

Is an Elbow Orthosis the Right Solution For You and Your Dog?

Elbow pathology is common. The most common reasons for considering an elbow orthosis include dynamic luxation (dislocation) and osteoarthritis.

Clinical signs of elbow injury depend on severity but may include lameness, swelling, and mal-alignment. Elbow luxation is usually managed with sedation and reduction +/- surgery. Chronic cases are sometimes managed with an orthosis. Elbow osteoarthritis is common and one of the most challenging joints to manage. There is no single effective therapy. Management must be by an integrative approach and include: weight management, medical management, supplements, rehabilitation, surgery, partial joint replacement, and sometimes orthosis.

A custom orthosis can play a role in therapy and has the following purposes:

- 1) Restrict rotation at the elbow. The elbow is composed of 3 bones (humerus, radius and ulna). The radius and ulna compose the forearm and this allows some rotation around the humerus. This type of motion can induce pain in the arthritic joint.
- 2) Restrict frontal plane movement (varus and valgus). These are sideways movements. These movements are very subtle in the canine elbow and as such not as important as rotational movement can be in causing pain.
- 3) Limit joint motion (flexion and extension) to the most comfortable range. The device can be designed to allow movement within controlled parameters because end range flexion and end range flexion can be painful.

Custom elbow orthoses cannot take away all pain associated with elbow pathology. Animals must bear weight through the affected joint. However, by limiting the above the device is helpful when your dog is active. In this way the device is a support device.

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. **Device design is paramount to success.** Careful consideration is taken in prescribing a device and its specific components.
 - a. Articulation (hinging) is ideal whenever possible in order to provide as close to normal limb use as possible. Articulation can be controlled with design and the use of customized hinges and straps.
 - b. Not all dogs are candidates for elbow orthoses because of body shape. Dogs with a deep chest, short humerus (upper arm) or excessive weight are not candidates because the device cannot be fitted properly.

2. **The device MUST be put on and removed daily.** The orthosis stabilizes the elbow from the outside, while surgery does so from the inside. Therefore it is important to follow the exact wearing schedule provided by OrthoPets. Wearing schedules vary with type of injury.
3. **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. 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. Even so, your dog is much more active at home than here at the clinic. Think of the last time you bought a new pair of hiking or ski boots; they needed some break in time right? Increased activity and activity intensity can expose fit issues requiring adjustment. Additional adjustments 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 promptly if you have concerns.
4. **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 or the duration of injury healing. In the first few months of fitting your doctor with the help of our OrthoPets team will see you and your dog for fit checks and coaching with regard to device use. Annual to twice annual appointments, depending on injury, age and activity of your dog, are needed. At these appointments your doctor will thoroughly assess your dog’s orthopedic condition and evaluate the condition/fit of the device. Recommendations will be made for continued success in the device.
5. **Rehabilitation, the first key for success.** 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 with an orthosis is to follow a rehabilitation schedule. Each patient’s condition and abilities are unique and as such an individualized rehabilitation program is needed. OrthoPets strongly advises working with a certified canine rehabilitation professional (CCRT or CCRP). Please consult your family doctors or surgeon for referral to a veterinary rehabilitation professional in your area.
6. **A proactive approach to arthritis management is the second key to long-term success.** If the joint itself is injured rather than a ligament alone, osteoarthritis may develop. Just as rehabilitation is important, arthritis management is key as well. Steps taken early and continued throughout your dog’s lifetime will make a difference in terms of regaining and maintaining comfort and an active life-style well into the senior years. Consult with your doctors for a comprehensive pain management plan.