



Chronic Arthritis Treatment

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Your pet has been diagnosed with arthritis or has been treated for a condition that may (despite surgical treatment) result in arthritis in the long-term. Therefore, it is extremely important to follow the guidelines below to allow your pet to have a longer, better and more active life. Chronic arthritis can be a very debilitating and painful disease in dogs and cats. Reversing the disease process unfortunately is not possible. However, some newer interventions may slow the disease process. That is why the best treatment for arthritis is prevention. The single most important thing that you can do to prevent arthritis from worsening, as well as increase your dog's life expectancy, is adequate weight! Once arthritis is present, we can use various modalities to slow the disease progress and modify the associated pain. The corner stones of arthritis treatment are:

- 1. weight loss (if indicated),**
- 2. exercise modification/physical rehabilitation,**
- 3. joint supplements/nutraceuticals, and**
- 4. pain medications (i.e. non-steroidal anti-inflammatory drugs)**
- 5. alternative treatment options such as laser treatment, stem cell therapy**

Most patients respond well to these treatments. However, in some cases, various treatment modifications (changing medications/frequency etc) are necessary. It is important to remember that regular follow up is necessary, not only to gauge the success of therapy but to reevaluate and add in other therapies as indicated by the specific needs of your pet. The following handout is intended to give you an overview and guidelines for treatment and prevention of further deterioration of your pet's arthritis. If at any point, you have questions about the potential therapies listed below, please call us or your family veterinarian. Please also check out our website www.aspenmeadowvet.com for further information.



1. Weight Loss/Management: THIS IS THE MOST IMPORTANT PART!!!! Keeping your pet thin is extremely important. There is strong evidence showing that a thin dog has less severe pain, less clinical signs, and less progression of arthritis on x-rays. Furthermore, the life expectancy is longer for skinny dogs! This has been shown in a life-long study where dogs were grouped into dogs that were fed as much as they want and restricted feeding (the ones that lived longer and had less arthritis). We need to be able to feel the ribs easily. When looking at your pet from the side, the belly should appear about half as deep as the chest. We can help patients who are overweight with one of our weight management programs. We may recommend an appetite suppressant to help patients who do not lose adequate amounts of weight with exercise and calorie restriction alone.

Up to 40% of the dogs in the United States are considered overweight. In surveys conducted regarding pet body types (ideal, overweight, obese), about half of owners with obese pets said their pets were at an ideal body weight. Because we equate food with love, we're killing our pets with kindness. Research shows that losing just 20% percent of excess weight results in a 50% percent improvement in pet health and less arthritis. Also, pets kept at their ideal body weight have been shown to live 15% percent longer than their overweight counterparts, which is an average of two years. Unfortunately diet restriction and increased activity does not always work, especially in our post-operative orthopedic patients where exercise restriction is a must.

For the “nothing seems to work cases”, there is a new drug called Slentrol that has shown promise as a weight loss aid in dogs. It is a prescription drug, so it can only be obtained through a veterinarian. Slentrol should be used in conjunction with traditional weight loss plans and only after your dog has been examined by a veterinarian to rule out underlying illness. Slentrol is a once-a-day oral liquid that can be administered alone or with small amounts of food. Once ingested, Slentrol targets fat digestion in the small intestine. It keeps some of the fat from being absorbed into the body, so your pet senses that it’s full and eats less at each meal. A less-hungry dog takes in fewer calories, which leads to weight loss.



Slentrol is a very new drug, but preliminary work assessing safety has been extremely promising. In controlled clinical trials, the major side effect was mild vomiting, which usually only occurred at the beginning of treatment. In addition, some study subjects showed elevations of certain liver enzymes, but these elevations were not associated with clinical disease.

In addition to its safety, research also supports Slentrol’s effectiveness for weight loss. In two controlled, multi-site field studies using client owned dogs, almost all the dogs lost weight. In the one study, the average weight loss was 3% per month with over half of the study participants losing 11% or more of their starting body weight in 4 months.

