



ANIMAL SURGICAL CLINIC
of SEATTLE

A Better Way To Operate + Since 1986

Allen L. Johnson, DVM, DACVS
Alexander Z. Aguila, DVM, DACVS
Russell L. Bennett, DVM, DACVS
Kristin K. Shaw, DVM, PhD, DACVS, DACVSMR

NON-SURGICAL MANAGEMENT OF HIP DYSPLASIA

WHAT IS HIP DYSPLASIA?

The hip joint is made of the femoral head (ball) articulating with the acetabulum (socket). The stability of the hip depends on 4 structures: a ligament between the femoral head and acetabulum, a capsule around the joint, the gluteal muscles, and how well the ball and socket fit together (otherwise known as joint congruity).

Hip dysplasia (HD) can be defined as **abnormal development of the hip joint**, resulting in **hip laxity, or looseness**, due to decreased coverage of the femoral head by the acetabulum and ineffective soft tissue stabilization of the joint. **Over time, abnormal motion in the joint result in arthritis.**

Hip dysplasia is a genetic condition but the actual development of clinical symptoms can be influenced by reproductive status, age, body condition and conformation, diet and other environmental factors. Castrated male dogs are significantly more likely to be effected by HD, and an association has been shown between spay/neuter at < 5 months of age and the development of HD in both males and females.

A study of genetically predisposed Labradors found that the **development and progression of HD was significantly delayed or decreased in dogs that were maintained at a lean body condition through caloric restriction** compared to litter-matched pairs of a higher body condition score.

DIAGNOSIS

Dogs with HD often show clinical signs at two points in time: 4 months to 3-4 years and >7 years of age. Puppies and young dogs with HD present with a history of decreased activity or reluctance to play, jump or climb stairs, bunny hopping gait, hind limb atrophy or underdevelopment, narrow hind limb stance, and pain or vocalization. Mature dogs with symptoms related to arthritis of the hips show varying degrees of lameness that is worse after rest and heavy exercise, reluctance to jump, hind limb atrophy, and behavior changes associated with pain. The severity of HD and associated arthritis can be assessed on x-rays.

NON-SURGICAL MANAGEMENT

Just because a dog is diagnosed with HD does not always mean that the symptoms of arthritis will set in. Several environmental factors can be controlled to minimize the development or symptoms of arthritis. If arthritis does develop and affect the animal, there are numerous techniques that can be employed by veterinarians to manage the patient's comfort and quality of life.

Non-surgical management of HD involves a multimodal approach including activity modification, pain management, maintenance of a lean body condition, pharmacologic modulation of joint disease, therapeutic modalities, physical rehabilitation, and regenerative and complimentary medicine.

WHAT WE RECOMMEND:

- **Pain management:** Non-steroidal anti-inflammatories (NSAIDs) are the first line of pain relieving medication used in small animals. These medications decrease inflammation and relieve pain associated with acute trauma and/or chronic arthritis. Examples of veterinary NSAIDs include: Deramaxx, Rimadyl, Metacam, Previcox.
 - ▶ It is essential that you follow the recommended dosing for the individual medication prescribed. Side effects can occur with these drugs that can potentially be severe. If your pet starts vomiting, stops eating or develops other signs of GI upset, please discontinue the medication and call us or your regular veterinarian right away.
 - ▶ It is **essential** that these medications **not** be combined with steroids, aspirin, or other NSAIDs. Do not give a new or different NSAID within 7 days of stopping the previous medication. Similarly, do not give an NSAID within 7 days of aspirin, prednisone or any other steroid.

If your pet is intolerant or does not respond to NSAIDs, other pain relievers can be prescribed, including gabapentin and amantidine.

The goal of a multi-modal approach to managing HD and arthritis is to decrease the amount of pharmaceutical medication you need to give your pet.

- **Weight loss/maintenance:** It has been shown that the most effective way of decreasing the pain and progression of arthritis in both people and pets is by maintaining a lean body weight. In dogs and cats, this often means that they are “on the skinny side of normal”. In other words, you should be able to see a waistline from the top and from the side, and should be able to feel but not see the ribs.

