

## BASIC INFORMATION

### Description

The anconeal process is the portion of the ulna (one of the three bones that make up the elbow joint) that fits into the groove in the humerus (large bone of the foreleg) and helps to keep the structures of the elbow aligned. The anconeal process develops from a secondary growth center and should be permanently fused to the rest of the ulna by about 20 weeks of age. If the anconeal process is not fused by that time, it is considered ununited (UAP).

Although a UAP is not freely moveable, it is loose and continues to irritate the elbow joint, which leads to osteoarthritis, joint stiffness, and pain. UAP can occur with other developmental diseases of the elbow. (See also the handouts on **Fragmented Medial Coronoid Process Disease** and **Osteochondrosis [Osteochondritis Dissecans].**)

### Causes

Although the specific cause of UAP is unknown, it is common in certain breeds (such as the German shepherd dog and Saint Bernard) and may be inherited to some degree. Failure of the anconeal process to fuse may occur from uneven growth of the three bones around the elbow, which leads to excessive pressure against the growth center. UAP is fairly uncommon.

### Clinical Signs

Clinical signs are the same as for any joint condition, namely lameness, pain, and joint stiffness after rest that initially improves with activity and then worsens with further activity. Circumduction (swinging the limb in an outward circle) may also be observed. UAP usually is present in young, large- or giant-breed dogs; however, older dogs may become lame because of the secondary arthritis that occurs with UAP. UAP may affect one or both elbows (11-43% of cases are bilateral).

### Diagnostic Tests

Examination of the elbow may reveal loss of range of motion and pain with movement. Effusion (fluid in the joint), thickening of the joint, and crepitus (a crunchy or “bubble-wrap” sound) may also be felt on palpation and manipulation of the joint. X-rays confirm the diagnosis. X-rays of the opposite elbow are often taken for comparison.

## TREATMENT AND FOLLOW-UP

### Treatment Options

If the UAP is identified early, before secondary osteoarthritis has occurred, the condition is best treated by surgical insertion of a screw across the ulna into the anconeal process. This is followed by an ulnar osteotomy (cutting of the ulna) immediately below the joint.

If osteoarthritis is present or the anconeal process is very misshapen, surgical removal of the process is generally performed. Osteoarthritis will develop to some degree no matter what treatment approach is used, so additional medical therapy is often required. (See also the handout on **Osteoarthritis: Medical Management.**)

### Follow-up Care

Activity is restricted to short walks on a leash for the first 2 weeks following removal of the process, or for 6 weeks if a screw was inserted. The incision is observed daily for signs of infection, and if a screw was placed, x-rays are taken every 4-6 weeks until the process has completely fused to the ulna.

### Prognosis

If the disease is identified early and treated by screw fixation and ulnar osteotomy, the prognosis for satisfactory function of the elbow is usually good. If secondary osteoarthritis is present or the anconeal process has been removed, the prognosis is more guarded (uncertain) for full return to function.