2. Exercise modification/Physical Rehabilitation: In simple terms, rehabilitation means controlled physical activity. Regular physical activity is paramount in the treatment of osteoarthritis both in humans and animals. You want to avoid the ‘weekend-warrior’ type of exercise (i.e. taking your pet for a 10 mile hike only once a month). Ideally, multiple shorter walks are better than one long one. The same activity every day (or slightly increasing if tolerated) is ideal. Prior to high-impact activities (such as chasing ball, playing with other dogs) a ‘warm-up’ period of walking is ideal. Traditional rehabilitation in dogs has included activities such as passive stretching and range of motion exercises, controlled walking through or around obstacles such as tall grass and pools, swimming, and recently under water treadmills. The efficacy of physical rehabilitation in dogs with osteoarthritis has been demonstrated repeatedly. In fact, a recent study involving dogs with osteoarthritis reported significant improvements in both comfort and strength following regular physical rehabilitation exercises. A second study, which specifically examined stretching and range of motion exercises in dogs with osteoarthritis, found significant improvements in overall range and comfort after 3 weeks. Please feel free to inquire about our professional physical therapy program. We are using underwater treadmill exercises to get your pet started and also are going to show you exercises that you can do at home!

3. Joint supplements: These are supplements that have been shown in some cases to be effective at preserving and healing damaged joint cartilage. Unfortunately, these supplements are not regulated by the FDA which makes evaluating their quality difficult. The following list of supplements should be used regularly to maximize their benefits.

Glucosamine / Chondroitin sulfate Containing Agents: This is a category of nutraceuticals that may improve the health of cartilage and joint fluid as well as decrease the pain associated with arthritis. The medications that have research indicating beneficial effects are Cosequin®, Dasuquin® and Glycoflex III®. Many other brands are available. Caution should be used when selecting these other brands as they may not have the labeled amounts of glucosamine, chondroitin, and manganese. Please ask your family veterinarian for further recommendations.

Hyaluronic Acid (HA): Hyaluronic acid is the most abundant lubricant in the body, predominant in joints, muscle, and skin. Arthritic joints make inferior HA and break down good HA more quickly than normal. Effective supplementation with HA requires the source of the HA be from bacterial fermentation to assure HA is nearly identical to that in the body. Hyaluronic acid from rooster comb and chicken cartilage is inferior to that from fermentation. Oral HA can be administered directly to a dog or cat, or put on the food. When patients do not respond as desired to oral HA, therapy can be escalated to include intravenous injections and injections directly into the joint.



Polysulfated Glycosaminoglycans (PSGAGs): This drug group was originally designed to treat acute joint cartilage injuries. It has recently been approved for use in dogs for arthritis. Not only may PSGAGs help repair damaged cartilage, but they can interfere with destructive painful pathways in the joint. PSGAGs can also be effective in cats. The PSGAGs are naturally occurring in joints. A series of injections, twice weekly for 4 weeks to start, is implemented to determine if a patient is responding well. If a patient has a significant beneficial response, a plan is implemented to taper the injection.



Elk Velvet Antler (EVA): Elk Velvet Antler is made up of the internal matrix of elk antler during the early velvet phase of growth. EVA contains a number of bioactive ingredients including multiple growth factors, magnesium, and selenium. A recent study shows a great decrease in pain in dogs after taking EVA for several weeks. Dogs can take capsules or have powder placed directly on the food. (Caution: Elk Velvet Antler has been shown to increase aggressive tendencies in some dogs).

Omega-3 Fatty Acids: Omega-3 fatty acids have been shown to decrease the inflammation within an arthritic joint. In dogs, the specific fatty acid, EPA has been shown to have the most effect. This effect is in contrast to humans and horses. Salmon oil and Hill's Science Diet J/D all have EPA as the predominant omega-3 fatty acid. Please look at the label and make sure that at least 60% of the total fatty acid content is in the form of omega-3. Hill's Science Diet J/D has the appropriate amount and ratio of Omega 3 fatty acids.

