



### How to diagnose and treat medial coronoid disease in practice

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Elbow Dysplasia (ED) is a term which refers to a range of pathologies of the elbow in the growing puppy. ED is a developmental condition that leads to joint incongruence in which there are supraphysiological loading areas. Depending on where this supraphysiological load is located we will see different lesions which are included within the term Elbow Dysplasia. These lesions are:

- Osteochondritis Dissecans (OCD) of the medial humeral condyle (this lesion can be explained as a failure of endochondral ossification)
- Medial coronoid process disease
- Ununited anconeal process
- Elbow incongruence

Medial coronoid process disease (MCP) is the most common injury found in growing dogs when lameness has been located in the elbow. The most frequent manifestation of this is fragmentation of the coronoid process (66%). Other types of injuries reported, that can affect the coronoid process, include cartilage and subchondral bone fissures (9%) and chondromalacia/medial compartment - type disease (18%). Most large breeds can be affected by this disease, for example, Rottweilers, Labrador Retrievers, Golden Retrievers, Newfoundlands, Rhodesian Ridgebacks, etc. It is important to remember that this disease also affects medium and small breeds such as the springer spaniel or the Cavalier King Charles.

Despite recent advances, and the access to different diagnostic imaging modalities, a good clinical examination and correct history are essential when diagnosing coronoid process disease. Signs showed by patients with MCP can vary from a severe to mild lameness after exercising, or, just joint stiffness after resting. These animals usually show different degrees of pain at elbow flexion / extension. However, in my opinion, the most specific manoeuvre in the clinical examination to diagnose MCP is the modified Campbell test where, whilst we have the elbow stabilized in flexion, we proceed to supinate the carpus (Fig1). This manoeuvre produces an overload of the medial compartment of the elbow (medial portion of the humeral condyle and medial coronoid process).



Although CT is the best tool to investigate coronoid disease, simple radiography is also very useful to diagnose it. It is important to remember that, due to superposition of bone structures, fragmentation of the coronoid process is only visible in around 10-20% of cases. We should pay attention to the secondary radiographical signs associated with the disease (Fig 2):

1. Sub-trochlear sclerosis
2. Irregular profile of the coronoid process
3. Osteophytosis in the head of the radius and anconeal process