

# AnimalNEWS<sup>18.2</sup>

## HEARTBREAKER *Mitral Valve Disease in Dogs*

FROM DOGS TO FREEZERS  
The Life and Times of a Study Sample

Kathy O'Neil Fights Cancer as a Lamplighter

2018 Horse Health Studies



# YOUR GIFTS IN ACTION

For 70 years, Morris Animal Foundation has been a global leader in funding studies to advance animal health. With the help of generous donors like you, we are improving the health and well-being of dogs, cats, horses and wildlife worldwide.

## IN THIS ISSUE

- 2 Your Gifts in Action
- 3 Life of a Study Sample
- 4 Mitral Valve Disease in Dogs
- 6 Kathy O'Neil, Lamplighter
- 7 Horse Health Studies
- 8 National Dog Day



## OUR MISSION

Our mission is to bridge science and resources to advance the health of animals.

AnimalNEWS  
Volume 18/Issue 2/Summer 2018

AnimalNEWS is published three times a year by Morris Animal Foundation.

720 S. Colorado Blvd.  
Suite 174A  
Denver, CO 80246

800.243.2345  
303.790.2345

mailbox@morrisanimalfoundation.org  
morrisanimalfoundation.org



### On the Hunt for Contraceptive Vaccine

Humane population control for millions of free-roaming cats is a high priority for many welfare groups. A contraceptive vaccine previously was shown to provide reasonably long-lasting contraception in cats in a tightly controlled environment. Researchers from the Alliance for Contraception in Cats and Dogs retested the vaccine in colony cats with different results; a single dose of the vaccine only provided contraception lasting the minimum of one year in 30 percent of the animals, indicating the vaccine is not feasible for population control in free-roaming cats. (*Journal of Feline Medicine and Surgery*, February 2018)

### Alert about Common Pain Drug and Osteoarthritis

Tramadol is widely prescribed to provide pain relief in dogs with osteoarthritis, but there is little scientific evidence that this product is effective. In a carefully controlled clinical trial using client-owned dogs with osteoarthritis, University of Georgia researchers found tramadol did not provide adequate pain control in dogs with osteoarthritis. Carprofen, one of the treatments used in the trial, provided the best pain relief for the dogs in the study. (*Journal of the American Veterinary Medical Association*, February 2018)

### Improving Regenerative Therapies

Growing patient-derived stem cells can be challenging. One of the most commonly used stem cell culture mediums can stimulate an unwanted immune response and contribute to stem cell rejection in treated patients. University of Georgia researchers evaluated a new culture medium, platelet lysate, as a substitute medium and found that equine stem cells cultured using platelet lysate were less likely to be rejected by a horse's immune system. (*Stem Cell Research & Therapy*, March 2018)

### Health Crisis for Koalas

Koala retrovirus (KoRV) is a species-specific virus and a compounding factor in chlamydia infections and cancer in koalas. University of the Sunshine Coast researchers in Australia found that one wild Queensland koala population is 100 percent infected with KoRV subtype A and a quarter of that population is infected with KoRV subtype B, with infection rates of KoRV-B climbing. The team noted an association between KoRV-B animals and both chlamydial disease and cancer, important information to inform disease intervention plans to help save koalas. (*Journal of Virology*, 2018)

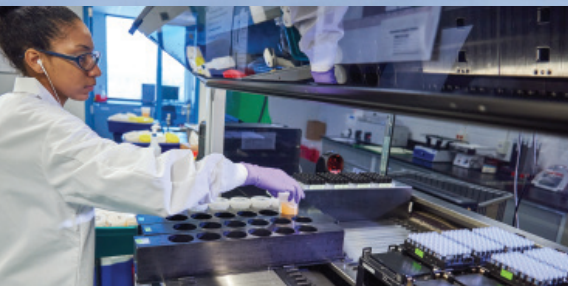


# FROM DOGS TO FREEZERS

## THE LIFE AND TIMES OF A STUDY SAMPLE

### The Golden Retriever Lifetime Study is one of the most ambitious projects ever undertaken in veterinary medicine.

Each year, data and biological samples such as blood, urine and hair are collected from enrolled dogs. These samples will be used for current and future research projects. But what happens to samples after they are collected, and why are they so important?



