Arthrex®

RetroScrew® for Femoral and Tibial Fixation in Transtibial ACL Reconstruction

Surgical Technique

RetroScrew ACL Reconstruction

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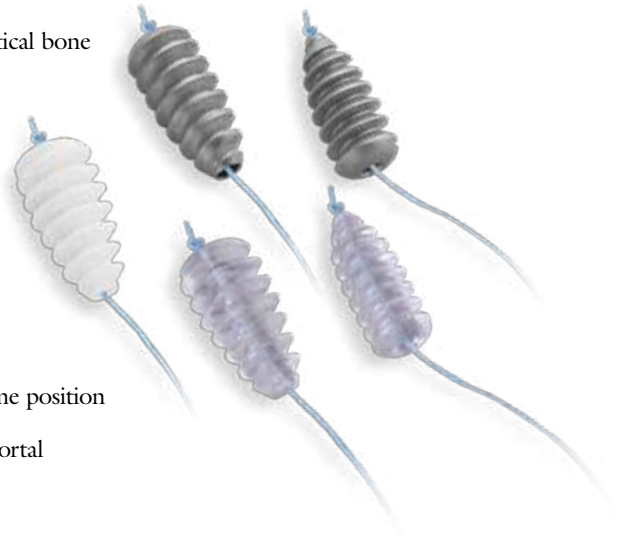
Tibial RetroScrew Advantages:



- Inverted, retrograde screw insertion provides maximum fixation in proximal cortical bone
- RetroScrew is inserted in the same direction as graft tensioning
- Round screw head at joint line protects graft against abrasion
- RetroScrew can be accurately placed anterior to the graft
- Full thread diameter fixation at tunnel orifice maximizes graft stiffness
- Inhibits synovial fluid leaching into tunnel, reducing tunnel widening
- FiberStick™ tether facilitates one step intraarticular screwdriver mounting
- Available in amorphous PLLA, titanium and BioComposite
- Available in reverse thread design, to control graft positioning
- Ideal for "all-inside" ACL reconstruction

Femoral RetroScrew Advantages:

- In-line insertion assures parallel placement to the graft and femoral tunnel
- Thin transtibial tunnel screwdriver used for femoral and tibial screw from the same position
- FiberStick tether facilitates one step intraarticular screwdriver mounting
- Eliminates complications associated with screw insertion from an anteromedial portal
- Available in amorphous PLLA or titanium

Joint line fixation facilitates additional graft options:

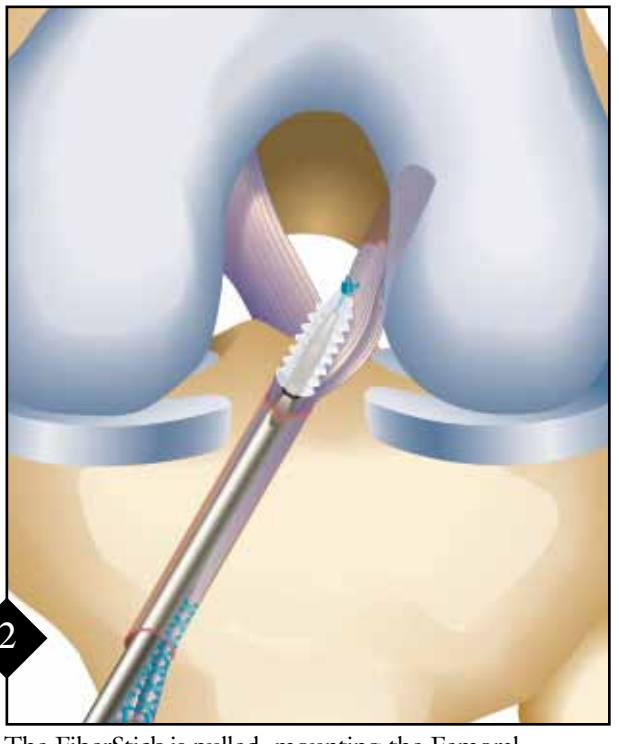
- Looped three or four stranded semitendinosus tendon graft eliminates need to harvest gracilis tendon
- BT patellar tendon graft without patellar bone block substantially reduces harvest site morbidity

RetroScrew insertion preparation

Femoral and tibial tunnels are prepared in standard transtibial fashion and notched at both joint line tunnel orifices using a Retro Tunnel Notcher.

