

Clinical Trials for Cancer Research

By Sharon Albright, DVM, CCRT
 Manager of Communications & Veterinary Outreach, AKC Canine Health Foundation

Clinical trials are essential for canine health research and an important part of the AKC Canine Health Foundation's (CHF) cancer research portfolio. These trials allow investigators to evaluate new diagnostic and treatment tools for dogs with naturally occurring cancers. While safety and efficacy data can be obtained in basic research and using laboratory models, nothing compares to observing outcomes in actual cancer patients.

Investigators rely on dog owners like you to participate in clinical trials and there are many benefits to doing so. If your dog has unfortunately been diagnosed with cancer, participation in a clinical trial may provide access to cutting edge technologies and therapies that would not otherwise be available. Another important aspect of participation in canine cancer clinical trials is the translational value of these studies. There is increasing collaboration between



veterinary and human medicine given that dogs are our closest companions, share our homes, and get many of the same cancers as humans. Bone cancer, breast cancer, and others share the same molecular characteristics in dogs and humans. Therefore, what we learn in one species may benefit both.

While participation in cancer clinical trials is not always free of charge, some veterinary care may be provided at a reduced cost. Clinical trials also require strict adherence to the study protocol – submitting samples, reporting outcomes, and returning for follow-up care exactly as directed. This ensures that the data collected are reliable and meaningful.

One active CHF-funded clinical trial is studying the use of propranolol in addition to doxorubicin to treat hemangiosarcoma (Grant O2534). This cancer is dreaded by dog owners and veterinary professionals alike since it often strikes without warning and the long-term prognosis for affected dogs is poor. Propranolol, a drug used to treat heart failure in people and dogs, has been shown to sensitize hemangiosarcoma cells to the commonly used chemotherapy drug doxorubicin. This clinical trial is being conducted at several veterinary teaching hospitals and will evaluate if adding propranolol to the standard of care for hemangiosarcoma can improve treatment response.

“Clinical trials to test new treatment approaches for hemangiosarcoma and other cancers represent the final step in a long process, often years if not decades of work, that begins in the research lab,” say Principal Investigators of this study Erin B. Dickerson, PhD and Antonella Borgatti, DVM, MS from the University of Minnesota. “Results

continued...

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IN THIS ISSUE

Clinical Trials for Canine Cancer

New Findings from the Investigation into Diet-Associated Dilated Cardiomyopathy in Dogs

New Theriogenology Residents

Donor Spotlight - American Wirehaired Pointing Griffon Foundation

Recent Grant Highlights

CALENDAR OF EVENTS

Where to Find Us

August 13-15

2021 AKC CHF National Parent Club Canine Health Conference

Virtual

Register at akcchf.org/npcchc

Upcoming Webinars

Register at akcchf.org/vetvine

September 2021

How to Establish THC Diagnosis in the Emergency Room

Presented by Joel Green Weltman, DVM, DACVECC, PhD

Sign up to receive CHF's latest canine health research information at akcchf.org/registration.

Clinical Trials for Cancer Research

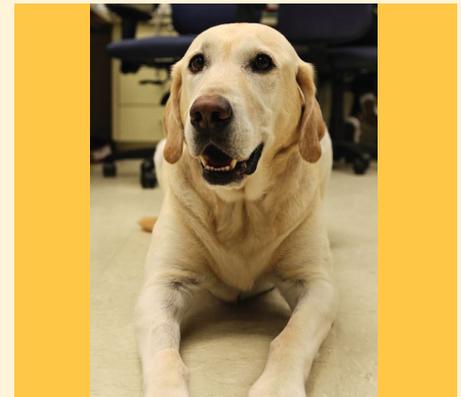
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from this trial and follow-up studies will allow researchers to further refine this therapy and provide clinicians and pet owners with more reliable information for choosing treatments for their dogs.”

Investigators at Colorado State University are conducting another CHF-funded clinical trial to evaluate medical treatment of mast cell tumors (Grant O2910). These tumors are the most common malignant skin tumor in dogs. While surgical removal is ideal, some mast cell tumors are not in a location suitable for surgical removal, the patient may have other health concerns that prevent surgery, or additional treatment may be recommended for high grade tumors following surgery. The drugs chlorambucil and toceranib (Palladia) have been used alone and in combination for medical treatment of mast cell tumors. This clinical trial will evaluate if the combination protocol results in better tumor control.

