



New Study Shows Trends In DCM-Associated Diet

BY: SAMANTHA BARTLETT, DVM

Dilated cardiomyopathy (DCM) is the second most common heart disease of dogs and causes the chambers of the heart to dilate and pump blood less effectively. The disease leads to congestive heart failure and possibly death. The disease is most commonly seen in large breed dogs and also in cocker spaniels. In 2018 the FDA published a report that they had been seeing more cases of DCM in non-traditional breeds and it appeared to be associated with grain-free diets. Unlike heritable DCM, when these animals were switched to a more traditional diet the heart returned to original size. Since then, research has been ongoing to try to find the cause of this phenomenon.

Researchers at Tuft's University have published a study of differences between diets associated with DCM in dogs and diets with no known connection to heart disease. The study focused on nine canine diets associated with DCM in dogs. Each diet had at least three pulse ingredients such as peas and lentils, potatoes or sweet potatoes and each diet had been identified by the FDA among the diet brands most associated with DCM cases. The researchers also looked at nine diets with no association to DCM.

Researchers found that the diets associated with DCM had lower concentrations of B-vitamins, which are co-factors in cardiac metabolism, and higher concentrations of amino acids, amino acid derivatives and plant derived compounds which could be associated with deficiencies in molecules essential to heart function. There was no difference in taurine concentration between DCM-associated diets and non-DCM diets.

Peas and lentils appeared to be the common ingredient associated with the higher concentrations of biochemical compounds. However, no causality has been established between the presence of these compounds and heart disease. As more results become available, researchers hope to narrow down the underlying cause of DCM associated with diet. For now, the FDA is not advocating that pet owners avoid diets with peas, but does encourage owners to select diets made by established, large companies that have participated in feeding trials and have veterinary nutritionists on staff.



Researchers Finding That Canine Hookworms Becoming Increasingly Resistant to Traditional Treatments

BY: SAMANTHA BARTLETT, DVM

New findings from a research effort by the University of Georgia published in the *International Journal for Parasitology: Drugs and Drug Resistance* has found mutations in the dog hookworm (*Ancylostoma caninum*) that allow it to be resistant to the three dewormer drug classes used in conventional treatment. The study focused on current and former racing greyhounds. Because the conditions at racetracks are conducive for spread of hookworms, racing greyhounds are dewormed about every 3-4 weeks.

The researchers analyzed fecal samples from three veterinary practices that work with adoption groups, two greyhound adoption kennels and an active racing kennel. Four out of five greyhounds tested were positive for hookworms. Ray Kaplan, an author of the study, noted that the greyhounds testing negative were very likely infected as well. The concern was that infected dogs still showed high levels of hookworm infection even after treated appropriately for hookworms using albendazole, moxidectin or a combination with febantel-pyrantel-moxidectin. This study marks the first demonstration of multi-drug resistance in a dog parasite.

Racing dog breeding facilities and kennels where a large number of dogs are infected with heavy parasite burdens provide more opportunities for the parasites to develop mutations that will help them survive deworming treatment. Frequent treatments with dewormers then allow these resistant worms to survive and pass on the mutation. Over time, worms that are susceptible to the dewormer will be killed leaving behind only the resistant worms. Because veterinarians do not routinely test animals after treatment, drug-resistant worms typically go unnoticed until a dog

begins to show clinical signs of hookworm disease.

As greyhounds retire from racing and are adopted into the communities, the drug-resistant hookworms will begin to spread to other pet dogs. One of the most high-risk areas for spread of hookworms is dog parks. Dogs can become infected through contact with contaminated soil. The larvae can burrow through the dog's skin and paws. Hookworms are also passed to puppies through their mother's milk. Hookworms also pose a threat to humans. As in dogs, traditional treatments for human infections will not work against these newly resistant hookworms.

In another study, Kaplan and Pablo Jimenez Castro, lead author of the study, found that these resistant dog hookworms are susceptible to emodepside. A topical emodepside/praziquantel product is only approved for use in cats in the United States. Dogs must take emodepside orally for it to be effective. Use of the emodepside/praziquantel product in dogs is considered extra-label and must only be performed by a veterinarian for correct dosing and observation. All dogs being administered emodepside must be tested for heartworm microfilaria before administration. The American Association of Veterinary Parasitologists (AAVP) recommends that veterinarians confirm multi-drug resistance and determine correct dosing and administration procedures for dogs before administering emodepside.

