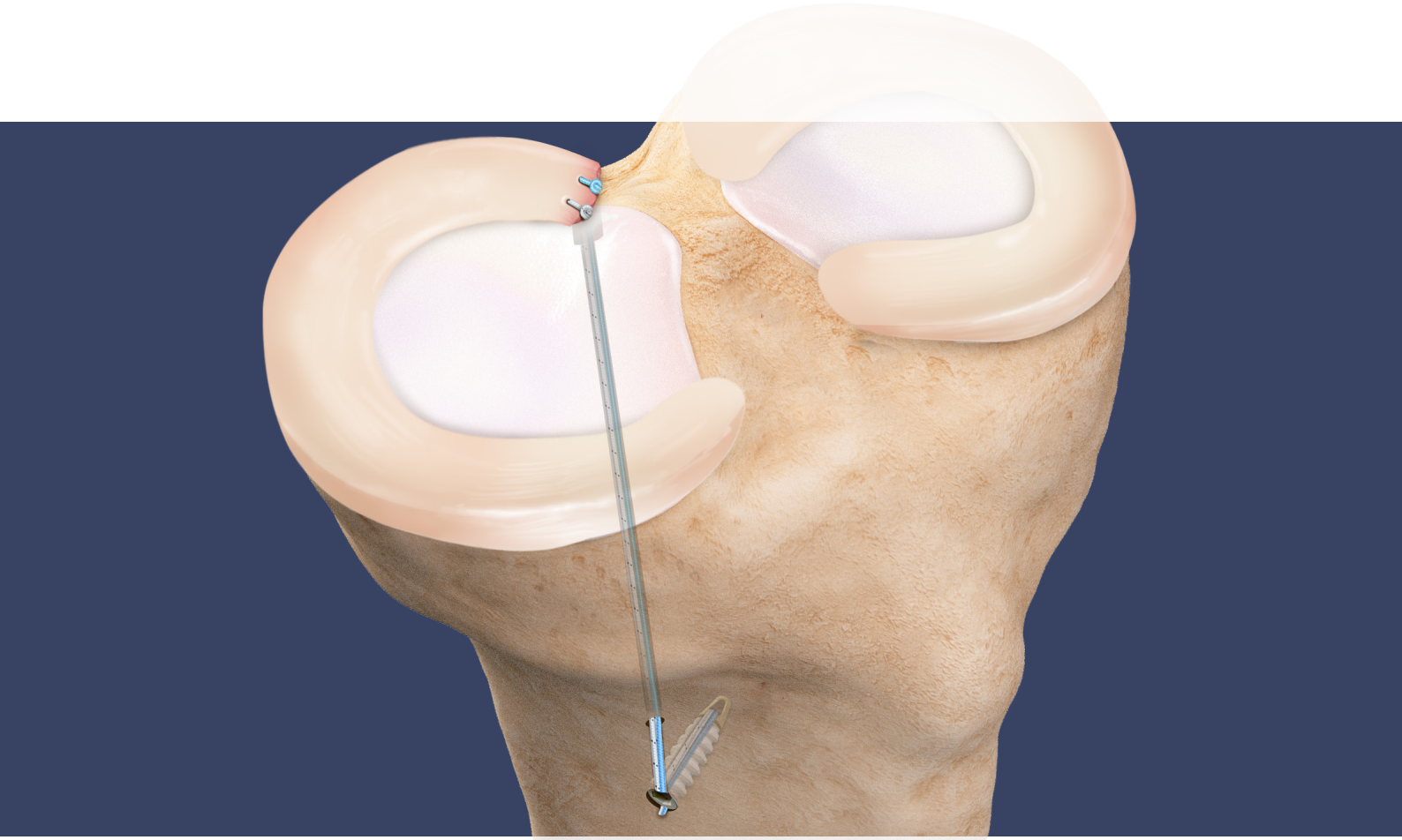
Meniscal Root Avulsion Repair

Surgical Technique



Arthrex®

Introduction

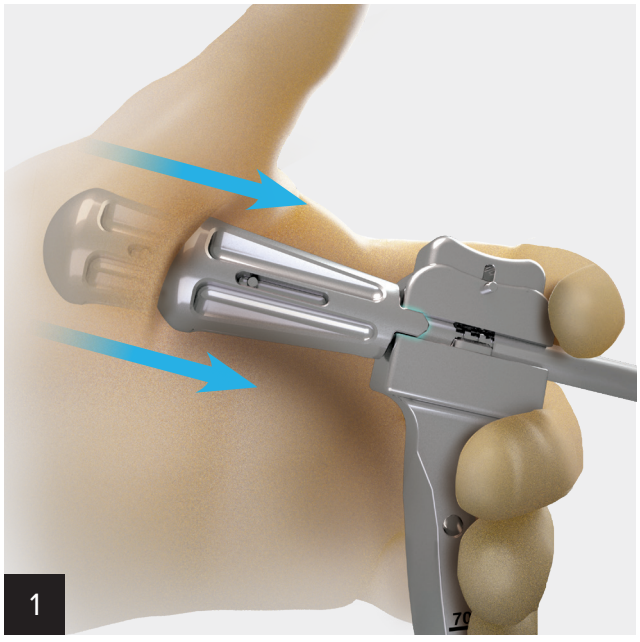
Meniscal root avulsions are challenging injuries causing meniscal extrusion and loss of hoop stress distribution, which can lead to the development of knee arthritis.[1] Securing the meniscus in a small bone socket has proven to be an effective means to restore hoop stresses and improve outcomes.[2] The FlipCutter® II reamer and meniscal root marking hook allow for a minimally invasive retroconstruction repair technique that preserves bone while securing meniscal tissue.

With 2 points of stability for drilling and preparing the bone socket, the meniscal root marking hook can be adjusted to an offset of 5 mm, 7.5 mm, or 10 mm from the posterior tibia. Additionally, the drill sleeve can be rotated to the optimal tunnel location without disengaging the marking hook.

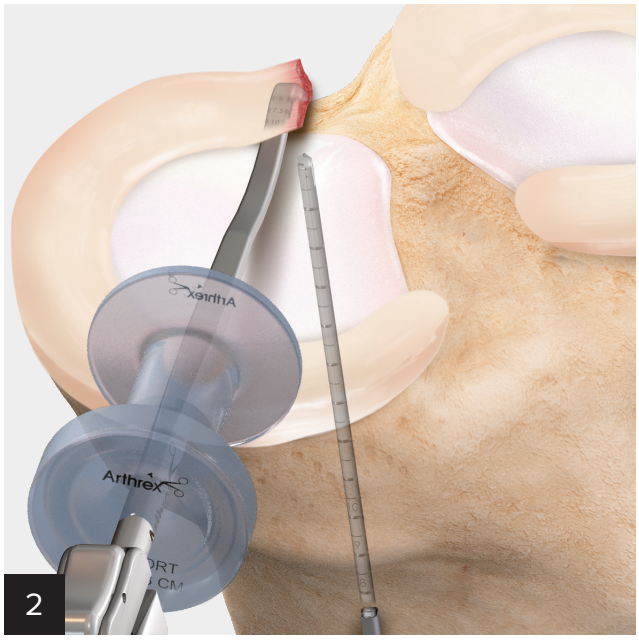
Create a socket for tissue reduction using the FlipCutter II reamer. The FlipCutter II reamer and Knee Scorpion™ suture passer are ideal for meniscal root repair and transplantation. In a single step, pass 0 or 2-0 FiberWire® suture using the versatile Knee Scorpion suture passer. Its low-profile jaw allows access to tight spaces in the knee, making it ideal for various stitch configurations.

Arthroscopic Evaluation and Preparation: Confirm detachment from the tibial plateau while probing the meniscal root. Identify the location on the tibial plateau where reattachment of the meniscus is desired. This should be as anatomical as possible without excessive stress or deformation of the tissue when pulled to that area. A ChondroDrill™ attachment, Apollo RF® MP90 probe, or burr can be used to mark this location for later reference. If visualization or instrumentation is difficult because of a tight joint space, it may be helpful to partially flatten the tibial spine with a PoweRasp™ shaver and/or perform a small posterior notchplasty with an arthroscopic burr.