Weight loss is best achieved through a combination of diet and exercise. Just like in people, it is all about calories in vs. calories out. If your pet needs to lose weight, it is essential that the proper amount of calories be given throughout the day: this often means decreasing the quantity of food being fed and most importantly, decreasing the amount of high calorie treats.

- **Adequan:** This is a joint supplement that has been shown in numerous clinical trials to minimize the breakdown of articular cartilage, decrease inflammation, and decrease pain associated with arthritis. Adequan is given as a shot under the skin or in the muscle twice a week for 4 weeks and then once a month.
- **Dasuquin:** This is another joint supplement that contains glucosamine, chondroitin, MSM, and avocado-soybean unsaponifiable (ASU). These three compounds when used together have been shown to decrease arthritis in dogs. We strongly recommend this product over other generic versions of glucosamine/chondroitin since there is clinical research to support this product and the lack of regulation of this type of supplement means that some generic products do not actually contain the optimal amount of therapeutic compounds.
- **Laser:** Therapeutic laser (also known as “cold laser”) has been shown in numerous studies to decrease inflammation and pain associated with arthritis. We use laser therapy to decrease inflammation in the joint and to treat secondary muscle tightness or trigger points.
- **Ice:** If tolerated, we recommend ice packing the hip for 20 minutes after walks or exercise. Ice is a very powerful and natural anti-inflammatory technique.
- **Therapeutic exercise:** We recommend a series of exercises that are aimed at strengthening the gluteals and other muscles of the back legs as well as “core” stabilizing muscles. A specific plan will be developed for you and your dog that incorporates leash walks, home exercises and in-house therapy including under-water treadmill. Approximately 30 minutes/day should be devoted to therapeutic exercise—either at home or in a rehabilitation facility.

- **Activity modification:** It is a complete misconception that dogs with arthritis should be prevented from exercising and should be allowed to become “couch potatoes”. Quite the opposite is true—regular (daily) low-impact exercise such as walking, hiking or swimming is strongly recommended. Your dog should not be a weekend warrior, as this is a recipe for increased pain and lameness. Dogs with moderate or severe hip arthritis will not likely be able to maintain the same degree of athleticism as dogs without arthritis, so activities that involve running and jumping should be avoided.
- **Omega-3 Fatty Acids:** Omega-3 Fatty acids are a powerful, natural method of decreasing inflammation and pain associated with arthritis. However, studies in dogs and cats have found that the doses required to achieve anti-inflammatory effects are greater than the recommended label dose on most over the counter products. Furthermore, Omega-3 Fatty Acids include several types of fatty acids, including EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid), and it is essential that the appropriate amount of each individual fatty acid be administered. Dogs and cats differ in which fatty acid they require most: dogs need EPA and cats need DHA.

Omega 3s can be administered either by fish oil supplements, natural sources, or in prescription foods such as Hills j/d or Purina JM.

Dose (Dogs): Give at least 30 mg/lb (60 mg/kg) of EPA every day to help treat arthritis

Your pets wt _____ in lbs EPA 30 mg/lb = _____ mg

- ▶ Concentration varies widely among products but typical fish oil capsules contain 1000 mg of oil of which 180 mg is EPA and 120 mg is DHA. (So a 60 lb dog requires 10 capsules per day). Read labels closely for mg of EPA per capsule, serving size etc. Label doses usually require 4-5 x dose reach the 30 mg/lb per day.
- **Stem Cell Therapy:** Studies have shown that 80% of dogs treated with stem cell therapy show significant improvement and decreased symptoms of arthritis. Stem cell therapy involves collecting your own pet’s fat, isolating the stem cells in a laboratory, and injecting the cells into the arthritic joint. These procedures are typically performed as an outpatient procedure but do require anesthesia and/or sedation. Results are seen within the first month and may continue to be seen up to 6 months. We can administer additional stem cells every 6-12 months as needed without needing to collect any additional fat or bone marrow.