

## What can I expect after CUE surgery?

You will be sent home with antibiotics and pain-relieving medications for your dog. A bandage will be placed on the limb, which you will need to keep clean and dry. The bandage will be changed after one week and maintained for at least two weeks after surgery. Sutures will be removed approximately two weeks after the procedure. Your dog must be restricted to rest in a kennel or crate, with controlled leash walking only, for eight weeks after surgery. Follow-up examination and assessment of healing will be performed 8-10 weeks after the procedure, at which time rehabilitation exercises will be initiated to allow a progressive return to full activity levels by six months after surgery. Full athletic function is not expected until six months after surgery, at which time a final assessment will be performed.

## Other surgical options for MCD

Sliding Humeral Osteotomy (SHO) was developed in the late 1990's at the University of California. This procedure involves cutting the upper arm bone and realigning it with a bone plate and screws in an attempt to shift the forces off of the area of cartilage damage in the medial compartment and back on to "good" cartilage in the lateral compartment. When successful, this procedure can also reduce or eliminate the pain and lameness caused by the bone-on-bone grinding. SHO has been performed in over 400 dogs with the majority of dogs reported to have decreased lameness by 12 weeks postoperatively.

Several total elbow replacement systems are currently available for clinical use in dogs. Total elbow replacement may be indicated when the damage to the elbow joint is so severe that it encompasses the medial and lateral parts of the joint. The results of total elbow replacement in dogs are highly variable with respect to safety and efficacy. As such, this procedure is currently considered a salvage procedure and reserved for cases in which no other viable options are available.



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# Canine Unicompartmental Elbow (CUE)

Client Information



## What is Canine Elbow Dysplasia?

Elbow dysplasia is a general term used to identify the group of disorders that affect many dogs, especially large breeds and working/performance dogs. The three most common disorders included in the elbow dysplasia group are:

- Fragmented Medial Coronoid Process (FMCP)
- Osteochondritis Desiccans (OCD)
- Ununited Anconeal Process (UAP)

While these disorders involve different areas of the elbow joint of affected dogs, they all result from abnormal development of the bone and cartilage of the elbow and lead to osteoarthritis.

## What are the symptoms of elbow dysplasia?

Elbow dysplasia is the most common cause of forelimb lameness in dogs. The abnormalities start to occur when the puppy is going through a rapid growth phase (typically 4-10 months of age), but often the symptoms are not noticed until the dog is much older. Changes in activity level, limping, swollen elbows, pain in the elbows, decreased performance, and behavioral changes are some of the visual signs you may observe if your dog has elbow dysplasia.

## Professional diagnosis of elbow dysplasia

Your veterinarian will perform a careful orthopaedic examination of your dog to diagnose the problem. With elbow dysplasia, the doctor may note joint thickening and swelling, pain on joint manipulation, and loss of range of motion. X-rays should be done to confirm the findings and characterize the type and severity of elbow dysplasia. Advanced imaging, such as arthroscopy of the joint, CT scan, or MRI, may also be necessary to fully determine the extent of the problem and the most appropriate treatment options.

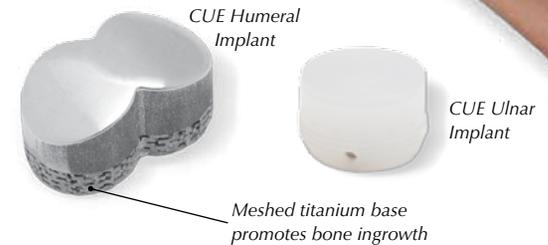
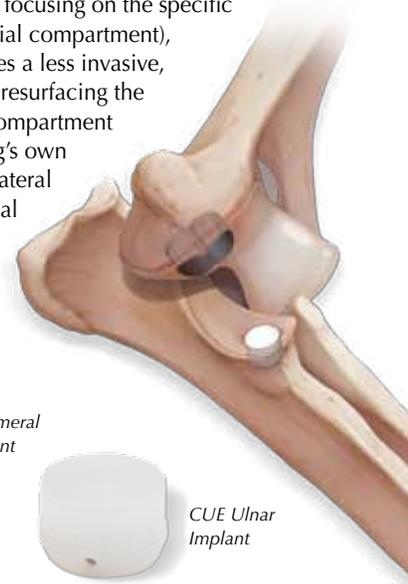
Fragmented Medial Coronoid Process (FMCP) is by far the most common form of elbow dysplasia in dogs. In this disorder, the bone and cartilage on the medial part (inside portion) of the elbow joint develop cracks (microscopic or larger) which can cause the symptoms of elbow dysplasia and lead to osteoarthritis. The cracks may result in the formation of fragments of bone and cartilage that may remain in place or move in the joint like a pebble in your shoe.

Arthroscopy performed by an experienced surgeon is an ideal way to deal with FMCP in dogs as it allows accurate and comprehensive diagnosis, as well as immediate treatment. Through two small incisions, the veterinary surgeon is able to carefully assess the joint, remove the fragments, and treat the surrounding cartilage as needed. This procedure typically takes between 20 and 45 minutes per elbow and many dogs can be treated on an outpatient basis. Arthroscopic treatment of FMCP has a high success rate of removing the abnormal cartilage and bone, slowing down the progression of osteoarthritis, and improving the symptoms of the disorder. However, it is not a cure and the osteoarthritis will still progress to some degree and needs to be monitored long term with a likely need for further treatments later in the dog's life.

As the dog ages, the osteoarthritis from FMCP and other forms of elbow dysplasia may result in complete loss of cartilage on the weight-bearing surfaces of the medial joint structures resulting in what veterinarians call Medial Compartment Disease (MCD). This is the "end stage" form of elbow dysplasia where the inside part of the joint collapses with eventual grinding of bone on bone. Interestingly and importantly, the larger lateral (outside) part of the elbow joint appears normal in the vast majority of patients.

## What are my treatment options for MCD?

Options such as oral medications, joint injections, and physical therapy may be beneficial in many cases for at least a period of time and should be discussed with your veterinarian. When surgical treatment is deemed necessary, as is often the case, the Canine Unicompartamental Elbow (CUE) is a safe and effective option to consider. The CUE was developed as a treatment for MCD for dogs in which arthroscopic treatment and the nonsurgical options are no longer successful. By focusing on the specific area of disease (the medial compartment), the CUE implant provides a less invasive, bone-sparing option for resurfacing the bone-on-bone medial compartment while preserving the dog's own "good" cartilage in the lateral compartment. This medial resurfacing procedure reduces or eliminates the pain and lameness that was caused by the bone-on-bone grinding.



Arthroscopic image of severe MCD



Arthroscopic image of CUE seven months post-op



Post-op x-ray showing CUE implants in place