Tibial Socket Creation

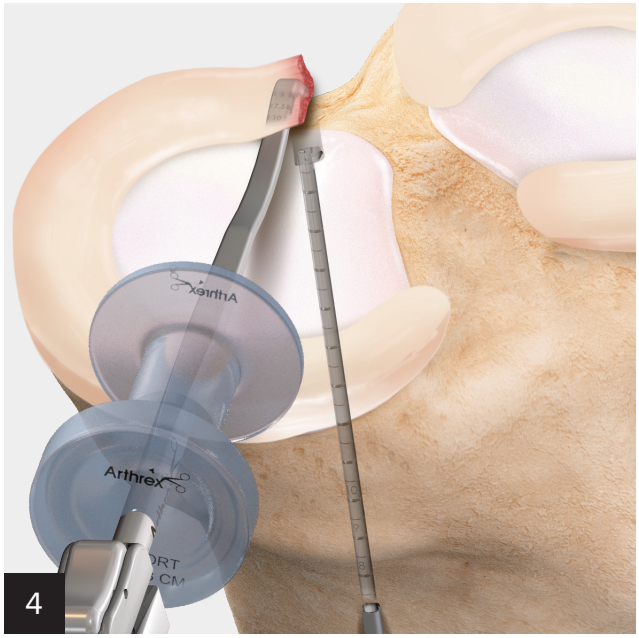


Engage the lock to prevent rotation of the marking hook while introducing the guide into the joint through a PassPort Button™ cannula.



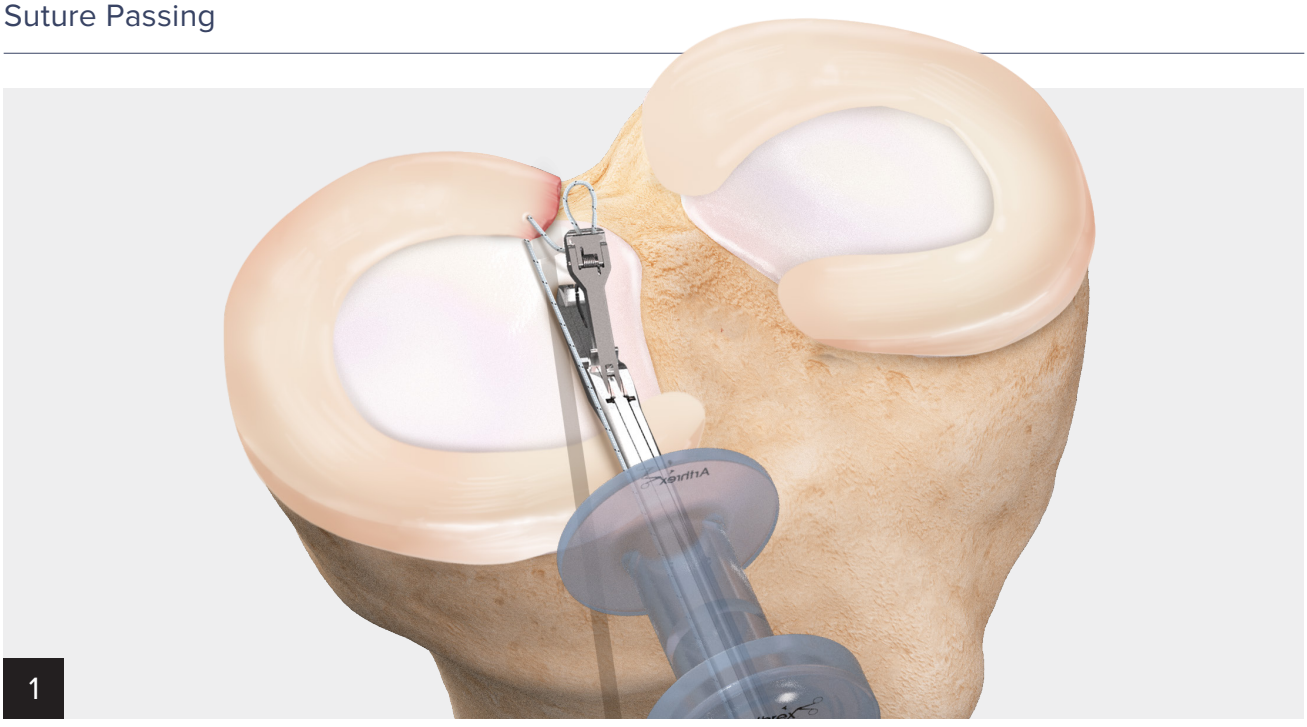
Position the marking hook over the back of the tibia at the desired location for tissue reattachment.