### One Dog's Poop is A Scientist's Gold

Once samples are collected, the staff at each participating veterinary hospital starts preparing the samples for laboratory analysis and storage. A portion of the blood collected is allowed to clot, and then the sample is spun in a centrifuge to separate red and white cells from serum, the fluid part of blood.

Once the serum is separated, the veterinary team carefully packages the samples and sends them to two different locations. A portion of the blood, urine and feces is sent to our platinum partner, ANTECH Laboratories, for immediate analysis. These tests are familiar to most dog owners and include a red and white

blood cell count, electrolyte analysis, urine examination and a check for internal parasites. The study veterinarian relays this information to the dog's owner and, if all is normal, no further testing is needed.

A second shipment of specimens is sent to Fisher BioServices, one of the premier U.S.-based biological storage facilities. Once the samples arrive at Fisher, they're split into smaller volumes for storage.

### Extreme Cold Storage

Each specimen is stored under different conditions. For example, hair, feces and nail samples are stored at -22 F (about the same temperature as a typical refrigerator freezer). Whole blood samples – meaning blood that wasn't allowed to clot – are stored in special low-temperature freezers at a chilly -112 F, and serum is stored in liquid nitrogen at a mind-boggling -321 F!

The team at Fisher carefully monitors each storage unit to ensure that samples are kept at a constant temperature. Each month they provide an inventory of all our samples for our records. Once in storage, our samples can be held in pristine condition for decades.

### Data Mining

The Foundation tracks each dog's samples every step of the way. Our study team also records information about each sample, providing a double check on the process. It's not easy keeping track of an average of 20,000 samples per year, but it is well worth the trouble! These samples will provide the raw materials for research that will improve canine health and advance veterinary medicine for years to come.



Mac, Hero # 2690

#### FOUNDING PARTNER

The Mark & Bette Morris  
Family Foundation

#### PLATINUM PARTNERS



#### GOLD SPONSORS


Golden Retriever Foundation  
Hadley & Marion Stuart Foundation

Zoetis

#### GOLDEN CHAMPIONS

Mars Veterinary





*It's there. Beating away minute by minute, hour by hour, day by day and year by year. It's so easy to take for granted, until something goes wrong.*

Heart disease is a leading cause of death in people, and a health concern for our pets, too – particularly mitral valve disease, the most common heart health problem diagnosed in dogs.

In fact, mitral valve disease (MVD) accounts for a whopping 75 percent of all heart problems diagnosed by veterinarians.

As a veterinary cardiologist, Dr. Kate Meurs is intimately familiar with MVD. Dr. Meurs, recipient of the Mark L. Morris Jr. Investigator Award and a faculty member at the North Carolina State University College of Veterinary Medicine, is studying the genetics underlying MVD in hopes of finding genetic variants associated with disease development. Once these variants of heart disease are identified, she wants to use the information for both prevention and treatment.


**Medications used to treat MVD include:**

ACE inhibitors | Diuretics | Pimobendan

**Common signs of MVD include:**

Coughing | Exercise intolerance  
Increased respiratory rate & effort | Fainting





“The Mark Morris Jr. Award has provided me an opportunity to focus on the most important heart disease we see as veterinarians. Knowing that I have the ability to help the huge number of dogs who have this disease live a longer, happier, more comfortable life, is an incredible experience and a great honor.” Dr. Kate Meurs

## Heartbeats

The heart is a specialized muscle, designed to fill with blood then contract, ejecting blood to begin its journey to all parts of the body. Inside the heart, valves help blood flow in the proper direction.

The mitral valve separates the left atrium and the left ventricle. As the valve degenerates, blood can flow backwards through the valve, resulting in volume overload on the heart and a decrease in blood flow out of the heart into the body. This irregular flow is often referred to as a heart murmur.

A newly discovered heart murmur in a middle-aged or older dog can be a tip-off that MVD is developing and signals the need for more advanced testing, such as a chest X-ray or echocardiogram. MVD is most common in small breed dogs, with Cavalier King Charles spaniels, Yorkshire terriers, dachshunds and miniature poodles the top four dog breeds affected.