CHF and its donors have invested more than \$15.4 million in hundreds of canine cancer research studies, including clinical trials to study new and improved treatment strategies. If you or someone you know has a dog diagnosed with cancer, please consider participating in a clinical trial. Even if you have a healthy dog of a specific breed or one related to a dog diagnosed with a particular cancer, contributing blood and tissue samples can provide valuable information to help current and future generations of dogs.

Visit akcchf.org/participate to search for CHF-funded studies recruiting samples or participants. Thank you to the dogs, owners, veterinary professionals, and researchers that support clinical trials to help all dogs live longer, healthier lives. 🐾



“Furgus” – a participant in the University of Minnesota hemangiosarcoma clinical trial.
Photo credit: Brian Husbands, DVM.

Help Future Generations of Dogs

Participate in canine health research by providing samples or enrolling in a clinical trial. Samples are needed from healthy dogs and dogs affected by specific diseases. Learn more at akcchf.org/participate.

New Findings from the Investigation into Diet-Associated Dilated Cardiomyopathy in Dogs

By Sharon Albright, DVM, CCRT
Manager of Communications & Veterinary Outreach, AKC Canine Health Foundation

In July 2018, the FDA alerted pet owners and veterinarians about increased reports of dilated cardiomyopathy (DCM) in dogs. Affected dogs were not breeds or mixes thereof known to have a genetic predisposition for DCM and they were often reported as eating diets with peas, lentils, other legume seeds (pulses), and/or potatoes in various forms (whole, flour, protein, etc.) as main ingredients. The FDA and veterinary professionals began investigations into the issue, but a clear cause for the apparent increase in diet-related DCM has been elusive.

The AKC Canine Health Foundation (CHF) and its donors are supporting the investigation with Grant O2661: Investigation into Diet-Associated Dilated Cardiomyopathy in Dogs. This grant provides funding for a multi-institutional, prospective evaluation of apparently healthy dogs.

Investigators are comparing various measures of heart health in dogs eating grain-free diets and diets with peas, lentils, or potatoes as main ingredients to those in dogs eating grain-inclusive diets and diets without peas, lentils, or potatoes as main ingredients. They will use this information to determine if differences in the structure and function of the heart vary based on diet type in outwardly healthy dogs. Most of the recent clinical reports of suspected diet-related DCM have described dogs suffering from advanced heart disease. This investigation of outwardly healthy dogs is important to determine if evidence of heart disease is present at an earlier stage.

Initial results from this study were recently published in the *Journal of Veterinary Internal Medicine*¹ and provide an important, objective analysis. Although no differences were found for echocardiographic measurements between diet types, the major finding from this study was that cardiac troponin I levels were higher in dogs eating grain-free dog foods or dog foods with peas,



lentils, or potatoes in the top ten ingredients, compared to dogs eating foods without these qualities. Cardiac troponin I is a marker of heart muscle injury. Therefore, the finding of even low-level cardiac troponin I elevations in these outwardly healthy dogs suggests that there could be heart muscle cell damage even before any changes in heart size or overall function are apparent on the ultrasound exam of the heart.

The clinical importance of the higher cardiac troponin I levels requires more research, but this finding adds a piece of information to a very large and complex puzzle. While owners and veterinarians are anxious for answers, the AKC Canine Health Foundation and its donors remain committed to the arduous task of scientific study needed to find accurate information. 🐾

1. Adin, D, Freeman, L, Stepien, R, et al. Effect of type of diet on blood and plasma taurine concentrations, cardiac biomarkers, and echocardiograms in 4 dog breeds. *J Vet Intern Med.* 2021; 1- 15. <https://doi.org/10.1111/jvim.16075>

2021 AKC Canine Health Foundation National Parent Club Canine Health Conference

Our 2021 conference is going virtual.

Due to ongoing challenges for travel and large gatherings during the COVID-19 pandemic, dog club representatives, researchers, veterinarians, students, and more will gather virtually at our biennial conference in August. This year's presentations will focus on dermatology & immunology, canine cancer, neurology & epilepsy, and cardiac disease in dogs. An emphasis on One Health will be evident as investigators relay how their research findings may benefit dogs and humans alike. Learn more at

akcchf.org/npcchc.