Adjust the offset by depressing the button on the locking guide and aligning the laser marks with the desired offset.

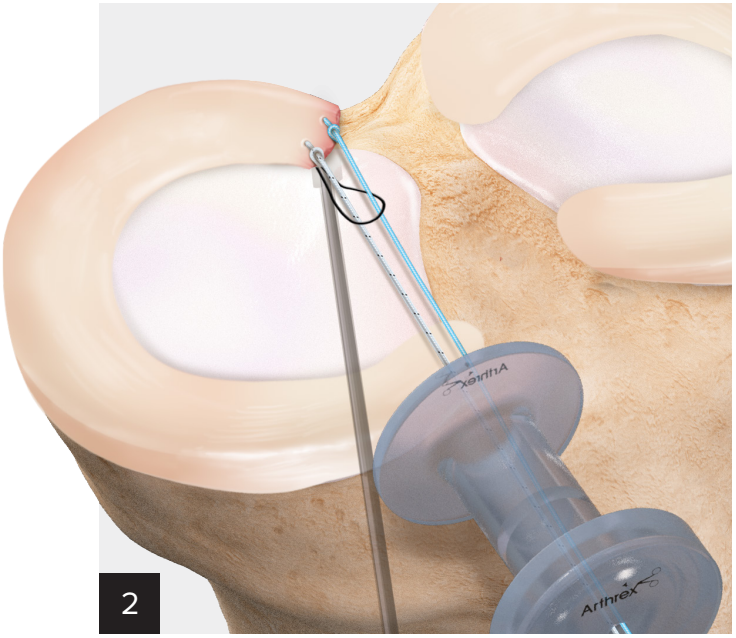


Use a 6 mm FlipCutter® reamer to create a bone socket. Drill on a forward setting and pull back until the socket has reached a depth of approximately 5 mm.

Suture Passing



The Knee Scorpion™ suture passer can be used to pass a size 0 TigerLink™ suture to create a cinch stitch. The size 0 FiberLink™ suture can be passed to create a second cinch stitch.



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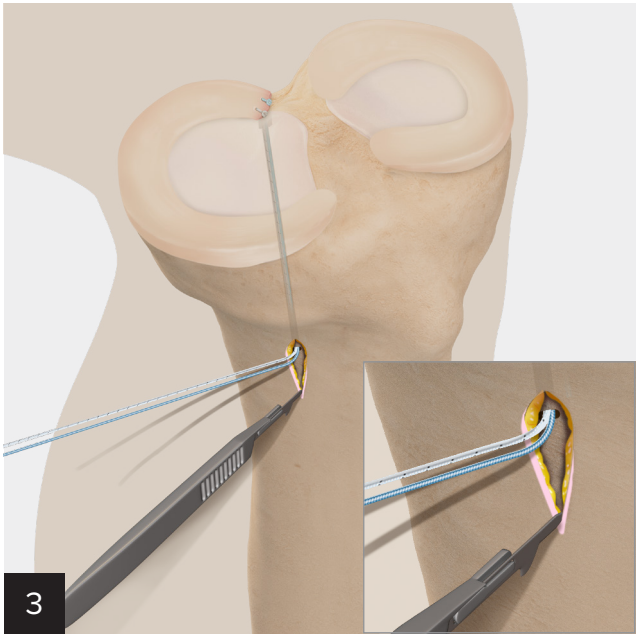
Use the SutureLasso™ needle and passing wire to shuttle the suture to the anterior tibia.