“There is considerable breed variation in when the disease is first diagnosed and how the disease progresses,” said Dr. Meurs. “The good news is that most dogs with MVD don’t die of this disease, and many dogs live comfortably, even if they need medication.”

## Early Diagnosis & Treatment

Although serious, MVD is treatable. Knowing the signs to look for and getting prompt veterinary care are key to helping your dog thrive with MVD.

And, while you are tending to your dog’s heart health, know that Morris Animal Foundation is continuing to fund studies to advance heart disease prevention, diagnosis and treatment. Learn more about our heart studies at [morrisanimalfoundation.org](http://morrisanimalfoundation.org).



# HEARTBREAKER

## Mitral Valve Disease In Dogs

## STAFF

### Leadership Team

Tiffany Grunert, APR  
*Acting President & CEO*  
*Vice President of Marketing & Operations*  
Laurie K. Peterson, MNM  
*Vice President of Development*

### Operations

Kelly Diehl, DVM, MS, DACVIM  
*Senior Scientific Adviser*  
Michael Cinkosky  
*Senior Director of Information Systems*  
Carol Borchert  
*Senior Director of Communications*  
Stacy van Buren  
*Senior Director of Accounting*

## BOARD OF TRUSTEES

### Officers

Walter George  
*Chair*  
David R. Morris, JD, MBA  
*Vice Chair*  
Colin Giles  
*BVetMed, PhD, MRCVS*  
*Treasurer*  
Deborah Davenport  
*DVM, MS, DACVIM*  
*Secretary*

### Board Members

Lee Cohn  
Robert C. Gain Jr.  
Amy Hunkeler, DVM, DAVCO, MBA  
Patrick Long, DVM  
Jonna Mazet, DVM, MPVM, PhD  
Jay Mesinger  
Bette Morris, PhD  
Cynthia Morris  
Vern Norviel  
David Petrie  
Chuck Stephens  
Bill Sutherland  
Stanley Teeter, DVM  
Amy Eagle Thompson

### Presidents Emeriti

Betty White Ludden  
Tom Sullivan  
Cheryl Wagner

### Trustees Emeriti

Eve Anderson  
G. Marvin Beeman, DVM  
Erik Bergishagen  
Lewis Berman, DVM  
Roger Bohart  
Mark Carter, PhD  
R. Anthony Chamberlin  
Mrs. Robert V. Clark Jr.  
Robert Detterman  
Jim Dickie  
Sue Ane Langdon Emrek  
Lester Fisher, DVM  
Richard Gebhardt  
Alan Kalter  
Arlene Klein  
Daniel Marsh Jr.  
Dayle Marsh  
Dennis Murphy  
Peter Rhulen  
Ken Rosenthal  
Mary Silkworth

# KATHY O'NEIL FIGHTS CANCER AS A LAMPLIGHTER

Kathy O'Neil has lost six of her last seven dogs to cancer. Each death was devastating and far too painful – that's why she is committed to making a change. Through her participation in the Golden Retriever Lifetime Study, along with her dog Vince (Hero #103), and through her membership in Morris Animal Foundation's Lamplighter Society, she hopes to create brighter futures for dogs everywhere.



Kathy, Vince and supporter, Candy

Established in 1991, the Lamplighter Society is a family of committed donors who have taken the special step of including the Foundation in their estate plans. They are dedicated to making a difference for generations of animals to come – by choosing to be part of the change, just like Kathy.

Kathy joined the Lamplighter Society in 2012, after being inspired by the story of another generous, dog-loving Lamplighter. Kathy remembered the pain and shock she felt as two of her beloved dogs died of hemangiosarcoma, a rapidly growing cancer of the blood vessel walls. When Kathy plays with Vince, "who is crazy, but so wonderful," she realizes how much she wants to make sure dogs like Vince don't suffer the same fate.