The AAVP has formed a national task force to address the issue of resistant canine hookworms. Antoinette Marsh, PhD, is the chair of the task force and recommends that veterinarians follow up on patients in 10-14 days to verify the dewormers prescribed were effective and to continue to monitor patients until fecal egg shedding ceases.



A New Cartilage Implant Can Restore Hip Function In Dogs With Arthritis

BY: SAMANTHA BARTLETT, DVM

Dogs with large osteochondral defects often require hip replacements. Young dogs often have to undergo multiple replacements as they undergo structural changes with age. Researchers set out to find alternative options that could potentially help dogs and people with degenerative joint disease. They designed a new implant that allows the body to regenerate cartilage tissue in the hip using stem cells. The textile-based implant is implanted with the patient's stem cells and incubated around 2 months to grow cartilage. Once implanted on the femoral head surface, the textile implant is designed to dissolve and leave just the new cartilage tissue.

The implant is part woven textile and part 3D printed and is designed to support joint load while providing a robust base for stem cells to develop into a cartilage matrix capable of handling the force and load on its own as the textile base dissolves.

Researchers created massive osteochondral lesions in the hips of a group of study dogs and split the group into a control and surgical group. Dogs that had received the implant returned to baseline levels for function and pain within four months where the control group showed no improvement. The researchers saw that the implants had successfully integrated into the joint, essentially resurfacing them and restoring function as well or better than total hip replacement.

While this study was preliminary, it paves the way for further research into early intervention to prolong joint function in dogs and eventually humans and avoiding total joint replacement. The study was performed by a team of researchers from North Carolina State University, Washington University in St. Louis and Cytex Therapeutics. The study was published in Science Advances and can be accessed at <https://www.science.org/doi/10.1126/sciadv.abi5918>.

Millennial Cat Owners Attracted to Practices That Focus on the Human-Animal Bond

BY: SAMANTHA BARTLETT, DVM

Millennials are defined as those born between 1981 and 1996. This generation has now surpassed previous generations for pet ownership. They tend to view their pets as children and are greatly concerned with their pet's emotional well-being. With access to technology, there is an overabundance of information on veterinary care and animal health, much of it not legitimate. Millennial cat owners are hungry for information and want the right kind of information. They are much more likely to return to a practice that acknowledges the research behind the human-animal bond and veterinary staff that take time to answer questions and offer resources.

Because of millennials' attention to their pets, more cat-specific products are available than ever. Even though more cats are owned as pets than dogs, cats are less likely to receive veterinary care. This is partly because pet owners see cats as self-sufficient and not needing care and partly because bringing a cat to the vet can be an overly stressful experience for both the owner and the cat. Millennials do not see their cats as aloof, anti-social beings and vet visits by millennial owned cats are on the rise.

Veterinarians and veterinary staff can attract and retain cat owners by providing information on daily care, offering consultation on behavioral problems and helping owners by providing services and treatments or referring to specialty care when necessary. Millennials simply want relevant and scientifically grounded information. This can be provided through apps and blogs. Many veterinarians are now offering information prescriptions that provide tips for finding accurate information as well as web-based resources for their pet questions.

Along with social media outreach to help pet owners make informed decisions, some veterinary clinics are finding hits with kitten training and socialization classes.



According to the research from the Human-Animal Bond Research Initiative, millennial pet owners are more willing to try new ideas when it comes to care of their cats. Not only does this potentially get cats into the veterinary clinic more often, it can help strengthen the bond and educate cat owners on how to recognize and handle behavior problems. Teaching these classes in a veterinary clinic bonds the pet owner to the clinic and makes the veterinary nurse instructor another resource to the pet owner down the road when behavioral problems happen. Owners are taught basic kitten care, how to do nail trims, how to safely and effectively play with your kitten and how to get your kitten to accept a treat from a pill dispenser to make it easier later in life should the kitten need medication. Feeding behavior and enrichment are also covered along with other preventive measures such as how to teach the kitten to use a scratch pad rather than the furniture.