Vitamin E +C: Vitamins E and C are free radical scavengers. Free radicals are a component of the inflammation in arthritis. These vitamins have been shown to decrease the free radicals and subsequently, the inflammation in arthritis. With vitamin E, make sure it has gammatocopherol or mixed tocopherol. There are no definitive dosages of these vitamins established for dogs, but giving 1/2 of the labeled human dose is a good estimate.

4. Pain medications: Pain medications are commonly used to treat arthritis. However, it is important to realize that none of these are without side effects that can be very serious. Therefore, it is important to use pain medications only if the above measurements are not sufficient and only at the recommended dose.

Nonsteroidal Anti-Inflammatory Drugs (NSAIDs): Nonsteroidal anti-inflammatory drugs are a corner stone in the treatment of OA in dogs and cats. These medications are very effective and act by blocking inflammatory pathways that lead to the production of destructive molecules (prostaglandins) and subsequent pain. Many studies have documented the usefulness of these medications. Currently, there are six of these drugs approved for use in dogs, although we recommend only four, Rimadyl®, Deramaxx®, Metacam®, and Zubrin®. There are no NSAIDs approved for use in cats in the US, but we frequently use Metacam® based on clinical experience and approval status in other countries. Although these medications are very effective in dogs and cats, they also have side effects which can preclude their use in some cases. It is very important that use of these medications be at the discretion of your veterinarian. Additionally, the use of these medications in conjunction with other types of medications (e.g. aspirin, ibuprofen, corticosteroids) can lead to serious illness and should be avoided completely. Side Effects of NSAIDs are uncommon, but can be serious if not treated/noticed right away. Please watch carefully for the following: vomiting, diarrhea, blood in the stool, not eating or drinking, lethargy, inactivity, mental dullness, or nausea. If you observe any of these please contact us and discontinue the NSAID. Please see our NSAID-handout for further information.

Tramadol: Tramadol is a synthetic opioid that does not share the common side effects of most natural opioids. Tramadol is a "mu" agonist like other opiiods, however. Tramadol can be used separately or in combination with non-steroidal anti-inflammatory drugs and can also be used in cats (whereas non-steroidal anti-inflammatory drugs have limited use). Side effects are considered rare but may include apparent sedation or bizarre behavior (if noted, the dose should be reduced).



Opioids and Opioid-like Drugs: These drugs are primary pain relievers which act directly on pain pathways in the spinal cord or inhibit perception of pain in the brain. They are very effective adjuncts to NSAID therapy. Dogs and cats are frequently administered tramadol, an opioid like drug for mild to moderate pain. Less commonly, oxycodone, morphine or a similar drug may be dispensed for short or long term administration.

Amantadine: This drug acts to modulate the pain response by antagonizing the N-methyl-d-aspartate (NMDA) receptor. These receptors are found throughout the central nervous systems of humans and non-human animals, and play an important role in pain pathways. Amantadine is considered an adjunct to the analgesic drugs as amantadine does not induce pain control directly, but resets spinal cord receptors so that other analgesics can work more effectively. Amantadine has been studied well in humans and has demonstrated good efficacy in prospective studies involving patients with chronic neurogenic and orthopedic pain. Recently, this drug has been studied in dogs with chronic and refractory pain relating to osteoarthritis. Results have shown that using amantadine in conjunction with traditional anti-inflammatory drugs can improve comfort significantly.

Gabapentin: The original use of this medication was for treating partial seizures in humans but not long after its introduction, it was found to be useful in treating neuropathic pain (the burning and tingling sensations that come from damaged nerves). It has recently been used in dogs and cats for arthritis treatment more frequently as well. The actual chemistry of how this drug works in the body is still unknown.



5. Alternative Treatment Options: If the above treatment does not result in satisfactory results, we may consider further options such as stem cell therapy, other medications or alternative treatments such as herbal medicine, therapeutic ultrasound, acupuncture etc. Please call us at 303.678.8844 if you think your pet may require one of these treatments.

