

## Breed Differences and Stereotypes Related to Pain Sensitivity

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Is a Chihuahua tougher than a Rottweiler?  
 Is a Husky more sensitive than a Boston Terrier?

It is not surprising that people have varying opinions about differences among dog breeds. A recent survey showed that most veterinarians and members of the general public believe that dog breeds differ in pain sensitivity. In human medicine, there is substantial evidence that stereotypes based on patient race, ethnicity, and gender can affect how healthcare providers rate pain sensitivity. Could the same be true in veterinary medicine?

Until recently, there was no scientific evidence that dog breeds differ in pain sensitivity. However, a team of AKC Canine Health Foundation (CHF) funded investigators at North Carolina State University College of Veterinary Medicine has published results from their groundbreaking study which may radically change how we understand canine pain (CHF Grant O2797: Do Dog Breeds Differ in Pain Sensitivity?).

The study tested ten different breeds or breed types of client-owned dogs by applying pressure or heat to the front limb and observing their behavioral response to the stimulus. Discomfort was assumed and the stimulus was removed when a dog pulled its leg away, vocalized, stopped panting, licked its lips, and/or looked at the stimulus. Since investigators had to use a behavioral response to indicate pain sensation, they also completed some tests of emotional reactivity to see if individual behavioral differences influenced the test response. They timed how long it took each dog to approach a novel object (a mechanical monkey toy) and scored each dog's initial response and approach to a disgruntled stranger.

Results revealed that breed differences in pain sensitivity do exist. There were also breed differences in emotional reactivity. However, behavioral differences alone were not sufficient to explain the pain sensitivity variations.

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## Winter 2024

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### Calendar of Events

#### Where to Find Us

#### January 27-28

AKC Meet the Breeds  
 New York, NY

#### March 7-10

Tarheel Cluster Dog Shows  
 Raleigh, NC

#### March 14-17

SAVMA Symposium  
 Knoxville, TN



## Breed Differences and Stereotypes Related to Pain Sensitivity *continued*

Veterinarian pain sensitivity rankings did not match those found on the testing. However, they did correlate with how dogs approached the disgruntled stranger. This test measured fear and anxiety that could be experienced separate from pain at the veterinary clinic. Breeds that were reported as more sensitive to pain were those that were more hesitant to approach the disgruntled stranger. So perhaps a dog's initial interaction with the veterinary team influences the team's beliefs about breed-specific pain sensitivity?

To further explore how these breed-related biases develop, investigators surveyed people with varying levels of clinical veterinary training. They compared ratings of pain sensitivity, trust, and warmth toward various dog breeds and mixed breeds between veterinary school faculty and staff, veterinary students, undergraduate students studying a field related to animal health, and members of the general public. The farther along students were in their veterinary training or the more clinical experience they had, the more their ratings resembled those of veterinary school faculty/staff. Interestingly, this training does not include instruction on physiologic differences in pain sensitivity, suggesting that social processes during clinical training and veterinary education have a strong influence on breed stereotypes and beliefs relating to pain sensitivity.

These are important questions to explore. Understanding the physiologic processes and/or genetics involved in breed-specific pain sensitivity could lead to targeted pain management protocols that improve pain relief and minimize unwanted side effects. Exploring when and how veterinarian beliefs about dog breeds develop can shed light on harmful stereotypes. Both veterinarians and owners play a vital role in canine health and welfare, especially when it comes to assessing and treating pain. Ongoing CHF-funded research is exploring the owner's influence on a dog's cognitive and emotional responses toward actual or anticipated pain (CHF Grant O3114: Pain Catastrophizing: A Clinically-relevant Phenomenon in Dogs?). CHF is proud to fund groundbreaking studies such as these to advance the science of canine pain management and improve patient care. Learn more at [akcchf.org/research](https://akcchf.org/research).

## Thank you to our 2023 Canines & Cocktails Sponsors!

### It was simply the best!

Thank you to everyone who helped us celebrate achievements in canine health research at the Canines & Cocktails gala in Orlando, Florida. