

Is a Prosthetic the Correct Solution For You and Your Pet?

Prosthetic devices are an exciting treatment option for our pets and have started to become even more popular over the years. For a pet to be a good candidate for a prosthesis they must meet our minimum limb requirements, have good soft tissue coverage of the limb, be comfortable with all handling of the limb, as well as be able to bear weight on the limb and move it forward.

A pet that has at least 40% of the tibia and fibula (hind limb) or the radius and ulna (forelimb) remaining will be a good candidate for the prosthesis, though the more limb they have the easier it is going to be for them to learn how to use the prosthesis properly.

If less than this amount of limb remains it is not possible to provide a functional prosthetic limb. However it is possible to support the remaining limbs with an Over-The-Counter soft wrap or custom orthosis (protective brace). Please discuss this option with an OrthoPets Specialist if your companion is not a candidate for a prosthesis.

Forelimb:

If the amputation is above the carpus (wrist), we will need to add an additional component called a humeral cuff to assist with device suspension and to keep the device from rotating on the limb, and we will need to ensure the pet has adequate humeral and axillary access for humeral cuff purchase.

If we are left with carpal bones we may be able to use a traditional style prosthesis that gets suspension from the carpal bones and the ends of the radius and ulna. It is important to note that some shorter, stubbier breeds that have limited access to the humerus may not be candidates for a forelimb prosthesis.

Hindlimb:

If the amputation is above the tarsus (ankle) we would need to utilize a special type of prosthesis called a "Chevy Prosthesis". This is a sophisticated prosthesis design that utilizes additional components to keep the device on the limb and keep it from rotating, and that will attach to a chest harness that the pet will need to wear. This type of prosthesis can take a lot more rehab than any other type of prosthesis.

If we are left with tarsal bones we may be able to use a traditional style prosthesis that gets suspension from the bony prominences of the tarsus.

If your pet is having amputation surgery, it is VERY important that your veterinarian contact us prior to surgery so that we can discuss with them the best way to prepare the limb for a prosthesis. There are some specifics regarding where the amputation will be done as well as how to prepare the skin.

Why consider a prosthetic?

Veterinarians have recommended total amputation whenever catastrophic injuries or tumors affect the limbs of our companion animals. This has been recommended with the best interest of the animal and the most up-to-date science in mind. Overall dogs and cats can negotiate life with a missing limb adequately. This may be because there is no social stigma associated with limb loss and most are motivated to continue a relatively active lifestyle.

However, specialists in movement and chronic pain have recognized some unfortunate short- and long-term consequences. These include breakdown of remaining limbs such as carpus or tarsus collapse; chronic neck and back pain; weight gain; and myofascial (muscle) pain syndromes. Such issues can shorten the lives of animals missing one or more limbs.

In recent years the technology used to fabricate prosthetic limbs for humans has been applied to animals. Originally this was a novelty but has now progressed to a solid science called Veterinary Orthotics and Prosthetics (VOP).

Animals can adapt to and thrive with prosthetic limbs. By restoring normal 4-leg (quadruped) mobility, chronic pain syndromes and premature euthanasia can be avoided in many cases!

Are you and your companion animal candidates for a prosthetic limb?

Most dogs, many cats, and several other species adapt very well and quickly to the use of a prosthetic limb. Use of a prosthetic limb does not typically require an extraordinarily tolerant animal except in the case of some cats. The ability to sit quietly while the limb is checked and the prosthetic is applied is usually a simple matter of training. Orienting to the prosthetic limb, learning to walk properly in the limb as well as learning to negotiate the environment are all accelerated with the help of a certified veterinary rehabilitation professional.

Although use of a prosthetic limb is a relatively easy healthcare issue, commitment to lifelong care of the residual limb and the prosthetic limb is imperative. Like any animal with a chronic health issue, the disabled animal requires daily attention and maintenance. The residual limb must be checked daily for skin irritation or breakdown. Activity while wearing the prosthetic limb must be monitored to limit excessive activity. The prosthetic limb must always be kept clean and in good working order. Your animal needs regular health care including at least twice annual checkups with your veterinary team. Fortunately, the time commitment and costs are not overwhelming when you consider the chronic health issues and costs associated with full limb amputation.

What role does rehabilitation play?

Human beings receiving a prosthetic limb undergo professional rehabilitation. This level of care is important to animals with prosthetic limbs as well. Most dogs quickly adapt to a prosthetic limb, and behavioral techniques can facilitate this.

Even so, like human patients the veterinary prosthetic patient will need to learn basic skills. These include: learning to recognize the ground through the prosthetic, learning to step up and clear obstacles, transitions (sitting, lying down, and getting up), stairs, getting into vehicles safely, managing on different types of surfaces (ground, carpet, hardwood floor, etc.). Depending upon the level of amputation rehabilitation may be more complex. Typically higher levels of amputation (above the tarsus or carpus) present a more challenging rehabilitation process.

Additionally, limb loss leads to compensatory abnormal movement and associated muscle strain and weakness. The best way to ensure the highest level of success with a prosthetic limb 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).