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UNUNITED ANCONEAL PROCESS

What is Ununited Anconeal Process (UAP)?

Ununited Anconeal Process (UAP) is a developmental abnormality in which the anconeal process does not fuse with the ulna. The anconeal process is a portion of the ulna that helps to stabilize the elbow joint by interdigitating with the humerus. This portion of the ulna develops as a separate island of bone becoming visible on x-rays when a puppy is 12 to 13 weeks of age and normally fuses with the ulna at about 16-20 weeks. If the anconeal process does not fuse to the ulna, the elbow becomes irritated from the loose piece of bone (UAP), which causes inflammation, pain, and decreased use of the forelimb. The anconeal process typically does not properly fuse because of a poor fit between the bones making up the elbow joint. The development of permanent osteoarthritis will occur over months to years with the continued presence of the free fragment within the joint. Breeds predisposed to UAP include the German Shepherd, Newfoundland, and Saint Bernard. UAP can be present in one or both elbows.

Diagnosis

Most dogs have forelimb lameness beginning at 4-5 months of age. During physical exam, the most common findings are forelimb lameness, elbow joint swelling, and pain on movement of the elbow. Survey of X-ray imaging and CT scans show a detached anconeal process. Arthroscopy is often employed to make a visual inspection of the joint for other potential problems prior to surgical correction of the UAP.

Treatment

Complete removal of the anconeal process is typically the treatment option of choice. After UAP removal, elbow function usually returns to normal over the short-term. Most dogs do well long-term even with progression of elbow osteoarthritis over time. In select cases, cutting the ulna may be performed to release abnormal pressure that had been placed on the anconeal process because of a poor fit between the elbow joint components. Appropriate case selection (age related) is critical to the success of this procedure, which can be performed with and without screw fixation of the UAP to the ulna. By releasing the abnormal pressure, the UAP can fuse or “unite” with the ulna. Best results are always obtained if UAP is diagnosed early, prior to development of degenerative joint changes (osteoarthritis). The presence of other cartilage abnormalities and/or arthritic changes prior to surgery can significantly decrease the chance for good long-term results. Dogs that have degenerative joint changes may require physical therapy and medication to improve their comfort level and forelimb function.

