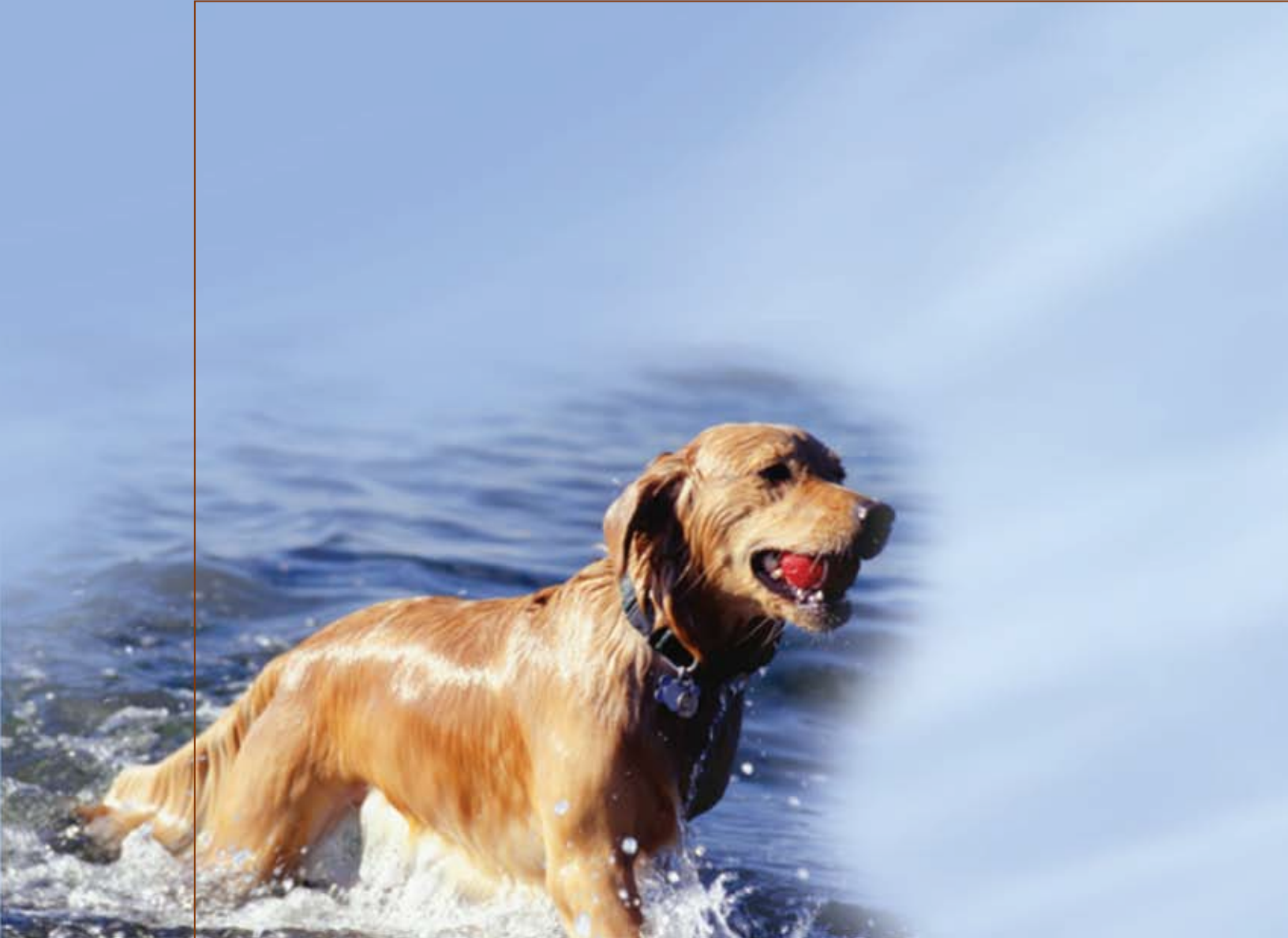




SURGICAL TECHNIQUE

TightRope[®] CCL Technique Guide



Surgical Technique

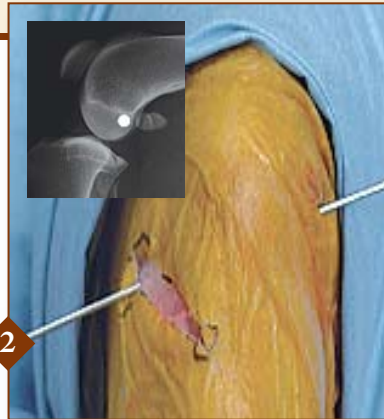
The patient is placed in dorsal recumbency and prepared for surgery of the affected stifle. Strict adherence to aseptic technique for patient preparation and surgery is critical to success. Preparation and draping to expose the limb from proximal thigh to below the hock is recommended to allow for adequate stifle palpation and manipulation during surgery.