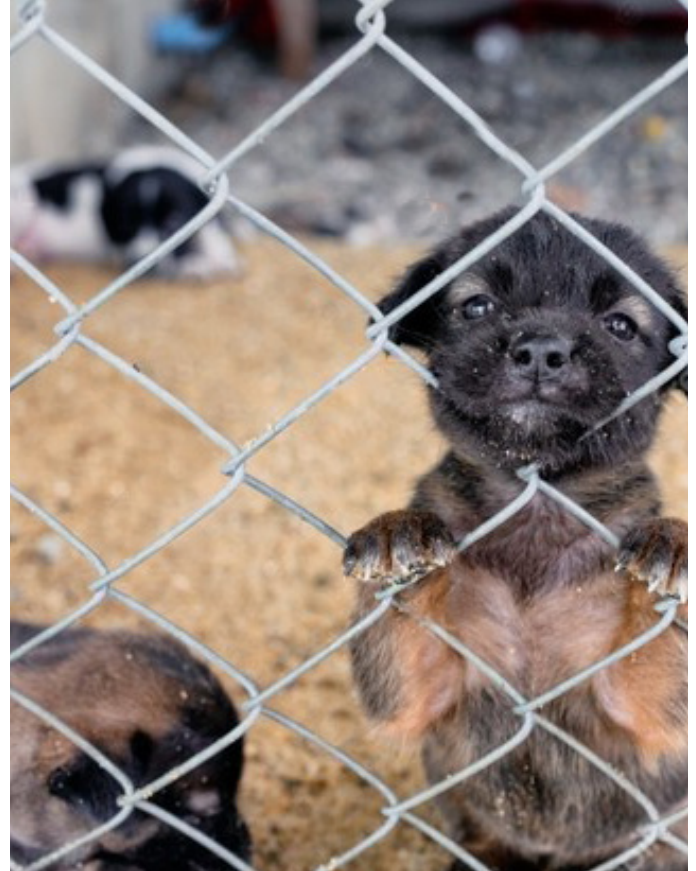
The overriding theme is that millennials want an active role in their pet's health and want to be on equal footing in discussions with their veterinarian. Helping them find accurate information can provide more confidence in the veterinarian's decisions and help them understand why treatment recommendations are being made.

Pet Store Puppies Have Been A Source of Drug-Resistant *Campylobacter* Species in Humans for Decades

BY: SAMANTHA BARTLETT, DVM

Since 2011, hospitals have been reporting cases of *Campylobacter jejuni* in humans that are resistant to normal antibiotic treatments. All of these cases have been traced to puppies sourced from pet stores and mostly affect customers, employees and other people that have interaction with these puppies. The Centers for Disease Control (CDC) has been tracking these cases since 2011 and recently published a report in JAMA Open Network. The study identified 168 cases of *C. jejuni* infections that were resistant to 7 classes of antibiotics, including aminoglycosides, ketolides, lincosamides, macrolides, phenicols, quinolones, and tetracycline. The CDC estimates that only one in 30 cases of *Campylobacter* are identified mostly because people do not seek medical care and true numbers of cases are likely in the thousands. Although food-borne *C. jejuni* illnesses are common, these extensively drug resistant bacteria are only linked to dogs.

Many cases of exposure were linked to Petland, a pet store chain, but were not limited to that chain as other cases were reported from exposure to other pet stores or breeders. Investigators have not been able to identify a common source of infection among breeders, pet stores or transporters. Concern about antimicrobial use includes injudicious use of antibiotics by breeders and pet store owners without veterinary supervision. In the initial investigation from a 2018 Morbidity and Mortality Weekly Report article, the CDC reported 142 of 149 puppies from pet stores had received at least one antibiotic course before they arrived at the pet store. More



than half of these puppies received the antibiotics prophylactically.

CDC recommends that employees and customers of pet stores wash their hands after touching puppies. They also encourage pet stores to separate human eating areas from animal areas and that employees should wear gloves when cleaning cages. Implementation of measures to curb unnecessary antibiotic use and improve hygiene and infection control by breeders and pet stores is also necessary.

The full study can be accessed at <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2784113>.

A LETTER FROM THE PRESIDENT

Happy New Year and welcome to 2022! My name is Leo Becker and it is my honor to be this year's KCVMA president. I hope everyone had a great holiday season and are off to a good start in welcoming this new year.

My undergraduate degree is in animal science from Kansas State University. At K-state I also completed a equine certificate, was a member of the horse Judging team, and a officer on the Ag Council. I received my DVM from Ross University completing my clinical year at the University of Missouri. I am currently an associate in private and corporate practice while also doing freelance mobile large animal medicine.

This year will be my fifth year on the KCVMA board. I find it very rewarding in networking with other veterinary professionals. I look forward to meeting members I don't already know at upcoming continuing education talks and socials. It is my personal goal to have as many CEs we can this year in person. If anyone has any input for future CE talks or socials, please reach out to me or another board member. Your thoughts and ideas matter. Thank you all and I hope we have a great 2022!

