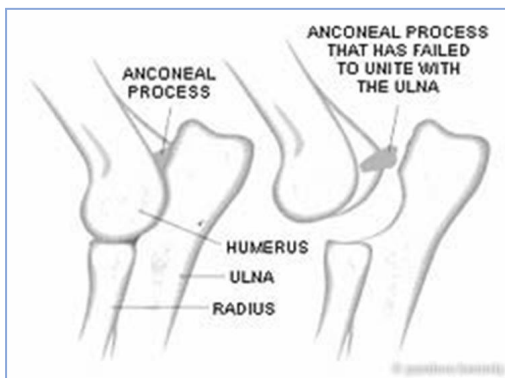


# Elbow Dysplasia (ED)

## What is Elbow Dysplasia?

Elbow dysplasia is the most common cause of front limb lameness in the young dog, especially of the larger breeds.

Dysplasia comes from the Greek *dys*, (abnormal) and *plassein* (to form). Thus, dysplasia refers to abnormal development, in this case of the elbow joint.



*Elbow Dysplasia*

The elbow is formed from the meeting of three bones:

1 the humerus, which is the boney support of the upper limb from the shoulder to the elbow.

2 the ulna, which runs from the elbow to the paw along the back of the limb.

3 the radius, which supports the major weight-bearing along the front of the lower limb.

All three of these bones need to grow and develop normally and at the same rate such that they fit perfectly at the elbow. If there are any abnormalities along these lines or if the cartilage lining the elbow joint does not form properly then “dysplasia” or abnormal formation is the result.

Elbow dysplasia can take several different forms:

- ununited anconeal process (UAP)
- fragmented medial coronoid process (FMCP)
- osteochondritis dessicans of the medial humeral condyle (OCD)
- ununited medial epicondyle (UME)

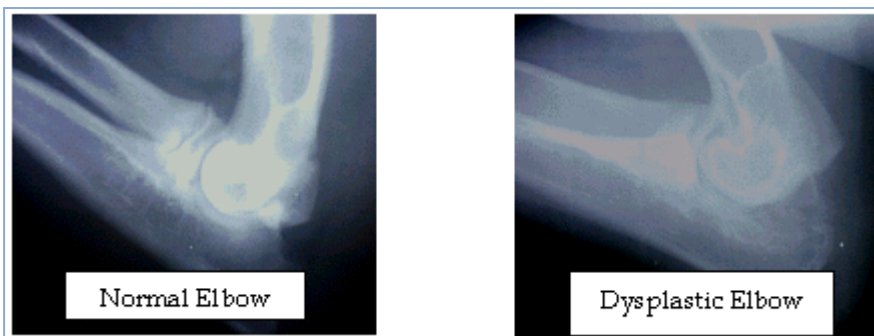
elbow incongruity all qualify as types of elbow dysplasia that can be present individually or in combination.

While all of the variations are distinct and develop in different ways, they have in common that they produce loose pieces of bone and/or cartilage within the joint that act as irritants much as a pebble does in your shoe! All of these variations also have in common that they develop arthritis within the elbow. The term “arthritis” simply describes inflammation within a joint. The longer an elbow joint is ill-fitting or irregular, the more arthritis forms.

## What causes Elbow Dysplasia?

Traumatic episodes may affect the development of the elbow joint, such as rough play, accidents and repetitive movements that are unnatural for a young dog (walking stairs/jumping in cars).

But the majority of elbow dysplasia cases are genetic in origin. Like with hip dysplasia the inheritance of this trait is not as simple as a dominance/recessive relationship like we study in high school biology. Normal dogs can breed and yield dysplastic offspring as the condition may skip generations. Until a test based on the actual DNA can be developed, the best we can do to prevent this disease is to breed only dogs with normal elbows, scored with the NZVA or AVA.



*Elbow Dysplasia*

## What are the symptoms of Elbow Dysplasia?

The first sign of a problem is a mild to moderate front limb lameness in a young dog between the age of 4 to 10 months. If the problem is not diagnosed at this stage, more marked lameness may be noted as severe arthritis sets in. Large breed dogs predominate in the commonly affected breeds with elbow dysplasia.

Examination of the elbow may show pain, thickening or swelling, and restricted movement.

Radiographs of the elbow will usually confirm whether the dog has elbow dysplasia.

### **Treatment for Elbow Dysplasia.**

Some cases may be managed with open joint surgery. Early surgical management of these problems provides the best chance for minimizing arthritic changes in these elbows, but virtually all dysplastic elbows will develop arthritis. Older dogs, where arthritis is well established, may still benefit from arthroscopic surgery but the benefits are less predictable

Others may do well with medications alone such as anti-inflammatories. The newest generation of canine anti-inflammatory drugs and diets high in omega-3 fatty acids can also provide some relief.

## How can we reduce the chance of Elbow Dysplasia?

To find out for sure about dysplasia, radiographs are necessary and this generally involves some sort of sedation to minimize the patient's discomfort as their elbows are properly positioned for the picture. Sedation also helps the veterinary team control the dog's position better so they can minimize the number of radiographs needed in order to get one good diagnostic view.

When purchasing a puppy, particularly one of a larger breed, the parents should be elbow scored with the NZVA or AVA. With score results no more than 1 on both sides, ideally 0 on both sides. What this means is that the breeder has had the elbows of the dog's parents x-rayed by a vet and send off to an official scoring team of independent vets. A dog for breeding can have radiographs taken at age 12-18 months. Offspring of parents with a elbow score ideally 0/0 would be less likely to develop dysplasia themselves.