

Osteoarthritis (OA) is a degenerative condition affecting the cartilage, bone, and surrounding soft tissues of a joint. In people, it is commonly associated with "wear and tear" as we age and can result in a painful or stiff joint. In dogs, OA is most commonly associated with an injury such as a cranial cruciate ligament rupture, or secondary to abnormal development such as Canine Hip Dysplasia (CHD).

Normal cartilage is smooth and wear resistant, allowing nearly frictionless movement. Once damage occurs, the surface will become roughened and worn down, leading to joint pain and inflammation. Surrounding muscle often can become atrophied and thickened scar tissue can form around the joint.



How is it Diagnosed?

The most common signs of OA include stiffness, limping, inability to rise, reluctance to jump or climb stairs, favoring a limb, and obvious pain. Diagnosis is typically confirmed with an X-ray, however, in some cases additional tests such as bloodwork and joint fluid analysis or joint tap may be required to determine the underlying cause.

HOW IS IT TREATED?

1. Dietary Changes and Weight Control:

Weight Control: Studies have shown that overweight pets are more likely to develop OA than pets that are an optimal Body Condition Score (BCS). Additionally, overweight pets will show more symptoms such as limping and pain than pets that are maintained at an optimal BCS. In surgical patients, we see that overweight pets have a slower recovery and more difficult time with healing and rehabilitation. Achieving an optimal BCS (4.0/9) involves feeding your pet the appropriate number of calories for its target body weight. Many "lite" or "weight control" commercial diets are available on the market, and healthy treats, such as baby carrots, are a great alternative to high-calorie dog biscuits. In some cases, we may recommend labwork to evaluate the possibility of metabolic disease that may affect weight or recommend consultation with a nutrition specialist.

Joint Specific Diets: Joint Specific Diets, such as Royal Canin Mobility Support, Hill's Science Diet J/D and Purina Joint Mobility contain a specific balance and content of Omega-3 fatty acids (Eicosapentaenoic Acid). Studies have shown Omega-3 fatty acids to be preferentially incorporated into the membranes of joint cells and result in less production of inflammatory mediators associated with arthritis.

2. Activity Modification:

Daily low impact exercise improves joint mobility, aids in weight control, and strengthens the muscles that support joints. Similar to people with OA, high impact activities will result in a "flare-up" of discomfort that may last for a few days to a few weeks. Consider a person with OA of the knee; a high impact activity such as road running or playing basketball will likely result in some soreness or stiffness for a few days. Obviously, it is not practical to attempt to eliminate this type of activity in our pets but an attempt should be made to tip the balance of their activity toward the low impact activities. Leash walking and swimming are excellent activities for arthritic pets. As their body condition, muscle strength, and range of motion improve they will develop less inflammation with intense exercise and more high impact activities can be added. Formal evaluation with a physical rehabilitation specialist can aid in the improvement of function by increasing muscle strength and joint range of motion.

3. Medications and Supplements:

Non-steroidal anti-inflammatory (NSAIDS) medications specifically designed for safety and efficacy in dogs can decrease inflammation associated with OA, thus relieving pain and increasing mobility. These are generally safe for chronic use and can be given on an "as needed" basis. As in people, the most common side effects are very individual and most commonly include gastrointestinal upset. Administration should be under the supervision of your veterinarian and your pet should be monitored for vomiting, diarrhea, or dark, tarry stool. Discontinue use and contact your veterinarian immediately should these occur. In animals with pre-existing liver or kidney disease, more severe side effects may occur so labwork should be performed prior to initiation of therapy and periodically while your pet is being treated. Adverse cardiovascular effects that are seen with some of these medications in people are typically associated with pre-existing conditions, such as arterial plaque deposits, which make this much less of a concern in our pets.

Glucosamine and chondroitin sulfate supplements- These supplements are referred to as Nutraceuticals or Chondro (cartilage)- protective agents. These compounds are distributed to all joints in the body after oral or injectable administration and may have the ability to modify the disease process of OA by decreasing inflammatory mediators, stimulating cartilage matrix production, and improvement of joint fluid viscosity. In general, the oral compounds are safe for daily use and may be given in conjunction with common veterinary NSAIDS.

Other medications-

Tramadol, Amantadine and Gabapentin: These medications are typically not used by themselves for treatment of OA but may be used in conjunction with an NSAID in more severe cases. They are usually reserved as a second or third line medication.

Joint Injections: Intra- articular injections of hyaluronic acid (HA) or platelet rich plasma (PRP). These injections may help decrease inflammation within the joint associated with osteoarthritis. Intra- articular injections require mild to moderate sedation and are typically given over a course of 3-4 injections several weeks apart.

Stem Cell Treatments: Stem cell injections have received a lot of media coverage over the past few years in the treatment of canine osteoarthritis. Treatment involves surgical collection of adipose tissue, which is sent to a lab for extraction of the stem cells. The cells are then injected into the joint or intravenously, 2-3 days after tissue collection. While this may show promise for future therapy, there is little information at this time that would suggest a significant therapeutic benefit.

Steroids/ Steroid Injections: Commonly used in treatment of OA in people and horses. Steroids may have an early beneficial response as an anti- inflammatory agent but is ultimately responsible for further degrading joint cartilage. Additionally, severe systemic side effects may occur in dogs with prolonged exposure to steroids making their use in the treatment of OA in small animals difficult to justify.

Other tips:

- Gentle massage and cold or warm compresses can decrease swelling and soothe joint pain.
- Too little exercise, for example only on weekends, can cause more harm than good.
- Always provide your pet with a warm, well-padded place to rest.
- Consultation with a Certified Canine Rehabilitation specialist.