**"My passion is dogs and I want to help find better ways to keep animals healthy and, hopefully, cure cancer," said Kathy. "It feels good to be able to give."**

To show her dedication, Kathy designated a percentage of her estate to the Foundation. It's through the generosity of Lamplighters such as Kathy, that the Foundation can fund critical health research that will advance animal care and the science of veterinary medicine for decades to come. Planned gifts made through life insurance plans, retirement assets, bequests or trusts make an incredible impact and help the Foundation plan for the future.

Please consider joining Kathy and start your own legacy by becoming a Lamplighter today.



**BECOME A LAMPLIGHTER AND BE A BEACON  
OF HOPE FOR THE ANIMALS YOU LOVE**

Your planned gift creates a healthier, happier future for animals around the world.  
Examples of planned gifts include:

**Bequests or Trusts | Real Estate | Life Insurance Plans | Retirement Plans**

To learn more about the Lamplighter Society, contact Elizabeth Morgan, Donor Relations Specialist, at [emorgan@morrisanimalfoundation.org](mailto:emorgan@morrisanimalfoundation.org) or at 720-639-3278.



A photograph of a brown horse with a black mane running through a green field. The horse is in profile, facing left, and its mane is flowing. The background is a soft-focus green landscape.

2018

# HORSE HEALTH STUDIES

## **ASTHMA**

Improve diagnostics and help identify new targeted therapies.

## **BACTERIAL BLOOD INFECTIONS**

Determine optimal dosing protocol for amikacin, an antibiotic used to treat bacterial infections in foals.

## **EQUINE METABOLIC SYNDROME**

### **New Test**

Improve diagnosis of equine metabolic syndrome, a metabolic and hormonal disorder in horses.

## **Microbiome**

Understand the relationship between the bacterial composition of the gut (microbiome) and the development of equine metabolic syndrome in Shetland ponies.

## **FOAL PNEUMONIA**

### **Vaccine**

Conduct vaccine trial in mares to help protect their newborn foals

against pneumonia caused by the bacterium *Rhodococcus equi*.

## **Antibiotic Resistance**

Determine the mechanisms involved in the development and transmission of antimicrobial resistance between bacteria.

## **GENETICS**

### **Wild Horse Health**

Extract and bank genomic and microbiome DNA from manure samples of free-ranging horses to inform health management.

## **JOINT INFECTIONS**

Evaluate new strategy to improve treatment of persistent joint infections that cause inflammation and osteoarthritis.

## **LAMINITIS**

Determine how diet influences a horse's gut bacteria (microbiome) and metabolism (metabolome) and its impacts on blood insulin

levels, key information to understanding how to feed horses at risk for laminitis.

## **PARASITES**

### **Drug-resistant Parasites**

Develop more effective and targeted deworming strategies.

## **Wild Horse Health**

Determine parasite burden in free-ranging wild horses to inform health management.

## **REGENERATIVE THERAPIES**

Evaluate a novel cell culture treatment to help prevent the immune system from destroying donor stem cells.

## **ALPACA STUDIES**

### **Coat Color & Health**

Discover the genetic causes of health problems in grey-colored alpacas, critical steps toward the development of a genetic screening test.





# NATIONAL DOG DAY IS AUGUST 26

## Wait, isn't every day National Dog Day?

Leia, #1628

Help us celebrate National Dog Day by making a gift to the Morris Animal Foundation Golden Retriever Lifetime Study. And now, from August 1 until August 26, your gift will be matched dollar for dollar, up to \$50,000, by a generous anonymous donor. **Make your gift today at [morrisanimalfoundation.org/animalnews](http://morrisanimalfoundation.org/animalnews).**

### PLEASE CALL YOUR VETERINARIAN TO ASK PET HEALTH QUESTIONS

Our staff is unable to provide veterinary medical advice. The opinions of study investigators may not necessarily be those of your companion animal's veterinarian.

Morris Animal Foundation is a nonprofit organization and is tax-exempt under the Internal Revenue Service 501(c)(3). Our audited financial statement and state registration information are available upon request.

Materials, including photographs and artwork, in this publication may be reprinted only with the permission of Morris Animal Foundation. Please write or call to receive financial information or permission to reprint materials: Morris Animal Foundation, 720 S. Colorado Blvd., Suite 174A, Denver, CO 80246, or call 800.243.2345.