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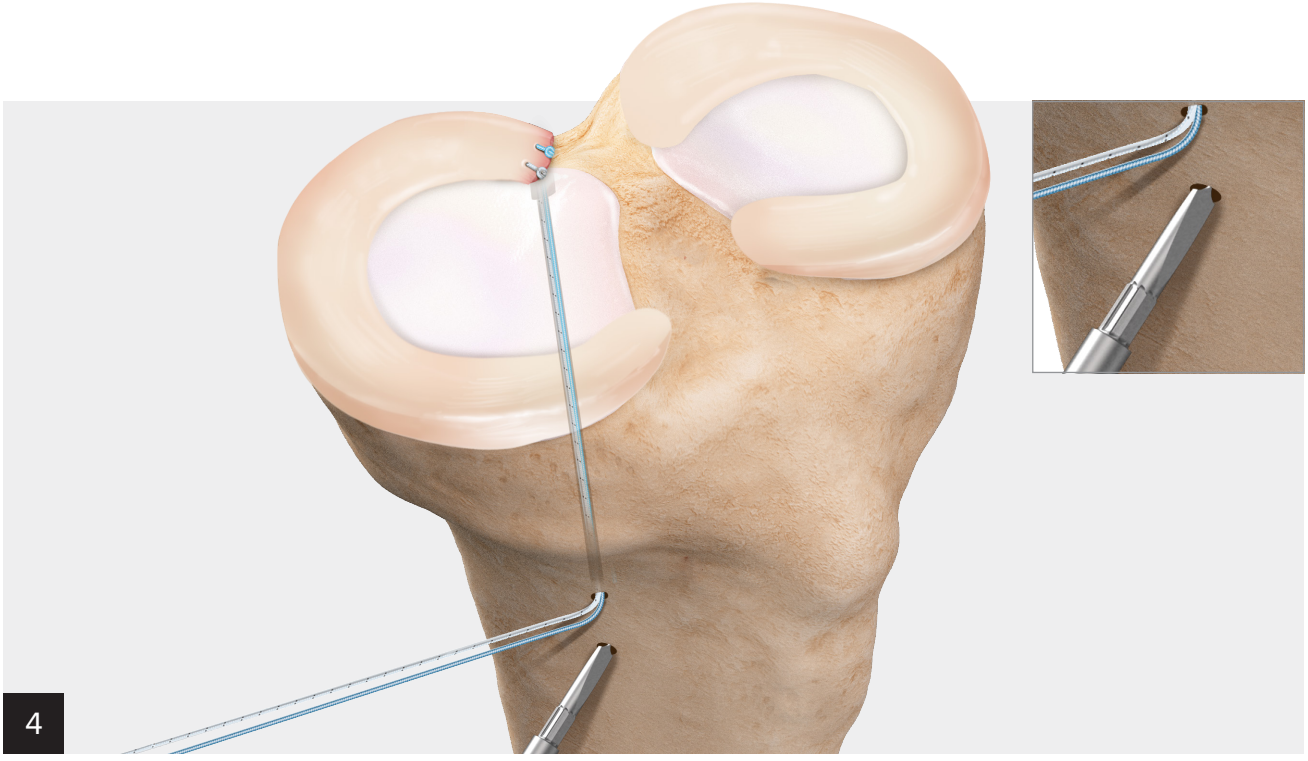
Extend the tibial incision 1 cm distal from the transtibial bone preparation.



