



**LONG ISLAND
VETERINARY SPECIALISTS**
24 HOUR EMERGENCY ANIMAL CARE

LIVS IN PLAIN VIEW



**Long Island
Veterinary Specialists**

*Where You Refer Your Patient First
Makes All The Difference*

INSIDE THIS ISSUE

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VOLUME 16 - ISSUE 6

1 | **New Therapies for Osteoarthritis**

*Catherine Loughin, DVM,
Diplomate ACVS,
Diplomate ACCT*

2 | **A Note from the Editor**

*Leonard J. Marino, MD,
FAAP, LVT*

7 | **When to Refer a Glaucoma Case?**

*John S. Sapienza, DVM,
Diplomate ACVO*

NEW THERAPIES FOR OSTEOARTHRITIS

Catherine Loughin, DVM, Diplomate ACVS, Diplomate ACCT



In recent years, more and more products have been introduced to the market to treat osteoarthritis (OA), all claiming to be the “magic drug” to make your patients more comfortable. Prescription non-steroidal anti-inflammatories (NSAIDs) and other pain medications have been very popular for the treatment of OA, but in recent years, owners have been requesting non-prescription drugs and more natural options for their pets.

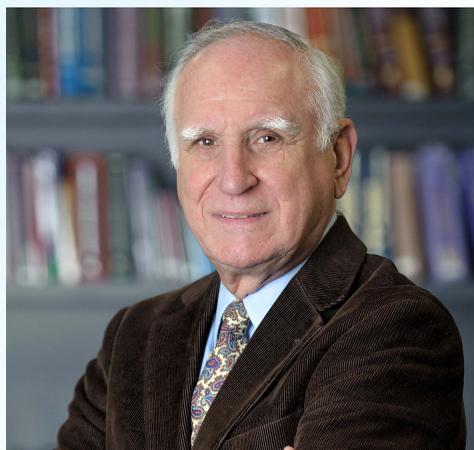
Diets are the first of the steps employed to control OA. The growth stage is the best time during which to start treating for OA. Hip dysplasia is a great example of OA that can be controlled

during that early life stage. The early phase of hip dysplasia is manifested by hip laxity in young dogs that develops into traditional OA in a couple of years. Most puppy foods contain calcium for bone growth, L-carnitine to build lean muscle, and omega-3 fatty acids with glucosamine and chondroitin sulfate to build healthy joints. For adult animals, foods now contain lean protein sources to help maintain a healthy weight as well as balanced calcium, omega-3s, L-carnitine, and glucosamine for healthy bones and joints.

Obesity is an etiologic factor for OA because it increases the load on the joint and causes malalignment. Obesity can also cause worsening of clinical signs of OA from other causes and also make exercise difficult. Diets for weight loss contain lysine, carnitine and soluble fiber to modify metabolism from fat storing to fat burning, high natural fiber levels to satisfy pets while losing weight and promote healthy triglyceride and cholesterol levels. Microsomal triglyceride transfer protein inhibitors are weight loss pharmaceuticals now licensed for dogs, and may work in conjunction with a weight management program.

Continued on page 4

A NOTE FROM THE EDITOR



Once again, elections in November have surprised many, yet there is hope we will be able to move ahead on a path that maintains our status in the world as a leader for peace, justice and economic stability. . . that's the plan, middle eastern conflicts notwithstanding.

Our Long Island weather has been free of damaging storms so far this winter and we hope it lasts.

The holiday season is upon us and vigilance must be exercised to eliminate the accessibility to items seriously dangerous to our pets. Fatty scraps, pork and poultry bones, alcoholic drinks, chocolates, sweets and candies in general can be harmful and toxic to them. Bread dough, onions and gum containing xylitol are harmful too. Tree decorations like ornaments are tempting and could be ingested. Tinsel, lilies, mistletoe and holly can be seriously harmful to cats especially. In addition, it would be prudent, in view of the disruptions to holiday events in France, Germany, even in NYC that we be wary of angry protestors.

Preparations for the season are visible all over and soon, snow tires will be needed for our cars, SUV's and trucks and our pets will feel the freezing ground on their paws. We need to be aware that pavement de-icers contain chemicals that need to be washed off when returning home after being outside. Pets kept outside should have a heated doghouse with a mattress to lie on and a bucket of water that is kept warmed to a few degrees above freezing.

