

THE FIRST 2 YEARS OF CUE – IS UNICOMPARTMENTAL ELBOW RESURFACING WORKING?

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The Canine Unicompartmental Elbow (CUE) Arthroplasty System is designed to provide a surgical treatment option for medial compartment disease (MCD) of the canine elbow. This common cause of lameness has no treatment options that consistently result in full-function outcomes with low morbidity and complication rates.

To date, 73 dogs have been enrolled in a limited clinical trial at 15 centers. Dogs were included based on a diagnosis of MCD of one or both elbows that had failed previous treatment(s). Preoperative assessments included orthopaedic examination, range of motion measurements, lameness evaluation, and radiographic assessment of the affected limbs. The CUE surgeries were performed using a standard operating protocol. Dogs were assessed at defined time points postoperatively using the same outcome measures as done before surgery, and 49 have been assessed at ≥ 6 months (range 6-28 mos) after CUE.

Full function was achieved in 22 (45%), acceptable function in 23 (47%), and unacceptable function in 4 (8%) cases. A catastrophic complication occurred in one dog (2%), major complications occurred in 6 (12.2%), minor complications occurred in 11 (22.4%), and no complications were noted for 31 (63.3%) cases. Degree of lameness was significantly less at 6 months after CUE (Preop = 2.8 mean, 3 median; 6mo Postop = 0.3 mean; 0 median). Force-plate and pressure mat analyses (n=26) have shown improvements in the range of 8-29% for measured variables (peak vertical force, vertical impulse, peak pressure, pressure distribution, forelimb reach) in CUE limbs at 6 months compared to preop values. Radiographic assessments revealed no evidence of implant displacement, subsidence, or loosening except in one dog which had ulnar implant loosening. Arthroscopic assessment (n=14) at 3-24 months after CUE showed stable implants with new tissue ingrowth adjacent to the implants, no evidence for inappropriate implant wear, and no evidence for lateral compartment progression of pathology. The ulnar implant loosening was noted arthroscopically and one case had a grade 4 cartilage lesion caudal to the ulnar implant.

These data suggest that the Arthrex Canine Unicompartmental Elbow arthroplasty system is associated with a 92% success rate and 14% major/catastrophic complication rate in the first 49 dogs treated for medial compartment disease of the elbow and followed for at least 6 months after surgery. Based on the initial results of the CUE Multicenter Clinical Trial, this procedure appears to be safe for treatment of medial compartment disease in the canine elbow and warrants continued clinical evaluation.

**Disclosure: Dr. Cook is a patent holder on CUE and receives royalties associated with sales of CUE.*