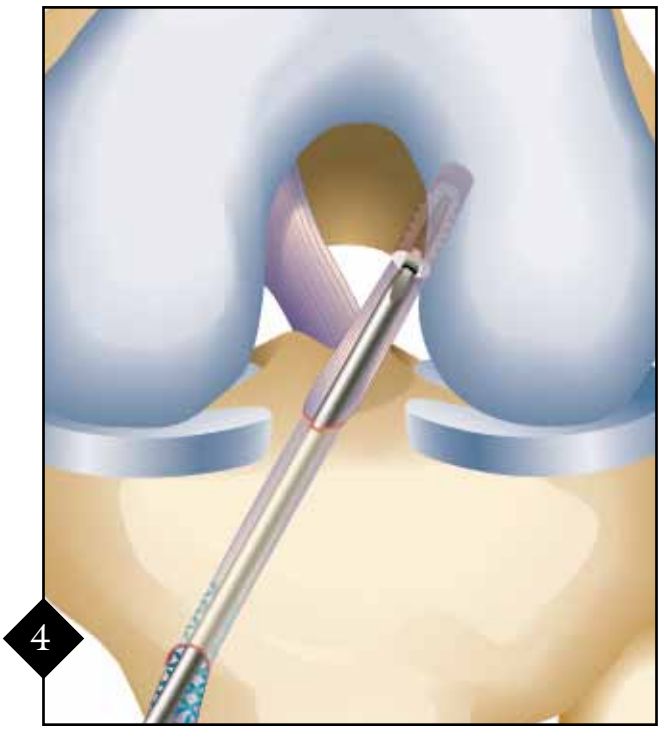
Before the graft is passed, a #2 FiberStick is inserted up the tibial tunnel into the joint and the end is retrieved out the anteromedial portal. The graft is passed in standard transtibial fashion. The stiff FiberStick distal end is threaded into the cannulated screwdriver and the driver shaft is advanced over the FiberStick suture through the tibial tunnel, anterior to the graft. Pass the anteromedial FiberStick end through the round head end of a Femoral RetroScrew equal to the femoral tunnel diameter and tie a Mulberry knot at the tip to secure the screw.

The Femoral RetroScrew is snapped into the end of the Shoehorn Cannula. The cannula is inserted into the anteromedial portal and the cannula obturator used to push the screw into the joint.

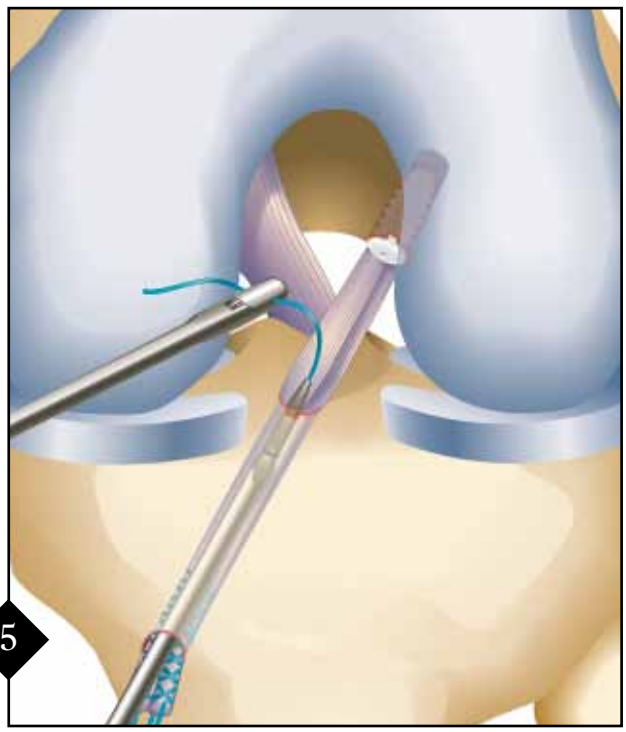


The FiberStick is pulled, mounting the Femoral RetroScrew on the driver tip. Care should be taken to remove soft tissue from the driver/screw interface prior to seating of the screw. The RetroScrew is fully inserted onto the driver when the laser line is flush with the head of the screw.