*Developed in conjunction with James L. Cook, DVM, PhD, Diplomate ACVS
Director, Comparative Orthopaedic Laboratory
University of Missouri.*

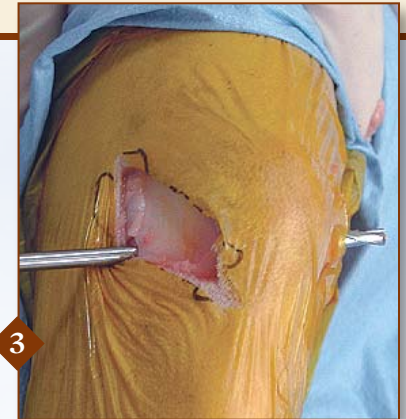
A lateral parapatellar approach with arthrotomy, or arthroscopic instrumentation, is performed to allow for complete exploration of the stifle joint to be completed. Pathologic ligament and meniscus should be treated appropriately. The joint is thoroughly lavaged and the joint capsule closed. The caudolateral aspect of the stifle is exposed by caudal dissection and retraction of the lateral fascial incision when arthrotomy has been performed or by mini-incision based on anatomical landmarks after arthroscopy has been performed.



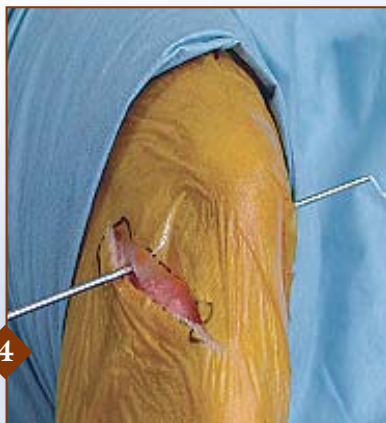
1 The anatomical landmarks for exposure are the lateral fabella to the tubercle of Gerdy. The lateral fascia is incised to allow caudal retraction.



2 Insert the guidewire immediately cranial and distal to the lateral fabella and within the caudal portion of the lateral femoral condyle. Advance the guidewire at an angle proximally such that the guidewire traverses the distal femur and exits the distal diaphysis of the femur on the medial side immediately caudal to the vastus medialis muscle.



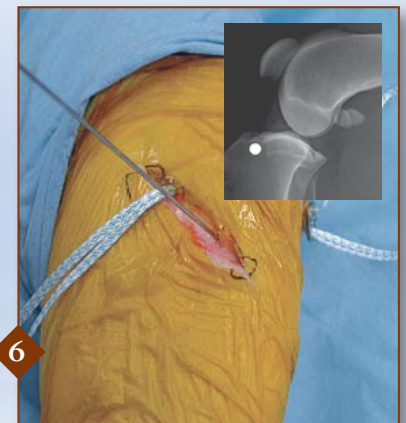
3 A 1-2 cm incision on the medial aspect of the distal stifle is made over the guidewire down to periosteum to facilitate seating of the femoral button. The cannulated drill bit is inserted onto the guidewire and advanced through the femur while protecting the associated soft tissues.



4 After removal of the guidewire and drill bit, the TightRope lead wire is inserted through the femoral hole from a medial to lateral direction and advanced through the soft tissues on the lateral side.



5 As tension is applied to the lead wire and Fibertape®, the toggle button will lay down to allow it to advance through the femoral tunnel. The second button is left outside the skin on the medial aspect of the stifle until the tibial tunnel is drilled and the toggle button is placed through the tibia.