About a year ago, a sea lion with a seizure disorder underwent experimental brain surgery at the University of California that involved transplanting healthy pig neurons into his damaged hippocampus. The seizures were getting more severe and being unable to eat, his body weight dropped by nearly one-third in a few months. Since the treatment, he has been seizure-free. About 1.2 percent of the U.S. population—3.4 million people—have active epilepsy. There are more than 30 anti-seizure medications on the market, but roughly one third of patients don't respond to them. I recently followed up on "Cronutt", the patient rescued initially by the Marine Mammal Center (and eventually adopted by Six Flags Discovery Kingdom) who had presented with uncontrollable convulsive seizures (up to 10 per day), hippocampal atrophy, lethargy and severe weight loss. After considering but parrying euthanasia, a stereotaxic-guided transplantation of embryonic porcine MGE progenitors was performed. Twelve months following the transplantation, Cronutt had a complete absence of convulsive seizures with significant improvements in appetite, weight gain, and general behavior! Anecdotal observations now stretching beyond 28 months post

transplantation continue to report a seizure-free outcome and significant improvements in behavior and cognition. Surgeons are optimistic embryonic MGE progenitors offer a safe and effective means toward developing a disease-modifying (no seizures, no side effects) treatment for intractable epilepsies in pets and humans. . . now that's great news!

We are exceptionally grateful to both Wendy and Gail Waller who celebrate the holiday festivities at LIVS by providing a beautiful buffet of delightfully tasty foods, salads and desserts. Their participation and assistance in the care of pets, some abandoned and all loved, is boundless. We are proud to be in partnership with them in this endeavor. Thank you from all at LIVS!

We hope a peaceful holiday season will allow us to share with our loved ones the joys of life and a brighter 2024.

We are pleased to continue the extended hours for consultation in all our departments to serve our clients more efficiently. Appointments can be made through our telephone receptionists at (516) 501-1700.

Again, we welcome your comments and observations e-mailed to Imarino@livs.org

-Leonard J. Marino, MD, FAAP, LVT



WHERE YOU REFER YOUR PATIENTS FIRST MAKES ALL THE DIFFERENCE



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**Surgery, Neurosurgery,
Radiation Therapy, Physical Rehab**



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EMERGENCY DEPARTMENT OPEN 24/7



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New Therapies for Osteoarthritis...

Continued from front cover

Exercise is important not only for the obese patients, but all animals with OA or the potential to have OA. Studies have proven that regular, moderate, controlled exercise such as walking, swimming, and other limited concussive activities may be beneficial in patients with OA. Our rehabilitation center offers an obesity clinic that proposes not only a month of diet modification, but a tailored exercise program for pets. These exercises include underwater treadmill walking, range of motion exercises and limb-strengthening exercises. Other rehabilitation modalities that could be utilized for animals with OA are electrical stimulation, therapeutic ultrasound, and Class IV/cold laser therapy. Acupuncture may also help OA by providing analgesia, decreasing inflammation and increasing the circulation to affected areas.

Adequan has been utilized in veterinary patients for several years. This is an injectable cartilage component called polysulfated glycosaminoglycan. It has numerous beneficial effects for the arthritis patient including the inhibition of harmful enzymes involving joint cartilage destruction, stimulation of cartilage repair, and increasing joint lubrication.

Neutraceuticals are very common, and provide a more natural treatment for OA.

Glucosamine and chondroitin sulfate are cartilage components taken orally providing animals with many of the necessary building blocks needed to repair damaged cartilage. These products may also have some anti-inflammatory properties separate from their structural uses. Unlike the anti-inflammatory medications, these products do not produce rapid results; one to two months are needed for them to build up to adequate levels. Omega-3 fatty acids have been found to have anti-inflammatory properties as well. Green-lipped mussel (GLM) is another proven joint supplement ingredient for both humans and dogs, and contains beneficial nutrients such as omega-3 fatty acids, glycosaminoglycans, and antioxidants. GLM is a powerful anti-inflammatory that can help decrease pain and preserve joint function. Methyl sulfonyl methane (MSM) is in most plant and animal tissues, and is a natural source of sulfur, however, for commercial sale MSM is derived from DMSO (dimethyl sulfoxide), a solvent that comes in both medical grade and industrial grade. The glycosaminoglycans that enable cartilage to soak up water and thus act as a cushion for articulating bones, are all sulfates. The idea is to provide nutritional building blocks for cartilage repair. Beyond this, MSM seems to have anti-inflammatory properties and may act as an anti-oxidant.

