



ELBOW DYSPLASIA IN DOGS

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The most common cause of front leg lameness in the dog is developmental problems of the elbow joint. This disease leads to degenerative changes (osteoarthritis) in the joint including cartilage damage, bone spur (osteophyte) production, and loose bone fragments.

ELBOW JOINT FUNCTION

The elbow joint of the dog is formed by three bones (the humerus, radius and ulna bones {Figure 1}) that must fit together correctly for the joint to function normally. There are ligaments on the inside and outside of the elbow to maintain stability. Although the elbow joints of dogs and humans have similar anatomy, the forces applied to the dog's elbow are different because dogs stand on their front legs. The humerus bone should glide smoothly around the C-shaped curve formed by the radius and ulna bones.

CAUSES OF ELBOW DYSPLASIA

Elbow dysplasia is typically a developmental, inherited disease of young large-breed dogs. In some dogs, during growth, a step develops in the C-shape

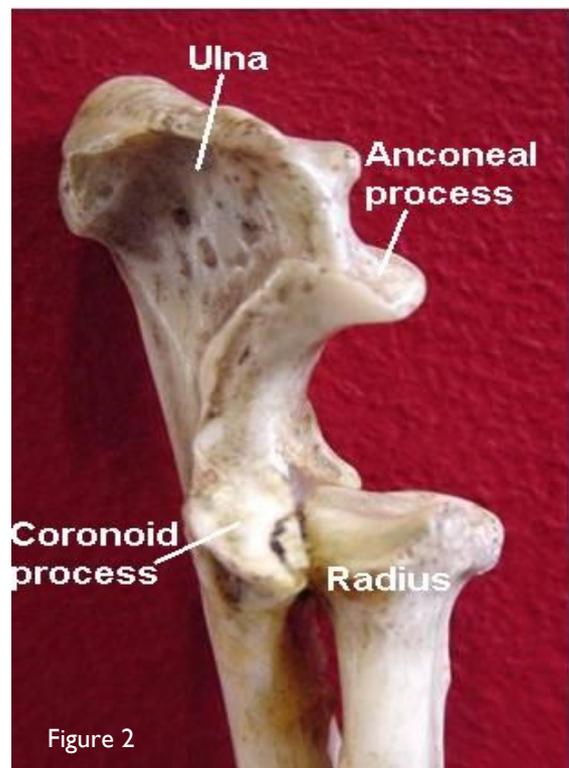
between the radius and ulna bones possibly due to the radius bone being too short or too long relative to the ulna. This causes extra stress to be placed on prominent parts of the ulna bone (the anconeal or coronoid processes {Figure 2}) or the cartilage of the humerus. Cracks can then occur in the bone across the lines of greatest stress or the bone fails to grow normally. The joint cartilage may also be damaged in this process. Arthritis develops as a result of the damage to the bone and the cartilage.

There are three main forms of elbow dysplasia that cause pain and arthritis:

1. Fragmented coronoid process (FCP). A crack occurs in this triangular-shaped bony bulge on the inside edge of the ulna bone.

2. Ununited anconeal process (UAP). A lack of normal bone growth results in this bone fragment becoming loose at the top of the ulna bone.

3. Osteochondritis of the humerus (OCD). A flap of loose cartilage develops on the inside surface of humerus bone.



SYMPTOMS

Typically, affected dogs show front leg lameness that can start as young as 5 months of age. The lameness may be intermittent and tends to improve with rest and get worse with exercise. Not all dogs with elbow dysplasia show symptoms.

DIAGNOSIS

A thorough orthopaedic and neurologic examination is performed evaluating the dog when walking and by manipulating all four limbs and the spine. Swelling, pain, and joint stiffness can frequently be felt in the affected elbow. Sedation or anaesthesia and **X-rays** are necessary to show signs of arthritis and to assess the bone structure. A **CT scan** will often be more effective in showing any bony changes.

MEDICAL TREATMENT

Some dogs with confirmed elbow dysplasia will improve without surgery. The object of medical treatment is to control the symptoms. The dog should not be allowed to get overweight and exercise should be controlled. Cartilage-protecting agents (omega fatty acids, glucosamine, green-lipped mussel, fish oil) may help lubricate the joint and keep car-