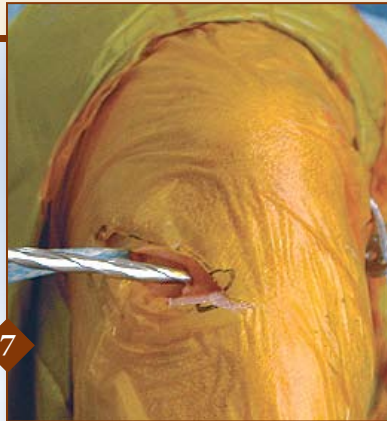


6 The LDE tendon is palpated in the extensor groove of the proximal tibia. A 4-6 mm incision is made in the fascial sheath caudal to the LDE. Place the guidewire through this incision and advance it under the LDE to rest against the caudal aspect of the tubercle of Gerdy (cranioproximal edge of the extensor groove of the tibia). Advance the guidewire through the proximal tibia at a slight craniodistal angle to exit the tibia on the medial side.

TightRope CCL

The TightRope CCL technique was developed to provide a minimally invasive method for extracapsular stabilization of the cranial cruciate ligament-deficient canine stifle. TightRope CCL seeks to optimize the lateral suture stabilization technique by employing bone-to-bone fixation, an implant with superior strength and stiffness designed specifically for ligament repair, and a method for consistent isometric implant placement. As such, TightRope CCL can counteract cranial tibial thrust, drawer, and internal rotation while providing optimal joint range of motion.

TightRope CCL
VAR-2800



7
Insert the drill over the guidewire and advance the drill through the tibia while protecting the lateral soft tissues. The drill should not exit the skin on the medial side. Remove the guidewire and drill bit from the tibia.



8
Advance the TightRope lead wire through the tibial tunnel, in a lateral to medial direction, and exit through the skin. As tension is applied to the lead wire and Fibertape, the toggle button will lay down, allowing it to advance through the tibial tunnel.



9
Once the toggle button has exited the tibial tunnel, the button is flipped in the subcutaneous space by pulling the white suture attached to the lead wire in a slight upward direction and then by pulling back on the Fibertape. This will allow the button to flip such that it can be seated firmly against the medial tibial cortex when the FiberTape is pulled tight on the lateral side of the tibia.



10
Once you have determined that the toggle button has flipped and is in the proper position, cut the white suture and remove it.



11
Remove all slack from the Fibertape by first pulling on the suture at the tibial tunnel on the lateral side to ensure the tibial button has seated firmly.



12
Remove the remaining slack in the suture by pulling on the free ends of the Fibertape near the femoral button.



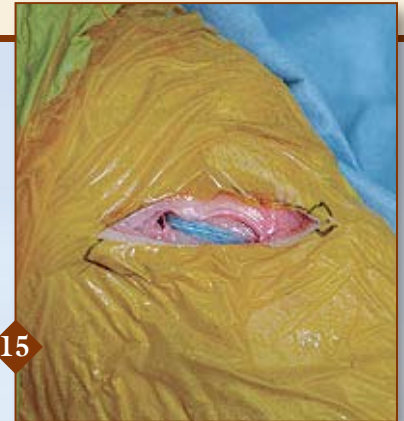
13

Advance the femoral button through the soft tissue and seat it firmly and completely against the femoral bone.



14

Hold the joint in the desired angle and then tie a Surgeon's knot and two half hitches (alternating the posts) at your desired tension. Check the drawer, thrust and rotation. If it meets your requirements, tie two to three additional half hitches (alternating the posts) and cut away the excess suture.



15

View of lateral suture final position.

Postoperative radiographic views demonstrating appearance of stifle after TightRope CCL technique.



16

The muscle and fascia over the femoral button and knot are closed routinely. The lateral fascia is imbricated and the lateral subcutaneous tissues and skin are closed in routine fashion.



ORDERING INFORMATION

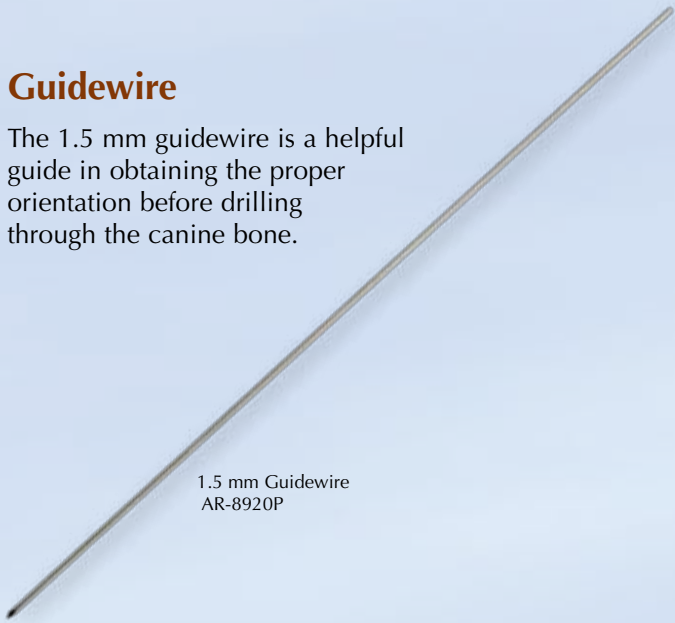
TightRope CCL	VAR-2800
FiberWire Scissor	VAR-11796
Cannulated Drill Bit, 3.56 mm	AR-8920DC
Guidewire for TightRope	AR-8920P