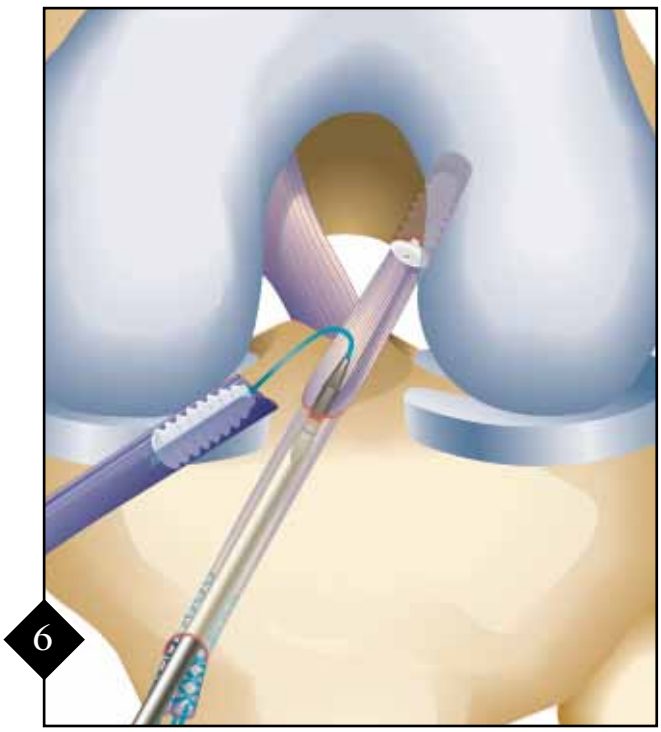
Grasp the FiberStick suture at the tip of the screw and remove the FiberStick out the anteromedial portal.



While tensioning the graft in the femoral socket, insert the Femoral RetroScrew anterior to the graft and parallel to the tunnel in 90° of knee flexion. The driver is maintained in the tibial tunnel after femoral screw insertion.



A second FiberStick is advanced up the screwdriver cannulation and into the joint. The proximal end is retrieved and pulled out the anteromedial portal.



The FiberStick end is passed through the tip of a Tibial RetroScrew equal to or 1 mm larger than the tibial tunnel diameter and a Mulberry knot is tied behind the round head of the screw. The Tibial RetroScrew is snapped into the end of the Shoehorn Cannula and the cannula inserted into the anteromedial portal. The cannula obturator is used to push the screw into the joint.

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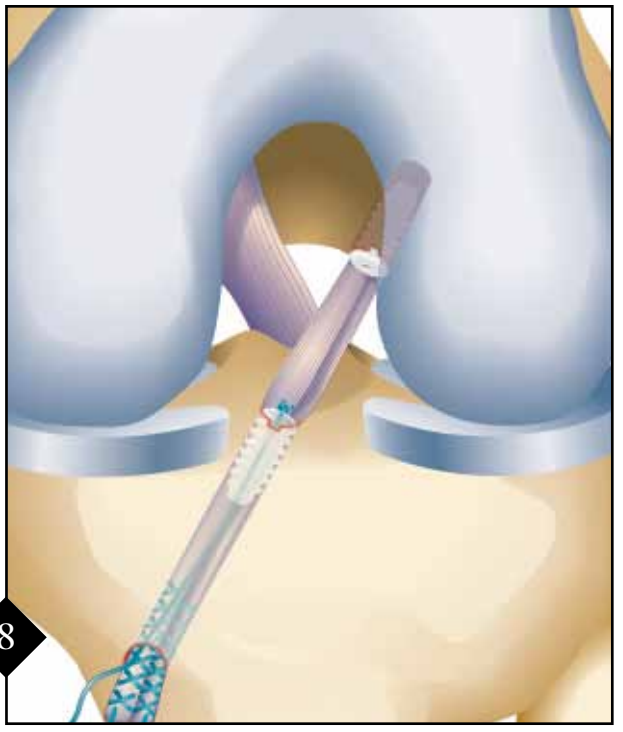
The Tibial RetroScrew is mounted onto the screwdriver tip by pulling on the FiberStick suture. Remove soft tissue from the screw/driver interface prior to seating of the screw. The screw is fully inserted on the driver when the laser line is flush with the tip of the screw. The FiberStick is wrapped around the driver handle's posts to secure the screw for retrograde insertion.



