

Carpal Orthosis Considerations

Is A Carpus Orthosis The Right Solution For You And Your Dog?

Injury to the carpus (wrist) can be complex because the joint itself is complex. The carpus is composed of 3 joints, 7 carpal bones, 2 antebrachial bones (radius and ulna), and 4 or 5 metacarpal bones. There are multiple ligaments holding this structure together. Injuries can occur at any of the 3 carpal joints (antebrachiocarpal, middle carpal, or carpometacarpal); additionally any of these bones can be displaced (luxated) or fractured. Clinical signs of carpal injury include lameness, swelling, and mal-alignment. Mal-alignment can include inability to extend the joint, hyperflexion, hyperextension and/or increased angling of the paw toward the midline (varus) or away from the midline (valgus).

Some carpal injuries will resolve with rest and a temporary splint. More severe injuries require surgery or an orthosis. Common surgical approaches include repair of large ligament injuries when possible, screw fixation of fractures of the large carpal bones, partial or complete fusing of the carpus so that it no longer bends (articulates). Orthosis options include devices with and without paw segments and devices that bend and those that don't. The design of the device depends on the type and severity of injury. An orthosis is considered an excellent option when surgery is not appropriate, not necessary, or not possible.

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. Not all dogs are candidates for elbow orthoses because of body shape. Dogs with a deep chest, short humerus (upper arm) or limited access to the axillary (armpit) area may not be candidates as the orthosis components can't reach the bones to control the elbow joint.
2. The device MUST be put on and removed daily. The orthosis stabilizes the carpus from the outside, while surgery does so from the inside. Therefore it is important to follow the wearing schedule provided by OrthoPets and your veterinarian. Wearing schedules vary with type of injury and goal.
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 may be necessary to ship the device to OrthoPets for changes to be made. Increased activity and activity intensity can expose fit issues requiring adjustment and your dog is much more active at home than at the clinic!. 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 and your veterinarian 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 veterinarian should 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 highly recommended. At these appointments your doctor will thoroughly assess your dog's orthopedic condition and evaluate the condition/fit of the device.
5. Rehabilitation, the first key for success. Most dogs adapt quickly to wearing an orthosis, but every dog is an individual and some may need help learning to use their devices fully. Behavioral techniques can help facilitate this. Your dog will need to learn basic skills while wearing the device, such as transitions (sitting, lying down, and getting up), stairs, getting into vehicles safely, managing on different types of

surfaces (ground, carpet, hardwood floor, etc.). 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 vet or surgeon for referral to a veterinary rehabilitation professional in your area.