Anti-oxidants and free radical scavengers can also be useful supplements. Antioxidants are molecules that hinder the breakdown or change of other molecules. They are usually found in vitamins and minerals. The oxidation process in some molecules results in formation of free radicals. Free radicals are believed to decrease the effectiveness of the body's immune system, and are also linked to the aging process. Animals obtain antioxidants from the vitamins and minerals in their food. Anti-oxidants

that are readily available include Vitamin C, Vitamin E, SAME, Superoxide Dismutase (S.O.D.) and others.

Another therapy for the treatment of dogs with OA is stem cell transfer. Mesenchymal stem cells have yet to form any kind of tissue. These cells are harvested from the animal's own fatty tissue to accelerate healing time of muscles and damaged joints. Veterinarians can become certified to administer stem cells after a brief course.

Platelet rich plasma (PRP) is another treatment option for a significantly arthritic joint. PRP is a portion of the blood that has been centrifuged or processed, to contain a higher concentration of platelets than found in whole blood. Platelets contain growth factors and signaling molecules, with the two most important being transforming growth factor beta (TGF- β 1) and platelet derived growth factor (PDGF). These growth factors reduce inflammatory cytokines, which decrease the neutrophil response and the production of destructive matrix metalloproteinases (MMPs). PRP enhances the body's natural healing response by delivering a high concentration of growth factors directly to the site of injury.

Platelet rich plasma can be injected into the joint under sedation. Initially the pet may limp from the increase in joint fluid, but this dissipates in a few days.

Lymphocyte T-cell immunomodulatory (LTCI or T-cyte) injections are gaining popularity in the veterinary community. T-cyte injections increase immune response to foreign antigens and decrease immune responses to self-antigens. In animals with OA, which is caused by chronic immune activation against the tissues of the joint, there has been a documented 40% increase in limb improvement.

With the recent legalization of marijuana in some states, cannabis oil has also been utilized for OA relief. Cannabis oil is a liquid derived from the marijuana flower. Marijuana plants contain 80 different cannabinoids, including THC (tetrahydrocannabinol, the psychoactive component) and CBD (cannabidiol, the medical component). Cannabis oil has no psychoactive effect on dogs when dosed properly. Unfortunately the research needed to determine the correct dosage for CBD oil in dogs has yet to be published, and FDA testing has shown that many CBD products contain little if any CBD. Owners may read overly ambitious claims about CBD oil from unreliable sources, and request that their pets be started on the oil. Owners should be informed of the present lack of information, and that CBD oil may not be a "cure all".

There are so many options to treat OA. A multiple modality approach is typically the best option for most patients. Starting with weight management, exercise and neutraceuticals in the early stages may help prolong the period before prescription drugs and surgery are necessary. Given all the options that are now available, a program can be developed and individualized for each pet and its owner.



Figure 1 Platelet rich plasma kit.



Figure 2 T-cyte injection

When you need to do more than ‘scratch’ the surface...

There's LIVS Dermatology Service

Between flea allergies, food allergies, and environmental factors, pets are presenting with allergy symptoms throughout the year.

Our dermatology service offers the following:

- Allergy testing
- Allergy shots
- Skin cytology
- Skin biopsies
- Bacterial cultures and sensitivity testing
- Skin scrapings

Long-term management is often required for chronic skin conditions and our team is here to provide the necessary relief that your patients desperately need!

**All dermatology cases seen at LIVS are reviewed by a board certified dermatologist via telemedicine.*



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DVM Video Sessions



24/7 video telehealth services provided by experienced, US-based veterinarians that triage client-perceived pet emergencies. Connect in minutes, no software downloads or appointments needed, connect in minutes in 3 easy steps from any computer or mobile device.

Maintain Veterinary Quality of Life



Eliminate the need for a veterinarian or technician to be on-call after-hours and overnights. This has shown to **substantially improve recruitment efforts** for new vets and technicians for clinic partners.

Your Cases Stay Your Cases



VetTriage is a **seamless extension of your clinic**, and are recommended to follow-up with you, their primary veterinarian. A session summary is emailed to both your office and your client allowing you to reference their triage session and insert it into the medical records.

No Cost to the Clinic



VetTriage services are offered at **no cost to your clinic!** The client pays a small triage session fee to video chat with our veterinarians. Save money by eliminating the need for an after-hours answering service, whom are not medically trained and a source of frustration for the client.

Cases are Triage for Actual Emergencies

Nearly 80% of cases do not require a visit to the ER and the unnecessary expense associated with it. These cases are given advice and are re-directed back to the clinic for follow-up, diagnostics, and treatment. While actual emergencies are sent to the ER for immediate evaluation.

