



DANADA VETERINARY HOSPITAL, P.C.

Osteoarthritis in Dogs and Cats

What is Osteoarthritis?

Osteoarthritis (also known as Degenerative Joint Disease or DJD) is the degradation of the bones and cartilage of joints. It is a painful and debilitating condition that affects millions of animals. It can stem from bad genetics, injury, or simple chronic wear and tear on the joints.

What are the Signs of DJD?

Symptoms of arthritis in dogs are easy to identify. They include difficulty getting up from rest, stiffness when walking, lack of interest in walks and play, or reluctance to do stairs or climb on furniture. In cats, signs can be subtle, but a recent study suggests that around 90% of cats over the age of 9 years old have some evidence of arthritic changes. An arthritic cat may not be able to jump as high, may miss the litter box, or may shy away from their owner's petting them.

What Are the Current Options for Treating Osteoarthritis in Dogs and Cats?

Joint Repair Options:

Total Joint Replacement (Surgical Gold Standard) – A board-certified surgeon removes the diseased joint completely and replaces it with an artificial joint that is functional and pain-free. While highly effective, joint replacement surgeries are complex procedures that are costly, and carry risks of potential complications such as infection, and implant reactions. The prognosis is excellent, and a joint replacement is good for the life of the patient.

Stem Cell Therapy – (Medical Gold Standard) - Stem cells are obtained from adipose (fat) tissue during a minimally invasive 10–20-minute anesthetic procedure. These cells are processed and activated on-site. Then, the cells are injected into the joints on the same day along with Platelet-Rich Plasma (see Palliative Options). Stem cells are cells that have not yet developed into a particular type of tissue. Therefore, when injected into the joints, stem cells can develop into any tissue type the body needs. They preferentially react with inflamed cells and are stimulated to repair the damaged tissue. They also communicate with other cells of the body to bring healing factors into the area of damage. As such, stem cells have been documented to help repair torn ligaments, lay down new cartilage, and aid in bone healing. In addition to joint injections, stem cells are routinely injected into the blood stream where they can travel to areas of inflammation that are not accessible from outside the body for even more benefits. Stem cells can also be frozen and stored for future use in patients that may need more than one therapy in their life. Stem cell Therapy is extremely safe since cells are obtained from the patient's own body. Over 90% of patients show improvement after the procedure, and effects last 12-24 months with some

reports of up to four years. All patients healthy enough for a short anesthetic procedure are candidates for this regenerative therapy except for animals with malignant (cancerous) tumors.

Palliative (Pain Management) options:

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) – Pain medications such as *Rimadyl (Carprofen)*, *Deramaxx*, *Onsior*, and *Aspirin* are among the most well-known options for managing DJD. They work by blocking the molecules responsible for producing inflammation and pain in damaged joints. These medicines are quick acting and highly effective but can lead to side effects such as gastrointestinal irritation, as well as kidney and liver disease. They require daily dosing for arthritic pain. Routine laboratory testing is necessary to monitor the long-term safety of these medications. Cats are particularly sensitive to NSAIDs. Therefore, these drugs are used with extreme caution in feline patients.

Librela/Solensia – Librela (dogs) and Solensia (cats) are monoclonal antibody therapies administered under the skin by a veterinarian or technician. Librela and Solensia target a protein called Nerve Growth Factor (NGF). By binding to NGF, these injections prevent the activation of the nerve cells that cause joint pain. Librela and Solensia act like a vaccine against arthritis. The injections last for 1 month then dissipate into proteins that the body can use for energy. They do not interact with most medications, and therefore do not place any extra strain on major organs, making them safer choices than NSAIDs for most patients.

Class IV Therapy Laser – A non-invasive beam of light energy is applied to the area(s) of pain and inflammation. The wavelengths of energy within the beam are absorbed into tissue and work to decrease pain and inflammation, increase blood flow, stabilize damaged tissues, and stimulate healing of injuries. Laser therapy is a focal treatment, so a veterinarian needs to thoroughly examine your pet to identify all painful joints for the therapy laser to reach its fullest potential. We offer both in-office and at-home laser treatment options.

In-office laser treatments are higher powered and tend to last longer between treatments. Sessions are start two to three times a week with improvement usually noted within the first three sessions. Session frequency decreases over time to the lowest frequency that controls pain symptoms. Therapy laser is all-natural, non-invasive, and extremely safe. Once a patient's pain improves, results tend to last an average of 1-4 weeks between sessions.

At-home laser therapy is an option that offers the same benefits as in-office laser, but in the convenience of your own home. It is an ideal option for animals that are too stressed to regularly come to the vet, or those who do not travel well. This laser is less powerful than the in-office laser which means that it is safer for clients to operate on their own. However, treatments need to be done daily to get the same effect as weekly or bi-weekly in-office sessions. Pet owners rent a hand-held laser device from a partnering company, called Medcovet, and treatments are logged in to a mobile app that the veterinarian shares access to. The veterinarian can adjust therapy and communicate with you via this app to monitor patient progress.

Platelet-Rich Plasma (PRP) – A blood sample from your pet is filtered and spun down to isolate platelets and remove harmful inflammatory components from the blood. The resulting mixture is called platelet-rich plasma or PRP. Platelets are a portion of the blood that is rich in growth factors and anti-inflammatory factors. During processing, the platelets are activated to release

these helpful molecules. The PRP is then injected into affected tissues, where it reacts with damaged tissues to help ease pain and inflammation. PRP is an all-natural procedure that takes less than an hour to perform and only requires light sedation. Side effects are mild and uncommon. Pain relief from a single injection can be evident within 1-2 days of the procedure, and it lasts four to eight weeks. A portion of the PRP can also be frozen and injected later to help extend the effects of the therapy.

Adequan – an injectable medication that consists of polyglycosaminoglycans (P-GAGs). P-GAGs are the molecules that provide the cushioning in joint cartilage. Adequan is administered into the muscle and can be given in-hospital or at home. Initial dosing requires twice weekly injections for four weeks, then dosing decreases to the lowest effective frequency that adequately controls pain symptoms. It is a very safe option with few reported side effects. Adequan is labeled for dogs only but is safe for cats as well.

Nutraceuticals – A variety of natural supplements including *glucosamine/chondroitin*, *Omega 3 fatty acids*, *green-lipped mussel extract*, and *egg-shell proteins* can help to decrease inflammation and preserve the health of joints. These products are all-natural but can take weeks to months to reach effective levels in the body. They also need to be given daily. While very safe, these supplements are best geared at preservation of joints in patients with early signs of DJD. When arthritic changes are severe, nutraceuticals do not provide enough pain relief on their own.