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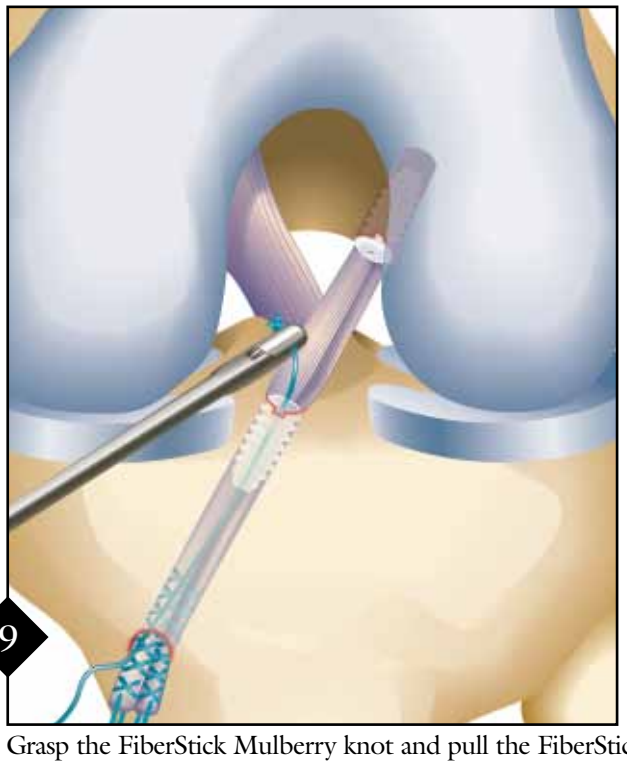
While fully tensioning the graft in approximately 20° of knee flexion, the Tibial RetroScrew is inserted counter-clockwise, anterior to the graft under full visual control. Insertion is completed when the round head of the screw is flush with the tibial tunnel orifice.



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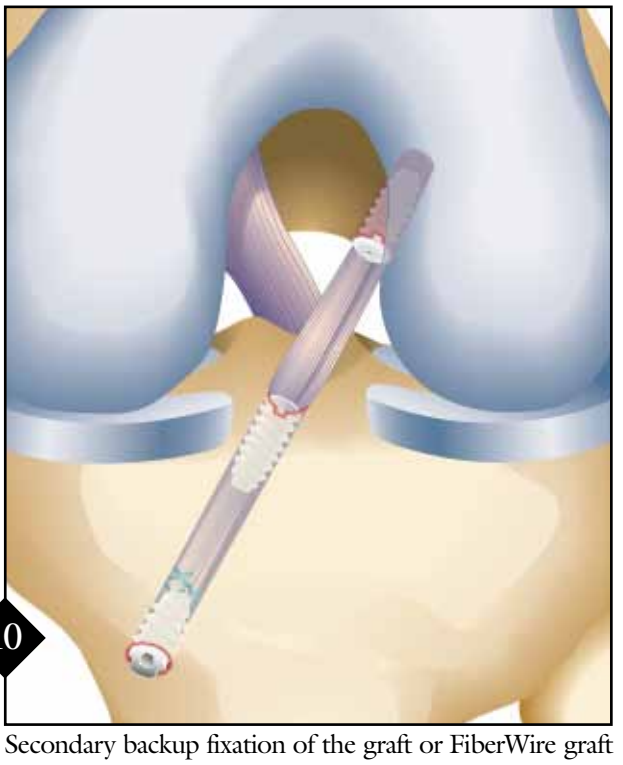
Grasp the FiberStick Mulberry knot and pull the FiberStick out the anteromedial portal.



