



SURGICAL TECHNIQUE

Canine Cranial Cruciate Ligament Repair Anchor System

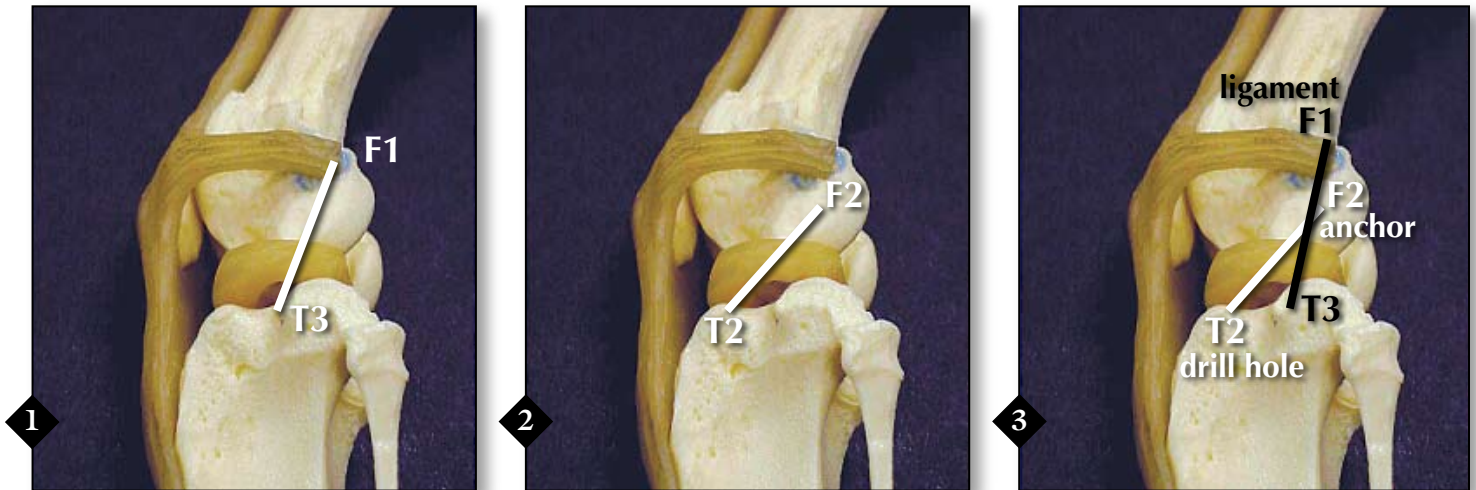


Surgical Technique

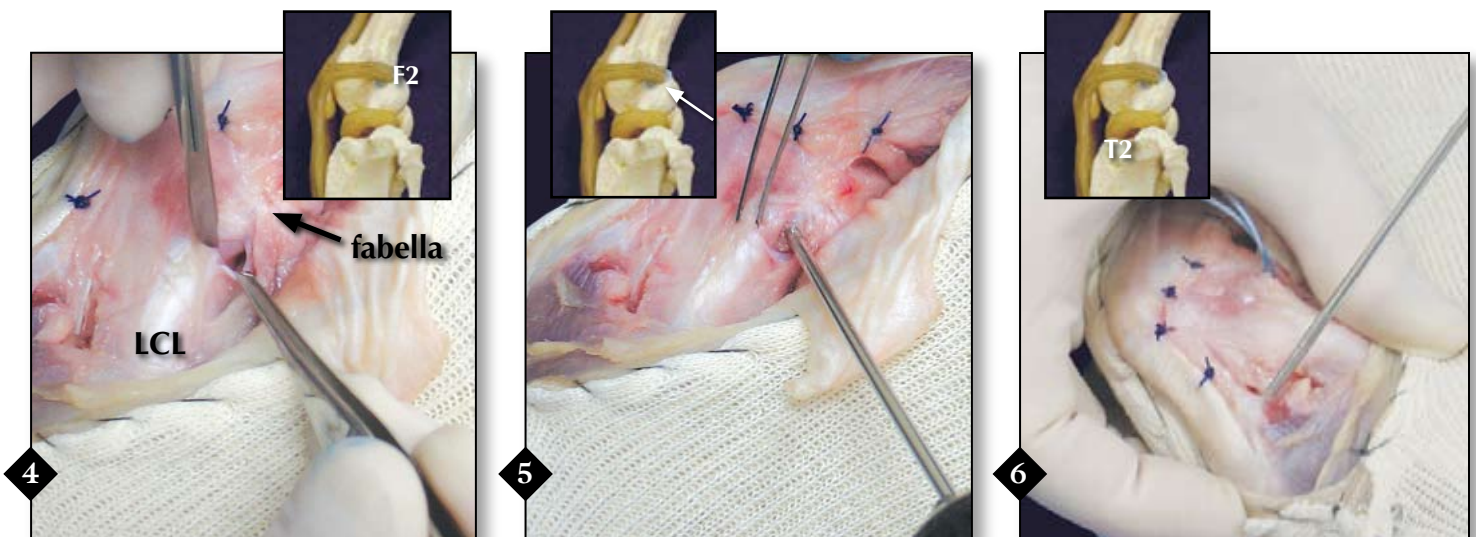
The patient is positioned in lateral or dorsal recumbency under general anesthetic. A hanging limb technique with aseptic preparation and appropriate draping should be performed.

