



## Veterinary Specialists of Alaska, P.C. Client Information Sheet: General Information on Osteochondrosis

### Osteochondrosis Dissecans– General Information for Animal Owners

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In a healthy dog, growth occurs by cartilage conversion into bone. With **osteochondrosis** (OC) there is retention of cartilage rather than conversion to bone during the growth process, leading to thickened cartilage. Articular cartilage receives nutritional support from the joint fluid. This nourishment can only support cartilage of certain thickness. The thickened cartilage present in an OCD lesion is subject to damage and may become separated from adjacent cartilage or underlying bone. Eventually a piece of cartilage will break off the diseased area and float free in the joint. This is frequently referred to as “joint mouse”. If such a fragment had formed, this form of osteochondrosis (OC) is called **osteochondrosis dissecans (OCD)**. A defect in the cartilage or a “joint mouse” results in synovitis (inflammation of the joint), joint effusion, and clinical signs of lameness. Depending on the stage of disease at the time of diagnosis, the degree of arthritis may be mild to severe. OCD can occur in the shoulder, elbow, knee, or hock joint. It can occur on one side only or on both sides. It can also occur in multiple joints or be associated with other orthopedic disease processes.

The cause of OC is not clear. Decreased blood supply, hereditary factors, rapid growth and nutritional imbalances have been suggested.

The diagnosis of OC or OCD can be made by radiographs (x-rays). In most cases, a defect of the affected bone can be seen. In early cases, the best diagnostic tool is arthroscopy (also see our patient information sheet on arthroscopy, available on our website). With arthroscopy, a small camera is introduced into the joint, allowing visualization and treatment of the defect.

Treatment consists of removal of loose cartilage and treating the bone below the cartilage in a way that facilitates formation of fibrocartilage. Fibrocartilage is similar to articular cartilage. In many cases the OCD lesion can be treated arthroscopically. Occasionally, a standard open arthrotomy (the joint is opened in standard fashion) is required to adequately treat the lesion. The tarsus is the most difficult joint to treat arthroscopically. OCD of the tarsus is, in our hands, best treated by an arthroscopically assisted approach, or by using a standard open arthrotomy.

Current advances in the treatment of OCD are focused on the development of cartilage transport techniques and on the use of artificial cartilage plugs which are placed into the defect. Some promising advances have been made in this area of canine orthopedics. However, much remains to accomplish before these strategies become widely accepted or utilized.

After surgery the surgical site has to heal. For good healing to occur it is essential that the activity of your pet is limited for 4-6 weeks. The animal must not run, jump, rough-house, or play during this time. It must be kept separated from other animals in the household. Short leash walks to go to the bathroom are allowed. Too much activity will likely increase the risk for complications. In large dogs that underwent bilateral surgery, it may be necessary to assist the dog for the post-operative time when walking / using the bathroom.

The prognosis varies, depending on affected joint, and advancement of arthritis. In general, most dogs with osteochondrosis of the shoulder have a good prognosis. Clinical data and experience shows that animals with OCD of the elbow, knee, or hock may be at higher risk for lameness even with surgery. In general, OCD of the hock carries the worst prognosis. In severe cases of OCD, arthrodesis (surgical joint fusion) may be the best first treatment option, or has to be considered as possible necessity if no significant improvement can be achieved after initial standard treatment.

Complications associated with treatment for OCD may include, but are not limited to infection, hematoma (accumulation of blood), seroma (accumulation of inflammatory fluid), arthritis, and limited range of motion, nerve damage, or the formation of new joint mice (see above). One or more additional surgeries may be necessary to treat severe complications.