



A patient that torn his CCL (ACL) and couldn't go through knee surgery is now laying down with the OrthoPets Stifle device. He uses the device to get around and live an active life without the downtime of surgery.

Shake a leg

Deborah Rubin Fields investigates the prosthetic and orthotic appliance options for dogs

NOT ALL LOVE TRIANGLES ARE BAD.

One successful North American love triangle—with parallels in Europe, Australia, South Africa and South America—involves the following union: dog owners, vets and a handful of companies producing individually designed orthotic and prosthetic appliances. All the parties in this union believe this: neither euthanasia nor surgery is the only answer to easing or correcting problems with canine limbs.

While braces and artificial limbs are reliable alternatives for animals, in the case

of prosthesis, there must be a leg stump with which to attach an artificial paw or partial leg. Amy Kaufmann, co-owners and founders of OrthoPets, says: "For a fore limb patient, we need to have the entire elbow joint, and at least 30 per cent of the radius and ulna remaining. In the hind limb, we need to have the entire knee joint, and at least 15 per cent of the fibula and tibia." Kaufmann reports her company's appliances can be used for knee injuries, carpus (wrist injuries), tarsus (ankle injuries), and elbow injuries. "We also work with pets that have lost a limb to an

injury, or born with a congenital deformity of a limb [and] neurological injuries."

Although, not suited for all limb problems, these custom-made orthopaedic devices are less expensive and less risky than veterinary surgical intervention.

Moreover, in trying to get a maximal fit, at least one company seems to have incorporated a workable solution. All its devices come with diabetic foam (used with human diabetics who have lost their sensitivity to pain). Since dogs are unable to complain of pain, this foam 'speaks' for them by changing

Photography: OrthoPets



(Left) A patient in an OrthoPets Stifle device during a rehab session with an OrthoPets CCRT. (Below) After a patient had surgery for an Achilles tendon, he uses this OrthoPets Tarsus device for support post-op.

The authorised Australian distributor for OrthoPets products is Dogs In Motion Canine Rehabilitation.



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Dr Jeffrey Meinen, US veterinarian

colour when there is excessive pressure.

Dr Jeffrey Meinen, a veterinarian based in the US state of Wisconsin, feels that orthoses and prostheses have “changed the way veterinarians practise because it gives more options to deal with orthopaedic and neurological conditions, improving patients’ comfort and function.”

Dr Meinen maintains that a dog’s age is not a factor per se, but owners should be aware younger dogs “may very well out grow the device which would require a newer device be made to compensate for their growth”. Kaufmann agrees. OrthoPets has

fitted “two-month-old puppies up to a 19-year-old dog”.

To assess a dog’s candidacy for such devices, Dr Meinen might “sling up the limb to prevent use and observe how the patient will acclimate on three limbs. We can apply a temporary device (ie. splint, cast, etc) to observe how they manage before proceeding with ordering an orthotic.”

Derrick Campana, US president of Animal Ortho Care, stated that a dog must “still want to use his limb, but other than that, there are no other behavioural issues that are of concern, unless they bite at everything.”

He explained that not many dogs will bite or chew at a prosthesis, but some will. He would defer recommending an orthotic or prosthetic device if the dog had any heart issues or stump infections.

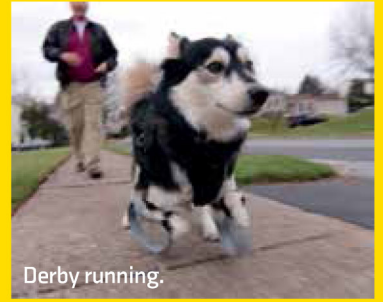
While it may take dogs a few weeks to get used to their new devices, Marty Mandelbaum of the US-based company,

(Below) An OrthoPets patient was born with a forelimb deformity. As her leg is contracted at an angle, the device was made with a prosthetic bottom. She wears a carpus device to assist the breakdown of over-compensation from the deformed leg. She uses both a prosthetic and an orthotic to walk around.





Nakio, who goes up the rehab ramp, has four prosthetic legs from OrthoPets. When Nakio was a puppy, he lost all four paws due to frost bite.



Derby running.

Derrick Campana, president of Animal Ortho Care, may be seen on a recent YouTube interview: *Derby the dog: Running on 3D Printed Prosthetics*. For more details on the 3D printing of the device, visit www.thedodo.com/dog-runs-first-time-3d-print-881600572.html.



The ProJet 5500X 3D printer created the prosthetics for Derby.

MH Mandelbaum Orthotic & Prosthetic Services, recently treated a large bloodhound who adjusted in record time: After a few minutes of training with the rear leg brace Mandelbaum had built, “Elvis was able to walk up the ramp to his owner’s truck.” Before being braced, Elvis had difficulty walking due to his injury and weight.

While these companies are outside of Australia, geographical distances are apparently not a barrier to receiving treatment. For instance, Campana reported he works out the logistics of measuring, fitting and follow-up by first sending a casting kit (casting videos/ procedures are on the company’s website) to the veterinarian or dog owner to have a mould taken and forwarded.

“Measurements on limb lengths would also be included. We would fabricate the device in about two weeks and ship to owner/vet for fitting. Pictures and videos can be used to confirm fit, etc.”

Their pets’ new lease of life pleases dog owners. Wisconsin-based Jill Sloviak is the owner of six-year-old Oscar, a miniature dachshund, suffering from front paw double-jointedness and arthritis. A few years ago, Oscar “began running less, being unable to jump up or down from the



Elvis the bloodhound tries out his new knee brace.

couch or go on long walks like he used to”. The situation deteriorated until Oscar “started whimpering and crawling; he couldn’t get up on his feet at all.”

Sloviak claims: “I don’t know where Oscar would be today without ... his shoes. He has had them now for about 20 months. Oscar can walk, run, get off the couch and play with [our] two other dachshunds.” ➤



Photography: 3D Systems

Photography: Marty Mandelbaum