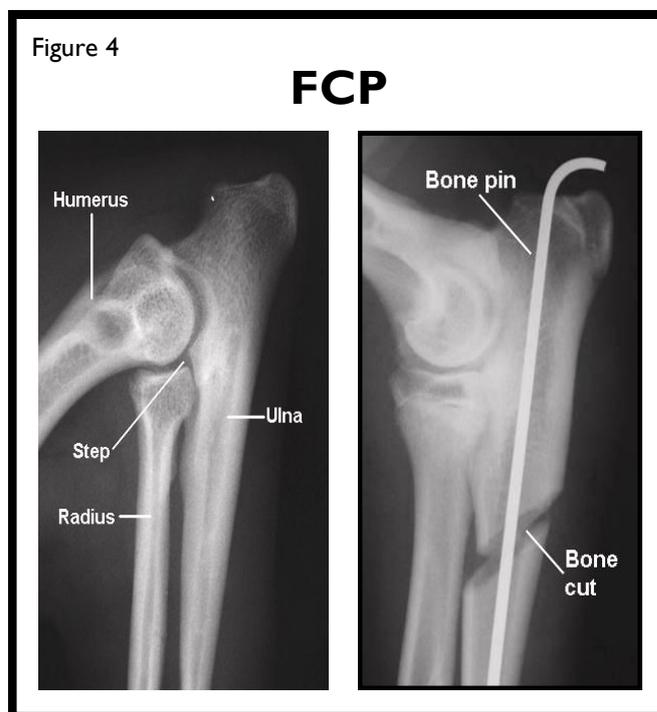
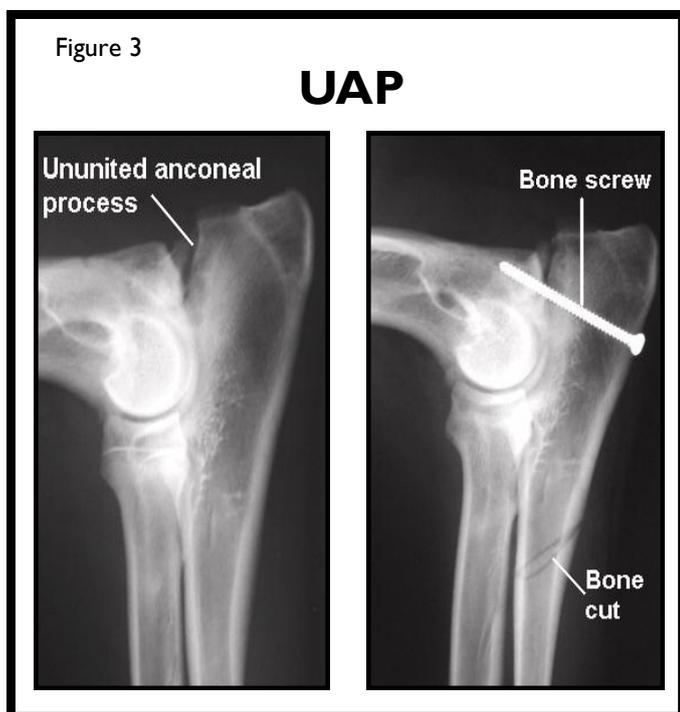
tilage healthy. Generally, lifelong supplementation is necessary. Anti-inflammatory medication (aspirin-like drugs) can be helpful in reducing pain but should only be necessary occasionally. Medical treatment does not stop arthritis from continuing to develop.

SURGERY

Other dogs with elbow dysplasia benefit from surgery depending on the type of damage and arthritis. The type of surgery differs from dog to dog and may involve passing a small telescope (arthroscope) into the joint to see if a step is present between the radius and ulna bones. Loose bone fragments may then be removed or stabilized using a bone screw. (Figure 3) The ulna bone may be cut to remove the step and a pin may be placed to help healing. (Figure 4)

RESULTS

Dogs that have had surgery generally show excellent results with some progression of arthritis, few complications and normal function. If the ulna bone is cut, healing takes about 2-3 months and most dogs can return to full activity 4-5 months after surgery.



POSTOPERATIVE CARE

EXERCISE CONTROL

To allow the bone to heal following the surgery, complete restriction of exercise is absolutely necessary for the first 6 weeks. Your dog can be walked on a lead for toileting. Light (5-15 minutes) lead walks can begin after 4 weeks.

BANDAGE AND SUTURE REMOVAL

A bandage is generally placed around the operated leg to reduce swelling. This bandage should be removed 2-3 days after surgery. The skin stitches need to be removed 10-14 days following surgery. These tasks can be done by your regular veterinarian. Please call our hospital if there is any swelling, discharge or redness around the stitches.

MEDICATION

Most dogs are sent home with medication for additional pain relief. Sometimes, antibiotics are also dispensed. Give the medications as prescribed. Further pain relief can be prescribed if necessary.

PHYSIOTHERAPY

Physiotherapy is an important part of your dog's recovery. We strongly recommend a consultation with a recognized animal physiotherapist. Home-based physiotherapy should consist of a warm compress applied to the region of the stitches for 15 minutes followed by gentle massage of the muscles. This can be followed

by gentle flexing and extending of the leg. After the bone has healed, your dog can begin more active physiotherapy with regular controlled exercise. Running without leash control is recommended for only short periods. Regular swimming is an excellent way of providing active exercise without joint stress.

FURTHER X-RAYS

Your dog should return to our clinic for further X-rays and possible pin removal six weeks after surgery to evaluate the bone healing. The dog will require sedation to get good X-rays. Do not feed your dog on the morning of this visit. This assessment will incur an additional cost.

LONG-TERM TREATMENT

Some dogs will need long-term medication to control the arthritis already present in the elbow prior to the surgery. Cartilage-protecting agents (omega fatty acid, glucosamine, green-lipped mussel, fish oil) may help lubricate the joint and keep cartilage healthy. Generally, life-long supplementation is necessary.

Dogs with elbow dysplasia may benefit from feeding with Hill's Prescription Diet j/d Canine Mobility. This diet can improve your dog's signs of arthritis with a clinically proven combination of nutrients.

Anti-inflammatory medication (aspirin-like drugs) can be helpful in reducing pain but should only be necessary occasionally.



VETERINARY SPECIALISTS AUCKLAND, 1 Te Apunga Pl, Sylvia Park, Auckland

Phone: (09) 320 5645

Email: reception@vsnz.co.nz Website: www.vsahospital.co.nz