

## The 9/11 Medical Surveillance Study

By Sharon Albright, DVM, CCRT

Manager of Communications & Veterinary Outreach, AKC Canine Health Foundation

It is estimated that 250-300 search and rescue (SAR) dogs were deployed to New York City and Washington, DC following the September 11, 2001 terrorist attacks. The AKC Canine Health Foundation (CHF), along with its donors, has invested more than \$555,000 since that time to monitor the physical and behavioral health of these dog and handler teams and analyze the data collected. The groundbreaking 9/11 Medical Surveillance Study, led by Dr. Cindy Otto, will help us understand the long-term effects of this disaster on SAR dogs. This is important to improve the health and safety of future SAR teams and because the abbreviated lifespan of dogs allows them to serve as sentinels for disease in people exposed to the same disasters.



photo credit: Cindy Otto

### Collecting the data —

One of only a few prospective, longitudinal studies conducted in veterinary medicine, the 9/11 Medical Surveillance Study collected data on two groups of SAR dogs from September 12, 2001 until their deaths. Group one consisted of 95 dogs deployed to two sites in New York and the Pentagon in Washington, DC. Group two (the control group) contained 55 dogs with similar SAR training that were not deployed to these sites.

All participating dogs had annual medical and training history surveys and cBARQ questionnaires completed by their handler. (cBARQ®—Canine Behavioral Assessment and Research Questionnaire—is a validated questionnaire used by scientists to measure canine behavior.) A subset of dogs had annual blood tests and chest radiographs plus a full necropsy (autopsy) upon their death.

### Results —

Canine injuries and illnesses during deployment, as reported by the handler, were minor and did not detract from operations. Cuts and abrasions, weight loss, dehydration, and changes in appetite were most common.

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## Fall 2018

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### CALENDAR OF EVENTS

#### WHERE TO FIND US

**October 26-28**

National Animal Interest Alliance  
 Conference, Orlando, FL

**December 11-16**

AKC National Championship and related  
 events, Orlando, FL

**December 13**

Canines & Cocktails, Orlando, FL

#### UPCOMING WEBINARS

Register at [akcchf.org/vetvine](http://akcchf.org/vetvine).

**November 14**

Understanding Steroid Responsive  
 Meningitis-Arteritis and Other Inflammatory  
 Neurological Disorders in Dogs

Presented by: Karen R. Muñana, DVM, MS,  
 DACVIM (Neurology)

Please read the FDA Brief on  
 canine heart disease potentially  
 linked to diet at  
[www.fda.gov/NewsEvents/  
 Newsroom/FDAInBrief/  
 ucm613355.htm](http://www.fda.gov/NewsEvents/Newsroom/FDAInBrief/ucm613355.htm)

# The 9/11 Medical Surveillance Study

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One year later, data showed that deployed dogs had minor bloodwork changes, possibly due to their increased exposure to immune-stimulating molecules at the disaster site. Five years after the disaster there were no significant differences in the health of deployed dogs compared to control dogs. Data analysis is ongoing and three additional publications are being prepared to describe the medical conditions, behavioral characteristics, and cause of death for all participating dogs. Preliminary data shows no significant difference in the rate of cancer or age at death between the two groups. The average lifespan for both groups was 12.5 years, which is consistent with the expected lifespan of these breeds of dogs (mostly German Shepherd Dogs and Labrador Retrievers, plus other large breed dogs). Dr. Otto views this as evidence that search and rescue activities have little negative effect on dogs. In fact, she feels that “search and rescue work is good for dogs, beneficial to their physical fitness and mental health.”

