

Brachial Plexus/Radial Nerve Injury Considerations

Patients diagnosed with a Brachial Plexus or Radial Nerve injury often experience secondary complications, such as injury of the carpus or paw due to loss of full or partial function of the limb. Some patients may be able to advance their limb forward while others may only drag it behind them. Contracture of the carpus/paw is common among these patients and can worsen over time. It is important to be aware that the goal of the orthosis is to assist in preventing contracture and retain limb position in the most reduced anatomical position as it can be manually reduced.

The orthosis is not able to return function to the affected limb as this relates to neurological recovery. The possibility of return of limb function should be discussed with your veterinarian. Certain patients may be a candidate for a device which is designed to aid in slowly releasing the contracture, along with rehabilitation. However, this design is not appropriate for all cases and requires frequent and strict rechecks with your veterinarian for success.

The current functional ability your pet has will remain largely the same manner your pet will utilize the forelimb in the device. If your pet is unable to bear weight, advance his/her limb forward, or has a limited or absent function of the biceps/triceps, an orthosis should not be expected to make your pet able to walk and use the injured limb the same way they did before the injury.

Because an orthosis is not the appropriate approach for all patients, before pursuing an orthosis the following points are important to consider:

1. Device design is paramount to success. Careful consideration is taken in prescribing a device and its specific components. A paw segment is required for all Brachial Plexus and Radial Nerve injuries. Without a paw segment these patients are at risk for poor control of their pathology, and most importantly, serious skin trauma/wounds due to uncontrolled pressure, friction and possible ground contact to the dorsum of their paw. Articulation (hinging) may not be recommended when a patient has reduced or absent function of the forelimb. The device will be fabricated as a non-articulating device to provide full support and stability to the carpus and paw unless articulation and a turnbuckle or extension assist hinges are used to aid in releasing contracture.

2. Depending on the goals for the orthosis, the device can be worn for 24 hours per day with AT LEAST 3-5 non-weight bearing air breaks throughout the day. While unsupported, the forelimb may experience new or worsening contracture. Therefore, it is important to follow the recommended wearing schedule as discussed with your veterinarian.

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. Much like hiking boots or new shoes, the device will require a break in period and fit issues may come up as your pet increases wear and activity with the device. 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 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 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 suggested. 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. However it is rare that we put on the orthosis and your dog immediately returns to full normal activity like they had before their injury. 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 (dirt, 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 doctors or surgeon for referral to a veterinary rehabilitation professional in your area.

6. Refurbishment and device maintenance: Brachial Plexus/Radial Nerve injury patients are typically extremely hard on their devices due to the nature of the injury and presentation. You will need to carefully monitor your pet’s device, especially the paw segment plastic and tread, for wear and tear. These patients often need frequent replacement of tread, or even repairs to the plastic of the paw segment, due to the heavy friction and impact that their devices bear. This wear is normal and expected for these patients, if you notice any damage and have concerns, please contact your VOP Specialist to discuss repair options.