2021 Theriogenology Residents



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theriogenology foundation
The Future of Animal Reproduction

The AKC/AKC CHF/TF Small Animal Theriogenology Residency Program is a collaboration between the American Kennel Club (AKC), the AKC Canine Health Foundation (AKC CHF), and the Theriogenology Foundation (TF) to increase the number of trained practitioners in companion animal theriogenology and clinical genetics. Theriogenology is the branch of veterinary medicine concerned with reproduction, including the physiology and pathology of male and female reproductive systems, and the clinical practice of veterinary obstetrics, gynecology, and andrology.

Learn more about this grant program at akcchf.org/therio.



Anum Ahmed, DVM
(CHF Grant O2845-E)
Residency Coordinator:
Audrey A. Kelleman, DVM, DACT
University of Florida

Dr. Ahmed completed her veterinary degree at Kansas State University after receiving her Bachelor of Science degree from the University of Central Florida. She also completed a small animal internship through BluePearl Veterinary Partners in Tampa, FL. She hopes to work with domestic dog breeders and support wild canid conservation.



Nicole Sugai, DVM
(CHF Grant O2846-E)
Residency Coordinator:
Julie T. Cecere, DVM, MS, DACT
Virginia-Maryland College of
Veterinary Medicine

Dr. Sugai completed her veterinary degree at the University of Illinois at Urbana-Champaign College of Veterinary Medicine after receiving her Bachelor of Science degree from the University of Michigan. She breeds and shows Standard Poodles and enjoys collaborating with dog breeders.



MISSION: The mission of the American Kennel Club Canine Health Foundation, Inc. is to advance the health of all dogs and their owners by funding scientific research and supporting the dissemination of health information to prevent, treat and cure canine disease.

Donor Spotlight - American Wirehaired Pointing Griffon Foundation



The American Wirehaired Pointing Griffon Foundation (AWPGF) was established as a nonprofit organization by the American Wirehaired Pointing Griffon Association in 2017 to fund and support health and genetics initiatives, educational programming, and breed rescue efforts. Although the AWPGF is both young and small, it is already making an impact in canine health. AWPGF has contributed to AKC Canine Health Foundation (CHF) funded canine health research studying epilepsy, tick-borne disease, and the development of cognitive traits in dogs. Their research support demonstrates a commitment to advance our knowledge of diseases that affect not only Wirehaired Pointing Griffons, but all dogs.

“The AKC Canine Health Foundation’s mission to advance the health of all dogs and their owners by funding scientific research aligns perfectly with our purpose to fund and advance Wirehaired Pointing Griffon health research,” said Melanie Tuttle, AWPGF Board member. “By working with CHF, we are able to leverage our donors’ dollars to support important research into issues that we know affect our breed. We honor CHF’s significant work on behalf of all dogs and their families and are grateful for the opportunity to play a part in its successes and the those of the funded researchers. Our dogs are the winners!”

Recent CHF Grant Highlights

Grant 02858-A: Investigation of Mechanisms of Resistance to Immunotherapy in Dogs with Spontaneous High-grade Glioma

Principal Investigator: Susan Arnold, DVM; University of Minnesota

Evaluation of genetic and immune system characteristics to determine why French Bulldogs with this brain tumor respond poorly to immunotherapy-based treatment compared to other breeds.

Grant 02875: Canine Pituitary Adenoma Organoids (CaPiTO) as *in vitro* Model for Canine Cushing's Disease

Principal Investigator: Karin Sanders, DVM, PhD; Utrecht University

Validation of three-dimensional tissue cultures to identify new treatment targets for Cushing’s disease, a common hormonal disorder in dogs.

Grant 02940: Investigating Neuronal Network Connectivity in Dogs with Idiopathic Epilepsy using Functional Magnetic Resonance Imaging

Principal Investigator: Karen R. Muñana, DVM, MS; North Carolina State University

Use of functional MRI to determine if dogs with idiopathic epilepsy have alterations in the functional connectivity of their brain to better define the physiology and causes of this disease.

See our full research grants portfolio at akcCHF.org/research.



How You Can Help

Support canine health research

Support the AKC Canine Health Foundation to help find better treatments, more accurate diagnoses, and an improved understanding of the mechanisms that cause disease in dogs. Whatever your capacity to give, there is a way for you to help.

Learn more at akcCHF.org/how-to-help.



chf@akcCHF.org
888.682.9696

8051 Arco Corporate Dr, Suite 300
Raleigh, NC 27617

akcCHF.org

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