## Putting it all together —

The 9/11 Medical Surveillance Study provides important data on the health and behavior of SAR dogs. The fact that deployed dogs suffered no significant ill effects from their deployment to this man-made disaster helps handlers move forward using the skill of SAR dogs without hesitation. The [last dog known to be deployed to the 9/11 disaster sites](#) died in 2016. Data analysis will continue so we can learn as much as possible from these heroic dog and handler teams. CHF and investigators hope that the knowledge gained will improve the safety of SAR dog teams during future deployments, define the behavioral traits that predict success as a SAR dog, and inform the development, training, and care of all working dogs. 🐾



photo credit: Cindy Otto

*Thank you to all search and rescue teams that dedicate their time, talent, and financial resources to help others during a crisis.*



## CHF Hemangiosarcoma Research Initiative

By Sharon Albright, DVM, CCRT

Manager of Communications & Veterinary Outreach, AKC Canine Health Foundation

Hemangiosarcoma is a cancer feared by dog owners and veterinarians. This rapidly progressing cancer of the cells that line canine blood vessels usually affects a dog's spleen, heart, or skin. While skin lesions are often treatable with surgical excision, tumors affecting internal organs are associated with a poorer prognosis and are almost always incurable. These internal tumors can remain undetected until the later stages of disease when the dog suffers a catastrophic bleeding episode.

### Hemangiosarcoma—CHF's Impact

**14 years of funding**  
**21 grants**

**\$2.3 million invested**  
**20+ peer-reviewed publications**

Since 1995, the AKC Canine Health Foundation (CHF) has awarded over \$2.3 million in 21 different research grants to better understand the biology and progression of canine hemangiosarcoma. The new CHF [Hemangiosarcoma Research Initiative](#) was started in January 2018 to focus on discovering new and effective approaches for the prevention and treatment of this devastating disease.

One study within this initiative is the Shine On Project ([grant O2234-MOU](#)), managed by CHF and funded by the American Boxer Charitable Foundation, Golden Retriever Foundation, and Portuguese Water Dog Foundation. Researchers at the University of Minnesota are exploring a blood test that can identify cells in the bloodstream that establish and maintain hemangiosarcoma, which may provide a method for early

# CHF Hemangiosarcoma Research Initiative

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detection. They are also studying an experimental drug treatment that attacks these tumor-initiating cells and shows promise as a tool in disease prevention.

Also at the University of Minnesota, additional research is examining if and how tumor cells alter the metabolism of nearby fat cells to obtain energy for tissue invasion or continued tumor growth ([grant 02217](#)). Understanding how and where the tumor cells derive their energy may provide a target for treatment.

Researchers at North Carolina State University found that hemangiosarcoma patients at their veterinary teaching hospital had a high prevalence of exposure to *Bartonella* bacteria. Since these bacteria are spread by blood-sucking arthropods such as fleas and ticks and the spleen is responsible for removing blood-borne parasites from circulation, they are exploring the potential association between *Bartonella* infection and hemangiosarcoma. This work from [grant 02519](#) may offer insights for diagnosis, treatment, and prevention of hemangiosarcoma.

Finally, at Tufts Medical School, researchers are examining whether a specific molecular pathway (known as PI3K/AKT/mTOR) implicated in many forms of cancer is present in hemangiosarcoma tumor cell lines and tumor samples ([grant 02510-T](#)). If so, it may present another target useful to kill tumor cells and improve treatment outcomes.

The ongoing Hemangiosarcoma Research Initiative expands CHF's funding opportunities to fight this aggressive canine cancer. These studies, as part of CHF's full portfolio of oncology grants, will allow scientists to study cancer at the cellular level providing breakthroughs in diagnostic and treatment options. Once veterinarians are able to diagnose cancer earlier and treat it more effectively, all dogs will live longer, healthier lives. Learn more about the Hemangiosarcoma Research Initiative at [akcchf.org/hemangiosarcoma](http://akcchf.org/hemangiosarcoma). 🐾



**CANINES & Cocktails**

**SAVE THE DATE**

*A celebration of our canine companions, benefitting the AKC Canine Health Foundation.*

**Thursday, December 13, 2018**  
Rosen Centre Hotel - Orlando, FL

Cocktail reception will include heavy hors d'oeuvres, silent auction, raffle, live music and dancing.