A lateral parapatellar approach with arthrotomy is performed and thorough exploration of the internal structures of the joint is completed. Pathologic ligament and meniscus should be treated appropriately. Lavage the joint and close the joint capsule incision using standard technique.

Developed in conjunction with Brian S. Beale, DVM, Diplomate ACVS, Gulf Coast Veterinary Surgery and Don A. Hulse, DVM, Diplomate ACVS, Texas A&M University.



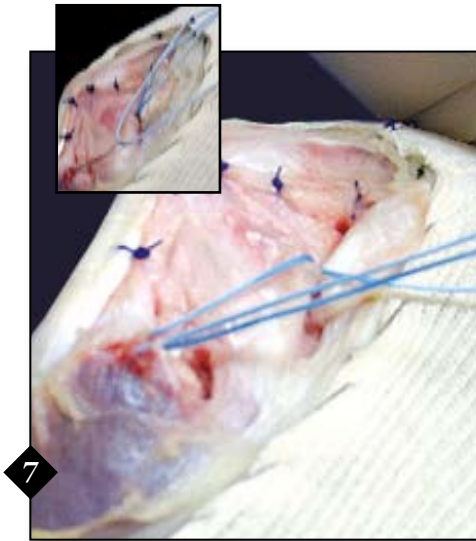
There are two sites recommended for suture placement: 1. The F1 - T3 site which is from the femoral-fabellar ligament to an anchor placed at the posterior wall of the long digital extensor tendon (LDE) sulcus. 2. The F2 - T2 site which is from an anchor placed at posteroventral femoral condyle to two parallel holes drilled through the proximal tibia. In large or giant breeds of dogs, place two sutures; one suture at F1 - T3 and one suture at F2 - T2.



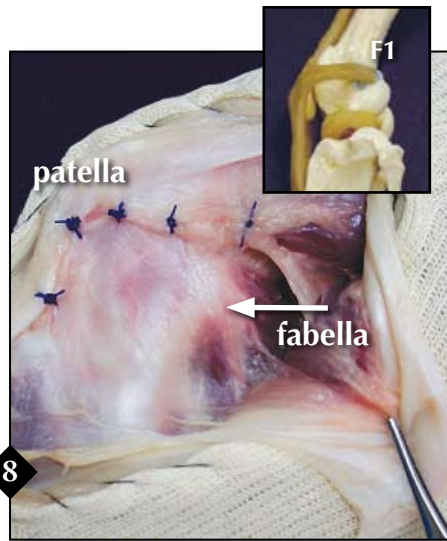
Palpate the fabella and make a small incision at the inferior pole to expose the posterolateral surface of the lateral femoral condyle.

Place an Arthrex anchor preloaded with FiberWire (#5 or #2 FiberWire is chosen depending upon the size of the dog). The entry point for the anchor is at the level of the inferior pole of the fabella, as far posterior in the femoral condyle, without compromising the articular surface.

