mm	AR-1351LBT3
TransFix T3 Pin PLLA, 3.5 x 40 mm	AR-1351BT3
#2 FiberLoop, Blue, Looped, with straight Needle	AR-7234
#2 FiberLoop, White/Green, Looped, with straight Needle	AR-7234T
#2 FiberLoop, White/Green, Looped, with curved Needle	AR-7234C
Round Delta Tapered BioComposite Interference Screw, 8 x 28 mm	AR-5028C-08
Round Delta Tapered BioComposite Interference Screw, 9 x 28 mm	AR-5028C-09
Round Delta Tapered BioComposite Interference Screw, 10 x 28 mm	AR-5028C-10
Round Delta Tapered BioComposite Interference Screw, 11 x 28 mm	AR-5028C-11
Cannulated Delta Tapered BioComposite Interference Screw, 9 mm x 35 mm	AR-5035TC-09
Cannulated Delta Tapered BioComposite Interference Screw, 10 mm x 35 mm	AR-5035TC-10
Cannulated Delta Tapered BioComposite Interference Screw, 11 mm x 35 mm	AR-5035TC-11
Cannulated Delta Tapered BioComposite Interference Screw, 12 mm x 35 mm	AR-5035TC-12

### **TransFix T3 Instrumentation**

3.0 mm Quick Chuck Drill, L = 70 mm	AR-1265-3D
Extension for Quick Chuck Drill	AR-1265-3E
TransFix® T3 Drill Sleeve	AR-1976T3-THS
TransFix® T3 Top Hat Body	AR-1976T3-TH
TransFix® T3 Top Hat Extension	AR-1976T3-THE
Impactor for TransFix® T3	AR-1973T3-TH

### **Medial Portal approach**

RetroConstruction Drill Guide Handle	AR-1510H
TransFix T3 Tunnel Hook Extension	AR-1510T3
TransFix T3 MP Tunnel Hook, Cannulated, 5.0 mm	AR-1977T3-05MP
TransFix T3 MP Tunnel Hook, Cannulated, 6.0 mm	AR-1977T3-06MP
TransFix T3 MP Tunnel Hook, Cannulated, 7.0 mm	AR-1977T3-07MP
TransFix T3 MP Tunnel Hook, Cannulated, 8.0 mm	AR-1977T3-08MP
TransFix T3 MP Tunnel Hook, Cannulated, 9.0 mm	AR-1977T3-09MP
TransFix T3 MP Tunnel Hook, Cannulated, 10.0 mm	AR-1977T3-10MP

Transportal ACL Guide (TPG), 4 mm-8 mm	AR-1800-04 – 08
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### **Transtibial approach**

Femoral TransFix T3 Guide	AR-1975T3
TransFix T3 Tunnel Hook, Cannulated, 5.0 mm	AR-1977T3-05P
TransFix T3 Tunnel Hook, Cannulated, 6.0 mm	AR-1977T3-06P
TransFix T3 Tunnel Hook, Cannulated, 7.0 mm	AR-1977T3-07P
TransFix T3 Tunnel Hook, Cannulated, 8.0 mm	AR-1977T3-08P
TransFix T3 Tunnel Hook, Cannulated, 9.0 mm	AR-1977T3-09P
TransFix T3 Tunnel Hook, Cannulated, 10.0 mm	AR-1977T3-10P

Transtibial Femoral ACL Drill Guide (TTG), 4 mm	AR-1806
Transtibial Femoral ACL Drill Guide (TTG), 5 mm	AR-1803
Transtibial Femoral ACL Drill Guide (TTG), 6 mm	AR-1804
Transtibial Femoral ACL Drill Guide (TTG), 7 mm	AR-1801
Transtibial Femoral ACL Drill Guide (TTG), 8 mm	AR-1805

### **RetroConstruction Drill Guide System and FlipCutter**

FlipCutters, 6 mm-10 mm	AR-1204F-60 – 100
FlipCutter IIs, 6 mm-10 mm	AR-1204AF-60 – 100

RetroConstruction Drill Guide Handle	AR-1510H
Drill Sleeve, stepped	AR-1204FDS
Tibial ACL Marking Hook for RetroConstruction Drill Guide	AR-1510T
Femoral ACL Marking Hook for RetroConstruction Drill Guide	AR-1510F
Femoral ACL Footprint Marking Hook for RetroConstruction Drill Guide	AR-1510F-01

### **Additional Instrumentation**

Low Profile Reamer, 5 mm-10 mm	AR-1405LP -AR-1410LP
Driver, BioComposite Interference Screw	AR-1996CD
Driver, BioComposite Interference Screw, quick connect	AR-1996CD-1
Ratcheting Screwdriver Handle (for AR-1996CD-1)	AR-1999



*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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U.S. PATENT Nos. 6,716,234; 7,329,272; 7,029,490 and PATENT PENDING