

Elbow Dysplasia

(Abnormal Development of the Elbow)

Basics

OVERVIEW

- “Dysplasia” is the medical term for abnormal development
- “Elbow dysplasia” is a series of four developmental abnormalities that lead to malformation and degeneration of the elbow joint
- Most common cause for elbow pain and lameness
- One of the most common causes for forelimb lameness in large-breed dogs

GENETICS

- Inherited disease
- High heritability

SIGNALMENT/DESCRIPTION OF PET

Species

- Dogs

Breed Predispositions

- Large- and giant-breed dogs—Labrador retrievers, rottweilers, golden retrievers, German shepherd dogs, Bernese mountain dogs, chow chows, bearded collies, Newfoundlands

Mean Age and Range

- Age at onset of clinical signs—typically 4–10 months
- Age at diagnosis—generally 4–18 months
- Onset of signs related to progressive and permanent deterioration of joint cartilage (known as “degenerative joint disease” or DJD)—any age

Predominant Sex

- Bone fragment located at the inner surface of the upper ulna (one of the bones of the foreleg), just below the elbow joint (known as “fragmented medial coronoid process”)—males more likely to be affected than females
- Failure of the bones to fuse in the elbow of the growing dog (known as “united anconeal process”) and abnormal development of bone and cartilage, leading to a flap of cartilage within the joint (known as “osteochondritis dissecans” or OCD)—none established

SIGNS/OBSERVED CHANGES IN THE PET

- Not all affected dogs have signs when young
- Sudden (acute) episode of elbow lameness due to advanced degenerative joint disease (progressive and permanent deterioration of joint cartilage) changes in a mature pet—common
- Intermittent or persistent forelimb lameness—worsened by exercise; progresses from stiffness seen only after rest
- Pain when extending or flexing the elbow
- Affected limb—tendency to be held away from the body (known as “abduction”)



- Fluid buildup in the joint (known as “joint effusion”)
- Grating detected with joint movement (known as “crepitus”)—may be detected with advanced degenerative joint disease (progressive and permanent deterioration of joint cartilage)
- Diminished range of motion

CAUSES

- Genetic
- Developmental
- Nutritional

RISK FACTORS

- Rapid growth and weight gain
- High-calorie diet

Treatment

HEALTH CARE

- Surgery—controversial, but recommended for most affected pets
- Cold packing the elbow joint immediately following surgery to help decrease swelling and control pain; perform at least 5–10 minutes every 8 hours for 3–5 days, or as directed by your pet's veterinarian
- Range-of-motion exercises—beneficial until the pet can bear weight on the limb(s)

ACTIVITY

- Restricted for all pets post-operatively
- Following surgery—limit activity for a minimum of 4 weeks; encourage early, active movement of the affected joint(s), as directed by your pet's veterinarian

DIET

- Weight control—important for decreasing the load and stress on the affected joint(s)
- Restricted weight gain and growth in young dogs—may decrease incidence and severity

SURGERY

- Severity of degenerative joint disease (progressive and permanent deterioration of joint cartilage) and advanced age of the pet—negatively influence outcome
- A variety of surgical techniques are possible, depending on type of elbow abnormality
- Using a special lighted instrument called an “arthroscope” (general term for procedure is “arthroscopy”) to allow the surgeon to see inside the joint may be used to diagnose and to treat elbow abnormalities

Medications

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive

- No medication promotes healing of bone and/or cartilage fragments
- Nonsteroidal anti-inflammatory drugs (NSAIDs)—minimize pain, decrease inflammation, symptomatically treat associated degenerative joint disease (progressive and permanent deterioration of joint cartilage); examples include carprofen, deracoxib, etodolac, meloxicam, tepoxalin

Medications intended to slow the progression of arthritic changes and protect joint cartilage (known as “chondroprotective drugs”), such as polysulfated glycosaminoglycans, glucosamine, and chondroitin sulfate—may help limit cartilage damage and degeneration; may help alleviate pain and inflammation. Adequan can be very effective as it can stimulate new cartilage growth.

- [PRP therapy](#), a type of stem cell therapy is a newer form of therapy and is proving very effective.
- Injection of hyaluronic acid (a type of joint lubricant) with or without cortisone can provide up to a year of comfort for many patients when surgery is not an option.

Follow-Up Care

• PATIENT MONITORING

- Yearly examinations—recommended to assess progression and deterioration of joint cartilage (degenerative joint disease)

PREVENTIONS AND AVOIDANCE

- Discourage breeding of affected pets
- Do not repeat dam–sire breedings that result in affected offspring

POSSIBLE COMPLICATIONS

- Degenerative joint disease (progressive and permanent deterioration of joint cartilage)

EXPECTED COURSE AND PROGNOSIS

- Progression of degenerative joint disease (progressive and permanent deterioration of joint cartilage)—expected
- Prognosis—fair to good for all forms

Key Points

- Elbow dysplasia is a genetic disease
- Potential exists for progressive and permanent deterioration of joint cartilage (degenerative joint disease)
- Excessive intake of nutrients that promote rapid growth has an influence on the development of elbow dysplasia; therefore, restricted weight gain and growth in young dogs may decrease the incidence of elbow dysplasia