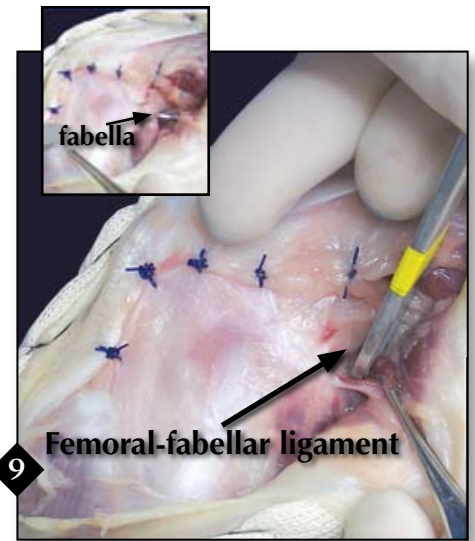
Expose the LDE and displace the tendon posteriorly to view the anterior wall of the sulcus. At the proximal plateau of the anterior wall, predrill two parallel holes to exit the medial surface of the proximal tibia.
*Note: 1 mm drill holes ...#2
 1.5 mm drill holes ...#5*



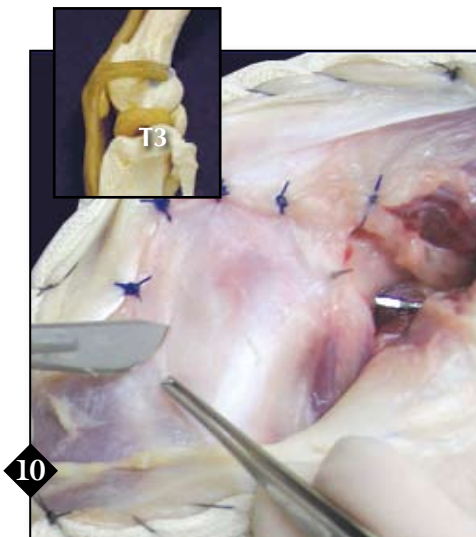
Place an Arthrex Nitinol suture passer in each drill hole such that the free end of the suture loaded on the anchor can be passed lateral to medial and then medial to lateral. The suture is then secured with a surgeon's knot followed with four additional single parallel throws.



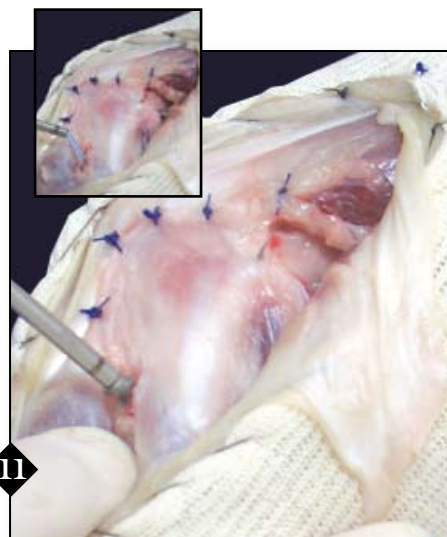
Reflect the fascia lata posteriorly to expose the fabella. Note the muscle fibers of the lateral head of the gastrocnemius muscle as they lie just proximal to the palpable fabella.



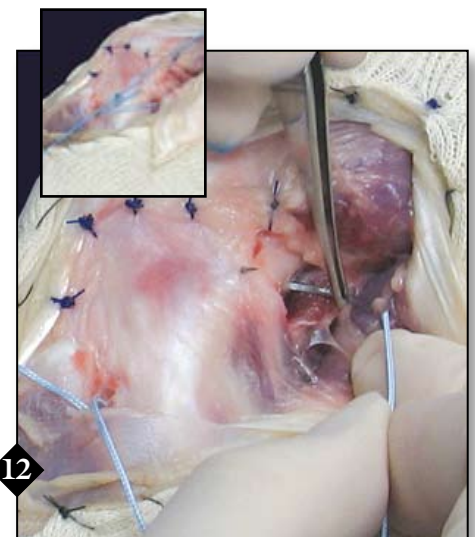
Make an incision through the soft tissue just anterior to the gastrocnemius muscle fibers and reflect the latter posteriorly. This maneuver exposes the femoral-fabellar ligament as it advances from the proximal pole of the fabella to the femur. The cruciate needle is passed through the base of the ligament adjacent to the proximal pole of the fabella to exit in the deep fascia anterior to the fabella.



Make a vertical incision through the fascia overlying the sulcus of the long digital extensor tendon.