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Secondary backup fixation of the graft or FiberWire graft passing sutures at the distal tibial tunnel orifice with a 17 mm long, 50° angled Bio-Cortical Interference Screw may be performed if desired. Bi-cortical fixation of the graft in the tibial tunnel provides maximum graft fixation strength, creates a blood-rich healing environment in the tunnel and reduces post-op soft tissue hematoma.

ORDERING INFORMATION

Tibial BioComposite RetroScrew:	
BioComposite RetroScrew, 6 mm x 20 mm	AR-1586RC-06
BioComposite RetroScrew, 7 mm x 20 mm	AR-1586RC-07
BioComposite RetroScrew, 8 mm x 20 mm	AR-1586RC-08
BioComposite RetroScrew, 9 mm x 20 mm	AR-1586RC-09
BioComposite RetroScrew, 10 mm x 20 mm	AR-1586RC-10

Tibial RetroScrew (amorphous PLLA):	
RetroScrew, 6 mm x 20 mm	AR-1586RB-06
RetroScrew, 7 mm x 20 mm	AR-1586RB-07
RetroScrew, 8 mm x 20 mm	AR-1586RB-08
RetroScrew, 9 mm x 20 mm	AR-1586RB-09
RetroScrew, 10 mm x 20 mm	AR-1586RB-10

Tibial RetroScrew Reverse Thread (amorphous PLLA):	
RetroScrew Reverse Thread, 8 mm x 20 mm	AR-1586LB-08
RetroScrew Reverse Thread, 9 mm x 20 mm	AR-1586LB-09
RetroScrew Reverse Thread, 10 mm x 20 mm	AR-1586LB-10

Tibial RetroScrew (titanium):	
Titanium Tibial RetroScrew, 8 mm x 20 mm	AR-1586R-08
Titanium Tibial RetroScrew, 9 mm x 20 mm	AR-1586R-09
Titanium Tibial RetroScrew, 10 mm x 20 mm	AR-1586R-10

Femoral RetroScrew (amorphous PLLA):	
Femoral RetroScrew, 7 mm x 20 mm	AR-1586FRB-07
Femoral RetroScrew, 8 mm x 20 mm	AR-1586FRB-08
Femoral RetroScrew, 9 mm x 20 mm	AR-1586FRB-09
Femoral RetroScrew, 10 mm x 20 mm	AR-1586FRB-10

Femoral RetroScrew (titanium):	
Titanium Femoral RetroScrew, 7 mm x 20 mm	AR-1586FR-07
Titanium Femoral RetroScrew, 8 mm x 20 mm	AR-1586FR-08
Titanium Femoral RetroScrew, 9 mm x 20 mm	AR-1586FR-09
Titanium Femoral RetroScrew, 10 mm x 20 mm	AR-1586FR-10

Bio-Cortical Interference Screw (amorphous PLLA):	
Bio-Cortical Interference Screw, 8 mm x 17 mm, 50° angle	AR-5080AB
Bio-Cortical Interference Screw, 9 mm x 17 mm, 50° angle	AR-5090AB
Bio-Cortical Interference Screw, 10 mm x 17 mm, 50° angle	AR-5010AB
Bio-Cortical Interference Screw, 11 mm x 17 mm, 50° angle	AR-5011AB

Accessories:	
RetroScrew Driver, thin	AR-1586R
Retro Tunnel Notcher	AR-1843BT
RetroScrew Tamp, straight	AR-1586ST
RetroScrew Tamp, 90°	AR-1586ST-90
Shoehorn Cannula, 6 mm I.D. x 9 cm, qty. 5	AR-6565
FiberStick, #2 FiberWire, 50 inches (blue) one end stiffened, 12 inches, qty. 5	AR-7209
Cannulated Screwdriver for Bio-Interference Screw	AR-1386

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. 6,461,373; 6,716,234; 7,063,717; 7,147,651 and PATENT PENDING