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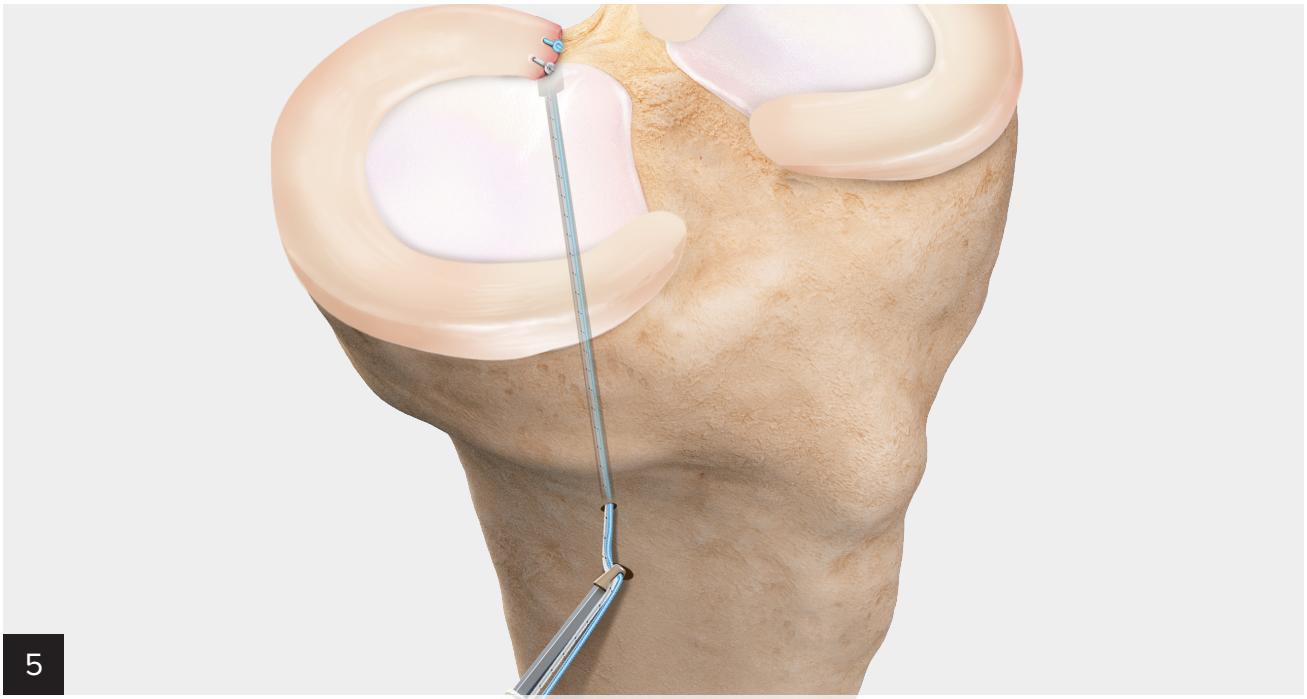
Use the spade-tip drill bit to prepare a socket for the anchor. The socket should be prepared to the depth of the positive stop collar on the spade-tip drill, representing a 20 mm depth. For hard bone, the 4.75 mm SwiveLock® anchor tap should be used.



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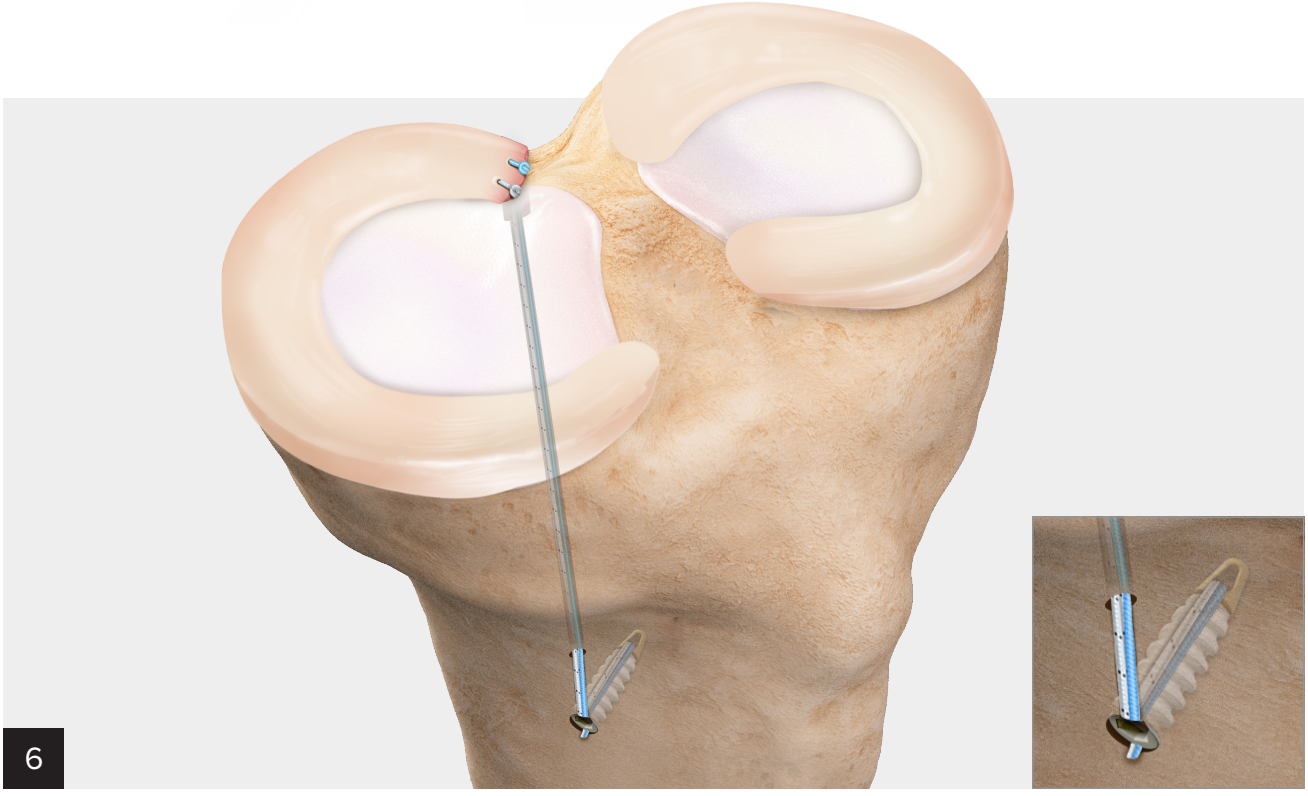
Pass the suture(s) through the eyelet of the 4.75 mm BioComposite SwiveLock® anchor. Tension the suture(s) to achieve an anatomic reduction of the meniscal root and place the anchor into the drill hole until the eyelet is fully seated. Maintain tension on the suture(s) and advance the SwiveLock anchor into the tibia.