Expose the LDE and displace the tendon anteriorly to view the posterior wall of the sulcus. At the proximal plateau of the posterior wall, place an Arthrex anchor preloaded with FiberWire® (#5 or #2 FiberWire is chosen dependent upon the size of the dog). Beginning at the proximal plateau of the sulcus, direct the anchor in a distomedial direction to accommodate the slope of the tibial plateau. *Note: Screw the anchor until the horizontal laser line is flush with the surrounding bone*



Pass the free end of the FiberWire behind the fabella using a cruciate needle. The suture is then secured with a surgeon's knot followed with four additional single parallel throws. *Note: Do not eliminate total drawer*

Note: If pre-drilling is preferred, use a 2.0 mm or smaller drill bit for the Corkscrew and a 1.5 mm drill bit or smaller for the FASTak

The Arthrex Difference

Since 1984, Arthrex has been a privately held corporation committed to just one thing: providing the finest quality products and educational services to meet the special needs of surgeons and their patients. Arthrex has a focused dedication to creative product development and medical education with an experienced, devoted team of professionals who are truly committed to continuing this long term tradition.

Our goal is to make technically demanding surgical procedures easier, safer and reproducible. Your trust in Arthrex products means you are backed by a company committed to uncompromising quality and constant product innovation.

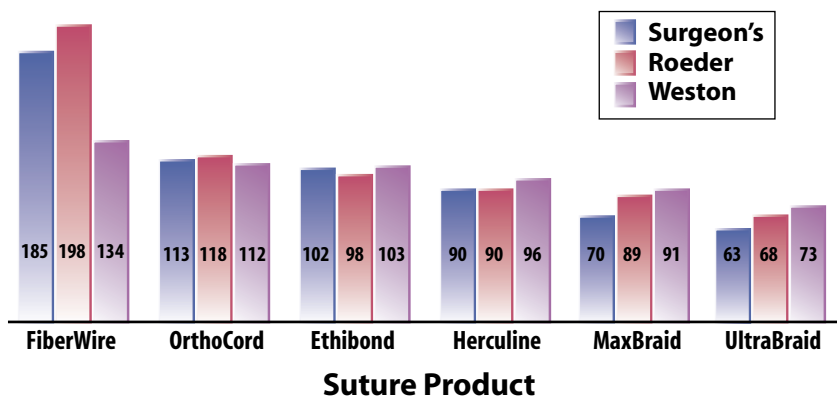
Suture Anchors with FiberWire

Suture anchor design should provide the highest strength possible in all types of indications and make technically demanding procedures simpler, safer, and reproducible. The Arthrex threaded Corkscrew and FASTak metal anchors can be inserted in one step and do not require pre-drilling.* The laser line on the driver shaft ensures that the anchor has been placed at an appropriate depth to ensure the eyelet is below the surrounding bone. The anchor and handle driver design enables the surgeon to remove the anchor. Combined with the high strength characteristics and increased abrasion resistance of FiberWire, it gives the surgeon confidence during crucial knot tying stages where suture breakage is virtually eliminated.

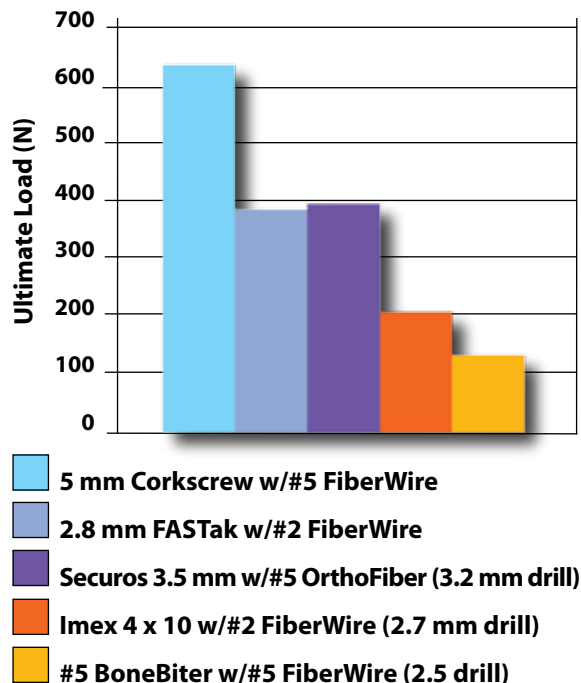


ORDERING INFORMATION	
FiberWire Tensioner	AR-1929
FiberWire Scissor	AR-11796
5 mm Corkscrew Anchor w/#5 FiberWire	VAR-2100
5 mm Corkscrew Anchor w/#2 FiberWire Two Strands	VAR-2102
2.8 mm FASTak w/#2 FiberWire	VAR-2200
Nitinol Suture Passing Wire	AR-1255-18

Knot Security
Average Force (N) Causing 3 mm Loop Displacement - #2 Size Suture¹



Anchor Pull-Out Data**



References:

¹ Burkhardt, S. S. *Arthroscopic Knots: The Optimal Balance of Loop Security and Knot Security. Arthroscopy 2004; 20*

** Refer to note under image #12

** Data on file at Arthrex

Revolutionizing Orthopaedic Surgery

FiberWire suture is constructed of a multi-stranded long chain ultra-high molecular weight polyethylene core with a polyester braided jacket which gives FiberWire superior strength, soft feel and abrasion-resistance unequalled in orthopaedic surgery. Suture breakage during knot tying is virtually eliminated which is especially critical during arthroscopic procedures. FiberWire represents a major advancement in orthopaedic surgery.

