

# **Total Elbow Replacement**

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Joshua Jackson, DVM, Diplomate ACVS

Severe osteoarthritis of the elbow is one of the most common orthopedic conditions seen in all veterinary patients. This can be from fragmentation of the coronoid process, osteochondrosis, asynchronous growth between the radius and ulna, ununited anconeal process, intraarticular fracture and luxation and may account for up to 8% of all appendicular joint disease. Treatment of this problem is often challenging. Many patients will exhaust medical management in this painful and debilitating disease. Historically, we have been limited in our ability to manage end stage elbows. NSAIDs, narcotics, weight loss, physical therapy, nutraceuticals, special diets and even acupuncture have all been used to try to alleviate the clinical signs.

Total elbow replacement (TER) has been attempted in dogs for the last 2 decades. There are many challenges to overcome with replacement of the elbow. Dogs place close to 60% of their weight on the front limbs, which make the elbow a much bigger challenge in dogs than in people. TER must address three bones instead of just two as in total hip or total knee replacement. The elbow has much less soft tissue support and covering than the hip, making it more prone to dislocation or infection. Total elbow replacements to date have required an aggressive surgical approach and have lacked appropriate equipment and instrumentation to allow repeatable and predictable results. Past TER has required a cementing technique which is costly, time consuming and prone to loosening with time. Success rates of ~80% (16/20 dogs) have been published with the TER systems that have historically been used.

A new TER designed by Dr. Randy Acker and manufactured by Biomedtrix is now available. The technique is considered a minimally invasive arthroplasty technique as joint luxation is not required. In addition, the implants are cementless and thus rely on a press fit that strengthens with time as bone grows in to the implants porous coating. A medial approach has been employed to decrease the risk of elbow dislocation. A tremendous amount of work has gone in to the engineering of instrumentation, jigs and implants associated with the procedure. While the new TER system from Biomedtrix has only just hit the market, the preliminary results are very promising. The risk of infection, fracture, dislocation and implant failure have been very low in the first cases performed. Long term evaluation of the implant will be important to determine ultimate success of the implant.

The new total elbow replacement is available at the Veterinary Specialty Hospital for medium to large breed dogs. April. Please contact us if you have questions or would like us to review radiographs of a potential TER candidate.