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Final Construct: After removing the driver, the eyelet retention suture can be removed.

Ordering Information

Meniscal Repair and Resection Sets and Kits

Product Description	Item Number
Meniscal Repair and Resection Set	AR-**4555S**
Meniscal Root Marking Hook	AR-**1610MR**
Locking Guide for Meniscal Root Marking Hook	AR-**1610LG**
Knee Scorpion™ Suture Passer	AR-**12990**
2.75 mm Mini Suture Retriever, straight	AR-**11540**
MegaBiter™ Punch, straight	AR-**41006**
MegaBiter Punch, up-curved	AR-**41026**
MegaBiter Punch, straight, left	AR-**41006L**
MegaBiter Punch, straight, right	AR-**41006R**
Probe, 3.4 mm hook	AR-**10010**
Meniscus Repair Rasp	AR-**4130**
Side-release RetroConstruction™ Handle	AR-**1510HR**
Drill Sleeve for Side-release Handle, ratcheting, 2.4 mm	AR-**1510FD-24**
Stepped Drill Sleeve for Side-release Handle, ratcheting	AR-**1510FS-7**
Insert for Stepped Drill Sleeve, 2.4 mm	AR-**1204F-24I**
Meniscus Repair and Resection Instrument Case	AR-**4555C**
Meniscal Root Repair Kit w/ BioComposite SwiveLock® Anchor	AR-**4550BC**
Knee Scorpion Needle FlipCutter® II Reamer, 6 mm PassPort Button™ Cannula, 8 mm × 3 cm 2-0 FiberStick™ Suture, qty. 2 SutureLasso™ Needle w/ Nitinol Passing Wire 0 FiberLink™ Suture 0 TigerLink™ Suture BioComposite SwiveLock Anchor, 4.75 mm × 19.1 mm Spade-tip Drill Bit SwiveLock Anchor Tap, hard bone	

Products may not be available in all markets because product availability is subject to the regulatory approvals and medical practices in individual markets. Please contact your Arthrex representative if you have questions about the availability of products in your area.

References

1. Pagnani MJ, Cooper DE, Warren RF. Extrusion of the medial meniscus. *Arthroscopy.* 1991;7(3):297-300. doi:10.1016/0749-8063(91)90131-g.
2. Lee JH, Lim YJ, Kim KB, Kim KH, Song JH. Arthroscopic pull-out suture repair of posterior root tear of the medial meniscus: radiographic and clinical results with a 2-year follow-up. *Arthroscopy.* 2009;25(9):951-958. doi:10.1016/j.arthro.2009.03.018.

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 and/or outcomes.

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