For more information and to purchase tickets, visit [www.akcchf.org/caninesandcocktails](http://www.akcchf.org/caninesandcocktails) or call 888.682.9696.

Lead Sponsor  
**CHRONICLE**

AMERICAN KENNEL CLUB  
CANINE HEALTH FOUNDATION  
PREVENT. TREAT. & CURE.

## How You Can Help

*As you plan your year-end giving, we invite you to consider the many ways you can support AKC Canine Health Foundation's mission to advance the health of all dogs and their owners.*



### Amazon Smile

Remember CHF during your holiday shopping. Go to [smile.amazon.com](http://smile.amazon.com), select American Kennel Club Canine Health Foundation, Inc. as your charitable organization, and Amazon will donate 0.5% of eligible purchases to CHF.

### Membership

Individuals, veterinary clinics, and dog clubs are encouraged to become a member of CHF. [akcchf.org/membership](http://akcchf.org/membership)

### Purchase a brick

Looking for a unique gift or to make a tribute? Order a personalized engraved brick on the Walk of Champions or Path of Honor at the Purina Event Center and the proceeds will benefit canine health research. [akcchf.org/brick](http://akcchf.org/brick)

For even more ways to give, please visit [akcchf.org/how-to-help](http://akcchf.org/how-to-help).

**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.*

### Cindy Otto, DVM, PhD, DACVECC, DACVSMR, CCRT



After many years teaching and working at the University of Pennsylvania School of Veterinary Medicine Emergency Service, Dr. Cindy Otto is now Executive Director of the Penn Vet Working Dog Center, a national research and development center for detection dogs. Board certified in both veterinary emergency and critical care and veterinary sports medicine, Dr. Otto is the Principal Investigator for the 9/11 Medical Surveillance Study. She commends CHF for its forethought in funding this longitudinal lifetime study to focus on canine health, not just disease. In July, Dr. Otto received the 2018 Bustad Companion Animal Veterinarian of the Year Award, presented to an AVMA member veterinarian in recognition of their outstanding work in preserving and protecting the human-animal bond. In addition to her professional contributions, Dr. Otto is active with pet therapy. 🐾

## Recent CHF-Awarded Grant Highlights

### **02529: Understanding the Genetics of Adverse Drug Reactions in Sighthounds: Phase II**

Principal Investigator: Michael H. Court, BVSc, PhD; Washington State University

Investigators are developing a novel drug sensitivity test using saliva, blood, and/or urine samples to identify dogs within a breed (or specific breeds) that metabolize drugs very slowly.

### **02528: Developing a Next Generation Sequencing Diagnostic Platform for Tick-Borne Diseases**

Principal Investigator: Pedro Diniz, DVM, PhD; Western University of Health Sciences

Investigators are using next generation sequencing to detect tick-borne bacteria in dog blood in an effort to overcome the limitations of current tick-borne disease diagnostics.

### **02518: The Effects of Early Life Experience on Working Dog Temperament and Cognition**

Principal Investigator: Emily E. Bray, PhD; University of Arizona

Investigators are examining how differences in the early environment affect working dog development and the extent to which individual differences in maternal style can be predicted from temperamental and neuroendocrine characteristics of the dam.

See our full research grants portfolio at [akcCHF.org/research](http://akcCHF.org/research).

CHF has earned a four-star rating from Charity Navigator, America's largest independent charity evaluator. In addition, CHF holds a Platinum Seal of Transparency from GuideStar. These ratings indicate that CHF exceeds industry standards for fiscal responsibility, accountability, and transparency and outperforms most charities in its category.

You can trust that your donations are going to a financially responsible and ethical non-profit organization when you decide to support AKC Canine Health Foundation.

Please visit [akcCHF.org/donate](http://akcCHF.org/donate) to help prevent, treat and cure canine disease.

