

Is a stifle orthosis the right solution for you and your dog?

Injury to the cranial cruciate ligament (CCL, also called the ACL) is the most common orthopedic injury in the dog. This injury is due to a partial or complete tear of a ligament inside the stifle (knee). The resulting instability leads to pain and arthritis.

Stabilization is recommended for best short and long-term function, quality of life, and comfort. Stabilization is traditionally done surgically either with a joint realignment surgery (TPLO or TTA) or with a pseudo-ligament surgically placed outside the joint (tight rope or lateral suture). These procedures are considered the standard of care, in general. In the past 7 years, the use of custom orthosis (brace) has become available as an alternative to surgery when surgery is not appropriate for any reason. These reasons may include other health issues, unacceptable surgical or anesthesia risk, advanced age, and financial constraints, among others.

Because an orthosis is not the correct therapy for all patients, before choosing an orthosis the following points are important to keep in mind:

- 1. The device MUST be put on every morning and removed every night. The device is to be used all day everyday, but must be removed at night.** . It is **NOT** like human knee brace, worn only for sport. The orthosis stabilizes the stifle from the outside only when ON, while surgery does so from the inside permanently. Because of this it must be used whenever your dog will be standing and/or moving about. The device is not used at night and your dog must not be allowed to move about at night (jump on or off bed, wander the house, go outside through a dog door, etc.).
- 2. Adjustments are expected and are a normal part of the custom orthosis process.** The device is custom-made for your dog. Every effort is made to accurately fit the device and 2 complimentary adjustments are included in order to meet the requirements for an appropriate fit; your veterinarian will coordinate these adjustments. Importantly, your dog is much more active at home than at the veterinary clinic. Increased activity and activity intensity can expose fit issues requiring further adjustment. Additional adjustments if needed are most commonly required in the first few months and as time goes on (see importance of follow-up #4). Please follow all instructions with regard to monitoring the leg and contact OrthoPets and your veterinarian promptly if you have concerns.
- 3. Follow-up is critical to success.** An orthosis is considered a “durable medical device.” This means that proper use is necessary to meet therapeutic goals and to ensure its safe application over the lifetime of your dog. In the first few months of fitting your veterinary team with the help of your OrthoPets case manager will work with you coaching with regard to device use and rehabilitation. Annual to twice annual appointments are advised depending on age and activity of your dog. At these appointments your doctor will thoroughly assess your dog’s orthopedic condition and evaluate the condition and fit of the device. Recommendations will be made for continued success in the device. If adjustments are required, it will be necessary to ship the device to OrthoPets with a turnaround time of 1-3 business days excluding shipping time.
- 4. Even with an orthosis, surgery may be required.** When the cranial cruciate ligament is torn sometimes the meniscus is also torn. The meniscus is a comma shaped cushion on the inside of the stifle. There are 2, one on the middle and one on the outer side of the stifle. The middle or medial meniscus is most commonly injured and this may occur at the time of the initial cranial cruciate injury or any time later due to too much activity on an unstable joint. A torn meniscus is very painful and if not treated it will cause continued lameness despite stabilizing the joint with surgery or an orthosis.

If this occurs, a surgical procedure called a partial medial meniscectomy is required. It can be done by itself or with a surgical stabilization (see first paragraph). A torn medial meniscus is diagnosed either at surgery, by MRI (rarely), ultrasound where available, or based on clinical judgment with or without use of an orthosis. If your veterinarian suspects a meniscus tear please see our handout on options available for your dog.

5. **The Role of Rehabilitation.** Whether your dog undergoes surgical or orthosis stabilization for a torn cranial cruciate ligament and whether or not surgery is required for a torn medial meniscus, it will take time to recover full, comfortable function. If an orthosis is part of therapy most dogs adapt quickly to wearing an orthosis. Behavioral techniques can facilitate this. Also your dog will need to learn basic skills while wearing the device. These include: transitions (sitting, lying down, and getting up), stairs, getting into vehicles safely, managing on different types of surfaces (ground, carpet, hardwood floor, etc.). Finally, orthopedic injury leads to compensatory abnormal movement and associated muscle strain and weakness. The best way to ensure the highest level of success is to follow recommended rehabilitation schedule and techniques. Each patient's condition and abilities are unique and as such an individualized rehabilitation program is needed. Your veterinarian can help find a certified rehabilitation professional (CCRT or CCRP) in your area.
6. **A proactive approach to arthritis management is the second key to long-term success.** Just as rehabilitation is important whether your dog undergoes surgical or orthosis stabilization, arthritis management is key as well. All dogs will develop arthritis after injury to the CCL regardless of the stabilization techniques chosen. The difference is the severity and speed of development of that arthritis. Steps taken early on and continued throughout your dog's lifetime will make a difference in terms of regaining and maintaining comfort and an active lifestyle well into the senior years. Your family veterinarian or a pain and mobility specialist can create an individualized, integrative arthritis management plan for your animal.
7. **Orthotics (braces) for dogs is a new solution to an old problem.** Modern medicine moves forward at a rapid pace. It takes a lot of time and many tens of thousands of dollars to perform a controlled clinical trial to compare a new therapy to the standard therapies in common use. As such, there is no published study directly comparing use of a stifle orthosis to surgical stabilization for CCL injury in the dog. As the industry leader using our unique, anatomically aligned, and mechanically sound custom design, OrthoPets provides stifle orthoses for nearly 1,000 dogs per year. This level of experience allows us to carefully select the patients *best suited* for a stifle orthosis; design appropriate rehabilitation protocols for best success; and troubleshoot interesting individual patient challenges. This is not a substitute for clinical data, but is referred to as empirical (or experiential) data. This is the current state of orthotics for animals. OrthoPets and our own medical director, Dr. Patsy Mich, continue to work closely with university professionals to develop studies to prove and improve the use of orthotic devices in animals.

