

The Cutting Edge

Annapolis

Joseph M. Prostedny, DVM, MS, Dip. ACVS
Krista L. Evans, DVM, Dip. ACVS, CCRT
Daren M. Roa, DVM, Dip. ACVS
Anne C. Minihan, DVM, Dip. ACVS

Towson

F. Robert Weeren, DVM, MS, Dip. ACVS
Sean P. Kennedy, DVM, Dip. ACVS
Matthew M. Keats, DVM, Dip. ACVS

News & Notes

- Amie Hesbach, MSPT from **Next Step Animal Rehabilitation and Fitness** will be working with us to help provide rehabilitation therapy for our patients.
- Please join us in congratulating **Dr. Krista Evans** and **Diana Huey, RVT** in passing the certification requirements of the Canine Rehabilitation Institute.
- We are now scheduling rehabilitation appointments for our underwater treadmill.
- Dr. Evans and Dr. Minihan attended the Veterinary Orthopedic Society meeting in March 2009. Dr. Evans was elected to the board and will serve on the board for the next three years.
- Dr. Prostedny spoke at the CVRC 2009 Spring Conference last month in Ocean City, MD on Orthopedic updates.
- Dr. Roa will be speaking on PennHIP certification at the Colonial Rottweiler Club's annual meeting in PA on April 29.

Osteoarthritis A Multimodal Approach

Osteoarthritis (OA) is the most common form of joint disease, affecting 20% of dogs greater than one year of age. The preliminary diagnosis of osteoarthritis is made on physical examination, and confirmed with radiographs, MRI, CT, or arthroscopy. Pain and lameness are often the primary complaints from clients. Multiple products are available for the treatment of osteoarthritis; however, no one treatment is going to be the optimal choice for every situation. Multimodal therapy has been endorsed by the International Veterinary Academy of Pain Management. The goal of multimodal therapy is to create a synergistic effect with two or more therapies or treatments.

The Constituents of Multimodal Therapy include:

- Diet and weight control
- NSAIDs
- Omega-3 fatty acids
- Rehabilitation
- Stem cell therapy
- Orthopedic surgery
- Chondroprotectants (glucosamine, chondroitin sulfate, MSM, & polysulfated glycosaminoglycans)

When treating a patient for osteoarthritis, each of the following treatments must be considered in light of the specific condition, underlying pathology, goal for activity level, comfort of the patient, invasiveness of therapy and expense.

Diet and Exercise

Every dog should be fed a well balanced diet with appropriate protein for that dog's activity and age. If the dog is overweight, reducing diets such as Hill's Prescription Diet[®] r/d[®] Canine should be considered to avoid excessive stress on the joints. Transitioning the obese patient to ideal body weight may be the single most universally effective option listed. Exercise is an important component of weight management and helps to maintain joint mobility and muscle tone and mass.

Chondroprotectants

Glucosamine and chondroitin sulfate, should be considered as treatment for all dogs with osteoarthritis. Glucosamine and chondroitin sulfate can be found in many oral veterinary products such as Dasuquin and Cosequin, or in diets such as Hill's j/d diet. These products have minimal side effects and seem particularly beneficial in combination with other therapies. Polysulfated glycosaminoglycan (PSGAG) is clinically available as Adequan. Adequan is a water based intramuscular prescription drug that helps keep the cartilage healthy. A recommended treatment protocol is two injections twice a week for 4 weeks. PSGAG should be used with caution in dogs with hepatic and renal disease.

NSAIDS

Multiple non-steroidal drugs are available for treatment of OA in dogs. All NSAIDs must be monitored to avoid gastrointestinal complications such as vomiting, diarrhea, and gastric ulceration and perforation. NSAIDs should be used cautiously in dogs with hepatic or renal disease. Chemistry values should be evaluated before starting NSAID treatment and should be monitored regularly with long-term therapy.

Omega Fatty Acids

Omega-3 fatty acids have been shown to improve the clinical signs with OA. The mechanism of action is similar to nonsteroidals, reducing inflammation and joint stiffness without the risk of gastrointestinal side effects. High levels of Omega-3 fatty acids have also been shown to reduce cartilage degradation within the effected joint. The primary studies performed with Omega-3 fatty acids in dogs have involved Hill's Prescription Diet[®] j/d[®] Canine which is high in omega three fatty acids.

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- canine & feline rehabilitation

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Dogs with osteoarthritis fed j/d® had higher blood levels of omega-3 fatty acids and showed clinical improvement in running, walking, and playing after 12 and 24 weeks compared to control dogs.

Rehabilitation

Rehabilitation therapy can help to increase muscle mass in patients with muscle atrophy. Maintaining muscle mass will help decrease stress on the joints. Home exercise programs prescribed by a certified rehabilitation therapist can help the patient maintain muscle, coordination, and strength. Water therapy can be of significant benefit to these patients both in the pool and on the treadmill.

Stem Cell Therapy

Another new treatment for osteoarthritis is stem cell therapy. Stem cells are multipotent cells that can mature into other tissues, such as cartilage, bone, ligament, etc. We use stem cells derived from fat cells harvested from the patient, and sent to a commercial company in California, where they are purified and cultured. The stem cells are then returned and injected into the patient's affected joints. The goal is for the stem cells to mature into cartilage cells and help repair the damaged cartilage. Although it is an expensive treatment, it has anecdotally showed benefit in some patients.

Orthopedic Surgery

Obviously, surgical intervention can also be used in areas where indicated, such as total joint replacements (hips and elbows and knees), femoral head ostectomy and sliding humeral osteotomy.

In summary, multimodal or combination therapy provides the best management options for dogs with OA and allows them to improve their comfort and quality of life.



CHESAPEAKE VETERINARY SURGICAL SPECIALISTS

808 Bestgate Rd., Annapolis, MD 21401
410.224.0121

1209 Cromwell Bridge Rd., Towson, MD 21286
410.828.0911

www.cvssvets.com