

An Owner's Guide

To the Surgical Technique
for Tibial Plateau Leveling
Osteotomy With *InternalBrace*™
Ligament Augmentation



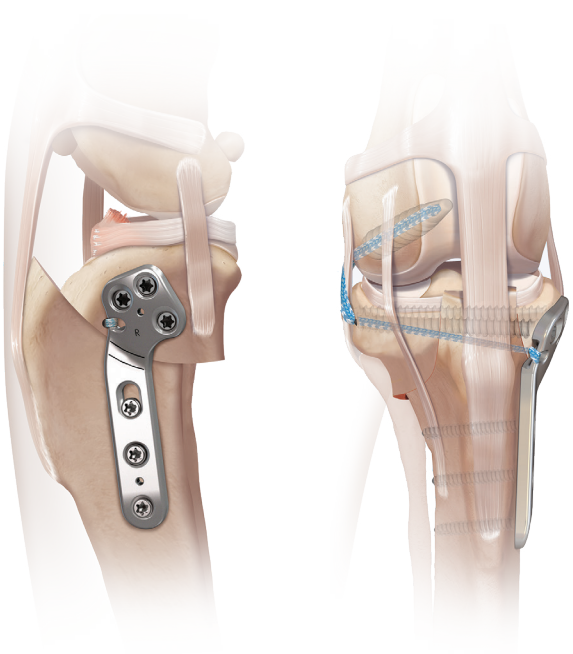
Arthrex®
Vet Systems

The Arthrex Difference

Since its inception, Arthrex has been committed to one mission: Helping Surgeons Treat Their Patients Better™. We are strategically focused on constant product innovation through scientific research, surgeon collaboration, and medical education to make less invasive surgical procedures simpler, safer, and more reproducible. Each year, we develop more than 1000 new innovative products and procedures to advance minimally invasive orthopedics worldwide.

Arthrex has always remained a privately held company, which allows for the rapid evaluation of new technologies and ideas, and the freedom to develop products and techniques that truly make a difference without economic considerations or compromise. Our experienced team of dedicated professionals represents a shared passion and commitment to delivering uncompromising quality to the health care providers who use our products and the millions of patients whose lives we impact.

The medical significance of our contributions serves as our primary benchmark of success and will continue into the future as the legacy of Arthrex.



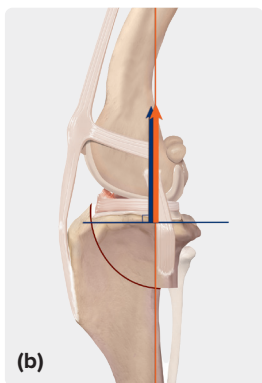
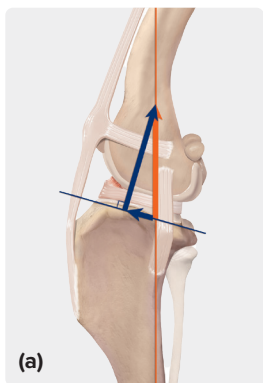
What is cranial cruciate ligament disease?

The cranial cruciate ligament (CCL) is an important structure that provides stability and allows normal motion of the stifle (veterinary term for knee). Progressive degeneration of the ligament and trauma are the most common causes of partial or complete rupture of the CCL, which ultimately leads to pain and progressive arthrosis of the stifle. The goals for treatment of CCL disease are to alleviate pain and return your pet to normal function. The treatment approach to CCL disease is multimodal and includes nonsurgical strategies, such as anti-inflammatory medications, weight control, and intra-articular orthobiologics (ACP), and surgical stabilization techniques.

How is CCL disease diagnosed?

The typical clinical signs of CCL disease are associated with stifle pain. Your pet shows pain by limping, holding the leg up, or by decreasing normal activity levels. Additional signs that can be detected during an orthopedic examination include pain at joint manipulation, joint swelling, and joint instability. Radiographs of the stifle should be performed to confirm the diagnosis and evaluate the joint. The radiographs are also needed to plan the TPLO surgery. Additional tests may be considered in specific cases.





How does TPLO work?

The term “TPLO” stands for tibial plateau leveling osteotomy, a surgical procedure which aims to decrease the steep tibial plateau angle (Images A and B). The articular surface of the dog stifle is unique, as the tibial plateau typically has an angle of about 25° to 30°, which is much higher than in people. Because of this inclined articular surface, the forces acting on the stifle during walking are cranially directed and may cause instability. Several studies have demonstrated that after tibial plateau rotation, this force shifts from cranial to caudal when the limb is loaded, creating a dynamic stability that in most cases is sufficient to stabilize the joint. In recent clinical studies TPLO offered excellent mid- and long-term.¹

What are my treatment options?

Treatment choices include both surgical and nonsurgical options, but most cases with CCL disease require surgery to stabilize the joint. The first step of the surgical treatment of CCL disease is joint evaluation to rule out a meniscal tear via arthroscopy or arthrotomy. Then, a stabilization technique is selected based on surgeon experience, scientific data supporting the technique, and patient suitability. The techniques reported for treating CCL disease can be described as those replacing the function of the ligament using a prosthetic suture (ie, TightRope® implant and SwiveLock® anchor CCL repair) or those that modify the bone geometry to neutralize the forces causing instability (TPLO *Internal/Brace*™ repair, tibial tuberosity advancement [TTA]).²

What is unique about the Arthrex TPLO *Internal/Brace*[™] augmentation technique?

TPLO *Internal/Brace* repair is the first technique that neutralizes rotational instability in combination with an osteotomy. The traditional TPLO and TTA techniques aim at neutralizing sagittal (cranio-caudal) instability, but they do not account for internal-external rotation, which might be a significant problem in some dogs. The Arthrex TPLO plate combine an anti-rotational suture (*Internal/Brace* repair) to offer more secure stability in dogs with complete CCL rupture. This advantage is crucial for helping to prevent late meniscal injuries and progression of osteoarthritis. The *Internal/Brace* repair is performed only in selected dogs.

Postoperative care

Correct postoperative management after TPLO is crucial for a successful outcome. The postoperative plan should be discussed with your veterinarian. It will most likely include restricted kennel rest when unobserved and controlled muscle-building activities (ie, leash walking) for 8 weeks or until the bone is completely healed. Postoperative rehabilitation should be discussed to develop an individualized program to return your pet to full functioning.



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References

1. Kim SE, Pozzi A, Kowaleski MP, Lewis DD. Tibial osteotomies for cranial cruciate ligament insufficiency in dogs. *Vet Surg*. 2008;37(2):111-q25. doi:10.1111/j.1532-950X.2007.00361.x.
2. Bergh MS, Sullivan C, Ferrell CL, Troy J, Budsberg SC. Systematic review of surgical treatments for cranial cruciate ligament disease in dogs. *J Am Anim Hosp Assoc*. 2014;50(5):315-321. doi:10.5326/JAAHA-MS-6356.

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US patent information