Leo Becker, DVM



JANUARY CE

Speaker: Dr. Sam Franklin

Topic: Orthobiologics for Musculoskeletal Disease

Date: Thursday, January 20th, 2022

Time: 7pm

Location: TBD

CE: 1 Hr.

Fee: No fee to attend this event, but RSVP is required by **January 18th**. Current membership dues cover all CE.

We will cover the basics behind preparation of platelet-rich plasma, autologous protein solution, stromal vascular fraction, and cultured stem cell therapies. In addition, the presentation will review recent studies assessing the evidence for clinical efficacy of these treatments. There will be a particular focus on the efficacy of intra-articular injections for treatment of osteoarthritis.

Classifieds

Send your classified ads to: Wanda Geis, PO Box 12468, Shawnee Mission, KS 66282-2468, or email them to classifieds@kcvma.com. Classified ads will be run at the sole discretion of the editor and may be edited for content.

December 15, 2021

Associate Veterinarian with Sign on Bonus! Grain Valley, MO

Crain Veterinary Center, a small animal, full-service practice in Grain Valley, MO, East of Kansas City, is seeking a full-time or part-time Associate DVM. We are also offering a paid, full-time internship to new graduates.

We serve a growing community with four full-time veterinarians and a wonderful staff. Our technicians and

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staff allow our doctors to focus on being doctors and not techs by assisting with appointments, procedures and surgery. If you're looking for an opportunity to be a part of something great, Crain Veterinary Center is the place for you!

We will provide you with the chance to experience a wide variety of medical and surgical cases with support from your other colleagues. A team-oriented approach to veterinary medicine is something we truly value. If you are a new graduate, we want to help make your transition from school to your career as smooth as possible. We are looking for an individual who is driven and willing to learn anything from internal medicine to a wide range of surgical procedures. Benefits include competitive salary, 401K, paid licensing dues, paid vacations, CE credits, NO overnight or on-call emergencies, etc.,

- Offering state of the art equipment, including:
- Digital Radiography
- Digital Dental Radiography
- High Speed Dental Drill
- Therapy Laser
- Ultrasound
- In-House UA Analyzer
- Wide range of surgical/medical procedures including:
- Endoscopy
- Mass Removal
- Intra-Abdominal Procedures
- Cruciate Ligament Repair
- Amputation
- Fracture Repair (Plating and Pinning)
- Ophthalmic Procedures (Cherry Eye, Enucleation, etc,)
- Femoral Head Ostectomy (FHO)
- Aural Hematoma Repair
- Anal Gland Removal
- Emergency Operations, and more!

Please call or email the office manager, Brianne Quinn, with any questions. In-person and phone interviews are available!

crainvetcenter@gmail.com

816-229-1147

Job Types: Full-time, Part-time, Internship

Pay: From \$100,000.00 per year

November 11, 2021

VetNova Announces Launch of US Affiliate VetNova Animal Health LLC

A veterinarian-founded animal pharmaceutical company based in Spain has expanded its global reach with the launch of a U.S. affiliate.

Headquartered in Olathe, Kan., VetNova Animal Health LLC will function as head office for parent group VetNova's North and South American operations. The company's offerings are now available in more than 20 countries across Europe, Asia, Africa, and America.

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VetNova's companion animal catalogue comprises more than 60 products across several categories, including dermatology, renal/urinary, senior care, behavior, neurology, digestive, cardiology, and ophthalmology.

"VetNova believes the best product is the one that, in addition to contributing to the improvement of the animal's health, can be administered easily, without causing added stress and without affecting the human-animal bond," VetNova stated in its expansion announcement. "This forces the company to be in constant evolution, always listening to the client's needs to develop the most innovative products and improve the product profile every year."

For more information, visit www.vetnova.com or call 913-279-1224

November 8, 2021

Mixed Animal Veterinarian needed for a newly remodeled multi doctor practice. We welcome preceptorships as well. We are looking for an additional mixed animal veterinarian to add to our multi doctor practice. Our patient mix is 60% small animal and 40% large animal. We are in a rural community approximately 60 miles south of Kansas City Metro area.

Compensation is negotiable based upon experience. The position will share emergency duties. Resumes can be sent to practice practice manager missygirl123@embarqmail.com Questions can be answered by phone at 660-679-8491.

Butler, MO

Owner: Trent D. Callahan DVM