Strength

FiberWire has greater strength than comparable size polyester suture. Multiple independent scientific studies document significant increases in strength to failure, stiffness, knot strength and knot slippage with much less elongation.¹

Tie Ability and Knot Profile

Superior strength allows tighter loop security during knot tying, increasing knot integrity while reducing the knot profile compared to polyester suture.

Abrasion Resistance

The multi-strand long chain ultra-high molecular weight polyethylene core dramatically increases FiberWire abrasion-resistance. Surgical procedures that create bone edges, tunnel edges, and articulating surface abrasion areas are appropriate indications for FiberWire. FiberWire is over five times more abrasion-resistant than polyester suture.

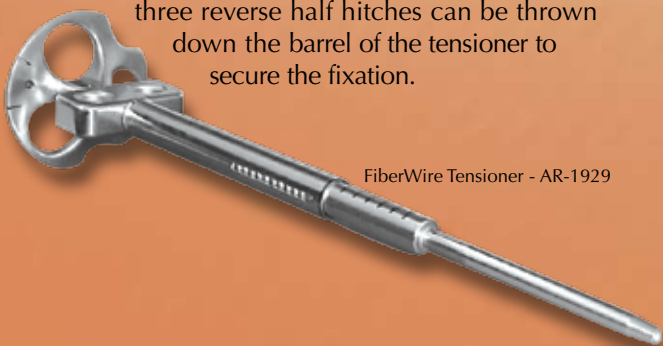
Safety in Numbers

Trusted by leading orthopaedic surgeons worldwide since its introduction in 2002, FiberWire has contributed to successful outcomes in over one million orthopaedic surgical procedures. Extensive biocompatibility, animal and clinical testing proves that FiberWire demonstrates biocompatibility characteristics equivalent to polyester suture.

FiberWire Tensioner

The FiberWire Tensioner provides controlled tensioning option of FiberWire loops during knot tying. When reapproximating soft tissue, the blunt tip keeps the knot in place while the tensioning wheel and spring mechanism gently tension the loop to tighten the repair.

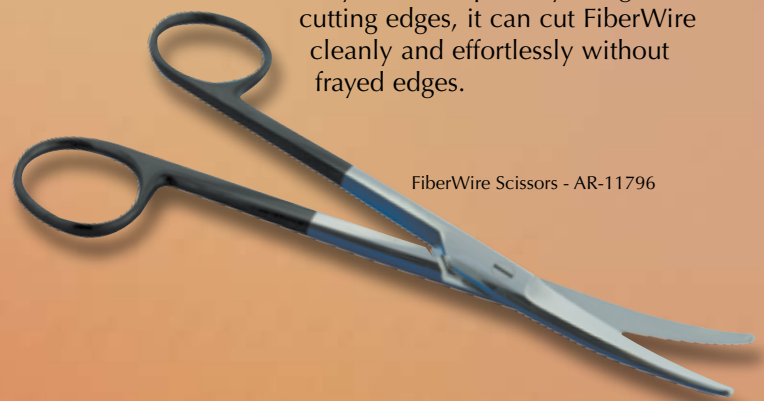
The tensioning wheel is turned in a counterclockwise fashion as the tension meter is read. Once the desired amount of tension/reduction is achieved, three reverse half hitches can be thrown down the barrel of the tensioner to secure the fixation.



FiberWire Tensioner - AR-1929

FiberWire Scissor

The FiberWire Scissor was designed to cut any size or style suture, especially FiberWire, in open surgical cases where an arthroscopic suture cutter is not necessary. With its specially designed cutting edges, it can cut FiberWire cleanly and effortlessly without frayed edges.



FiberWire Scissors - AR-11796



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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 Vet Systems 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. 6,117,162; 6,214,031; 6,511,499; 6,716,234 and PATENT PENDING

