Elbow Fractures – General Information for Animal Owners

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For general information on fractures in small animals, please see the specific information sheet.

Elbow fractures are usually the result of trauma, such as being hit by a car, falling from a height, being stepped on, or from a fight. These fractures typically occur in skeletally immature dogs.
Most elbow fractures involve the end of the humerus referred to as the condyle. Most commonly the lateral aspect of the condyle breaks due to the transfer of force through the radius. Occasionally, the medial aspect of the condyle will break. In these two scenarios there are two fragments. Very unlucky patients will break off both the medial (inside) and lateral (outside) aspects of the condyle, creating three fragments. These fractures are referred to as "T" or "Y" fractures. Humeral fractures can also be more comminuted (broken into more than two pieces). Less commonly, fractures of the elbow may involve the radius or ulna.


Normal elbow


Y-Fracture of the elbow

Incomplete ossification of the humeral condyle (IOHC) is a specific underlying cause for an elbow fracture. In the growing dog, the condyle of the humerus is formed from two separate growth centers. These are usually united by approximately 70 days following birth. IOHC is a condition in which these two centers do not unite completely, creating a persistent area of weak bone in the middle of the humeral condyle. IOHC is a genetic disease in spaniel breeds, but has been described in other breeds as well. Affected dogs are suddenly non-weight bearing despite the lack of a traumatic insult. Radiographs will reveal a fracture through the weak portion of the condyle. Surgery is the optimal treatment for these patients. In all cases with elbow fractures, radiographs (x-rays) should be taken of both elbows, because this condition is frequently bilateral. If IOHC is identified prior to a fracture, surgery is recommended. A bone screw can be placed across the condyle to prevent a fracture from occurring at the weak spot.


IOHC affected, but intact elbow


Lateral condyle fracture 2' to IOHC

Veterinary Specialists of Alaska, P.C. Client Information Sheet: Elbow Fractures

Surgical stabilization of elbow fractures: Two fragment fractures are commonly stabilized with one screw across the condyle, and an additional pin or a screw,placed in the epicondyle (a bony structure of the bone). This pin or screw is necessary to prevent rotation of the condylar fragment. Three fragment fractures (Y-or T-fractures) are repaired using either two additional screws, pins, or two bone plates on each side of the elbow. The treatment for comminuted elbow fractures varies. If too severe, an arthrodesis (fusion of the joint), or amputation may be the most appropriate treatment.
Olecranon fractures are usually treated with application of a combination of pins and wire or a bone plate. For specific cases, the application of an external fixator, possibly bridging the elbow joint, may be indicated. After surgery it may be necessary to place a carpal flexion bandage for a few days (the wrist is kept flexed, as to prevent early weight bearing on the leg).


Repair of a lateral condyle fracture


Repair of a Y-fracture


Carpal flexion bandage

Information for post surgical care and follow up is available on the general fracture repair information sheet.

Prognosis for patients with elbow fractures depends on several factors, such as severity of the fracture, duration since the fracture occurred, age of the animal, concurrent disease processes, and others. Two piece fractures of the elbow in otherwise healthy animals carry a good prognosis. Patients with IOHC may be more likely to experience delayed healing of the fracture or implant failure. Because these fractures involve the articular surface of the elbow, there is potential for arthritis later in life. Overall however, most patients with surgically repaired fractures of the humeral condyle enjoy a complete recovery and lead normal lives.

We hope that this information pamphlet was helpful to help you understand more about fracture treatment in small animal surgery. Please do not hesitate to call or ask at your next appointment if you have any questions or concerns.

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