Recommended Postoperative Management:

- Cefazolin - 22 mg/kg IV 30 minutes prior to incision, 90 minutes later, then q.i.d. for a total of 6 doses
- Cephalexin - 22-30 mg/kg bid-tid PO for 10 days postop
- Bandaging at your discretion (soft padded bandage for at least 24 hours is typical)
- Complete exercise restriction with controlled muscle building activities (ie. leash walking) for eight weeks postop
- Professional rehabilitation is encouraged

Guidewire

The 1.5 mm guidewire is a helpful guide in obtaining the proper orientation before drilling through the canine bone.

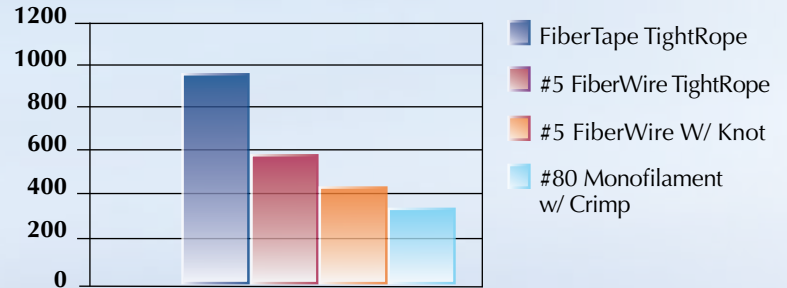


Cannulated Drill

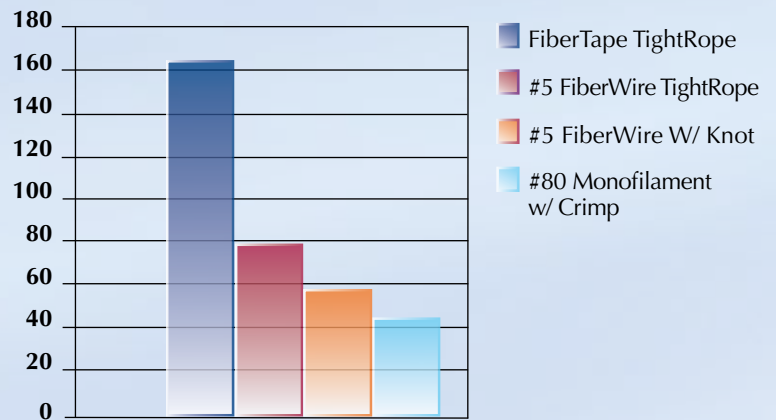
The reusable 3.56 mm Cannulated Drill provides an aggressive head to drill through tough bone.



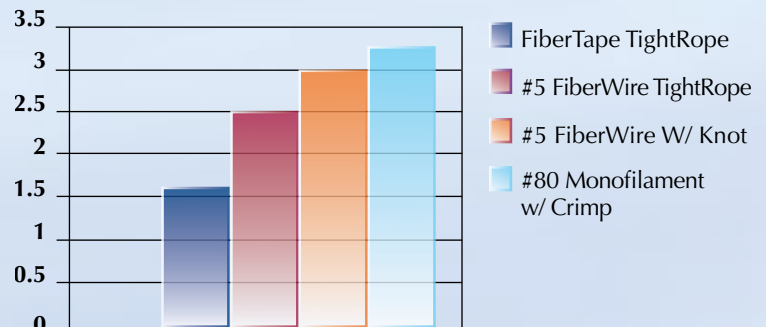
Ultimate Load (N)



Stiffness (N/mm)



Cyclic Displacement (mm)





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