Enhance Client Loyalty and Trust



Instill comfort in your current clientele that a reliable and experienced telehealth service is available during times of limited office hours and for emergency triage during after-hours, overnights, and holidays.

**For more information contact our medical director Shadi Ireifej, DVM, DACVS at
(845) 527-9812 or shadi.ireifej@vettrriage.com**

WHEN TO REFER A GLAUCOMA CASE?

John S. Sapienza, DVM, Diplomate ACVO



I recently received a call from a referral veterinarian, and the question that he posed to me was “What other glaucoma medications can I prescribe to this patient? Dorzolamide does not seem to be lowering the intraocular pressure enough?” Many veterinary ophthalmologists, including me would simply respond that surgery is the key to intraocular pressure (IOP) control, and the time to refer this case is NOW. Glaucoma is rarely a medically manageable disorder, especially primary glaucoma in dogs. The goal for glaucoma therapy in our small animal patients is to decrease the IOP as soon as the patient presents to you (the referring veterinarian). Surgery must be part of the early treatment plan for every glaucoma case. Vision is our primary goal, but if already lost, IOP control is then the most important therapy goal.

I often see animals referred to me with maximal medications for weeks: latanoprost TID, dorzolamide QID as well as additional topical and oral anti-glaucoma medications. There is no advantage to using these topical medications more than their recommended prescribed frequency (latanoprost 1-2X per day and dorzolamide every 8 hours). One must remember that rarely will the IOP be controlled on medical therapy alone, therefore, surgery in the form of a gonioimplant (or glaucoma shunt), laser therapy or combination shunt-laser procedures will always be advised in almost all cases of primary canine glaucoma. The advantage of gonioimplants are the relatively low vision-threatening complications as compared to laser-induced complications. Long term success of the

currently available gonioimplants, however, is poor: average of IOP control for 2-12 months. We are presenting our work on a new gonioimplant that delivers aqueous humor to the ocular surface thus bypassing any fibrotic capsule formation around the shunt reservoir. One such patient is now visual and off all medications 4 years post-glaucoma shunt to the ocular surface. (Figure 1).

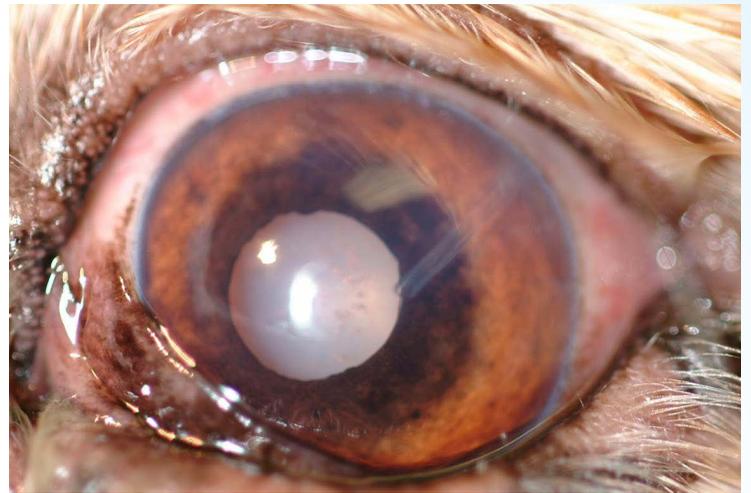


Figure 1

Laser therapy, namely transscleral, micropulse or endocyclophotocoagulation (or endolaser), is readily available and has its advantages and disadvantages like any surgical procedure. Control of IOP is between 70-90% dependent on whether one performs a transscleral (TSCP) or endolaser (ECP). Major risks are recurrence of the glaucoma and secondary complications such as uveitis, cataract formation, and intraocular bleeding. A major disadvantage is the first 1-2 weeks post-laser ablation of the ciliary body, the IOP remains elevated and if markedly elevated can cause permanent vision loss. The micropulse laser has not been a reliable and predictable surgical laser in small animals. We recently did a 1 year review of all canine cases treated over the last 3-4 years and have presented this information at the 2020 annual ACVO virtual congress that the micropulse laser therapy resulted in long term control of IOP and retention of vision in 54% and 31%, respectively.

In summary, surgical options exist for glaucoma cases in the form of gonioimplants, laser or combination therapies, but the key to success is early referral to the ophthalmologist and early surgical intervention. Any questions or concerns, please do not hesitate to contact us.



Long Island Veterinary Specialists

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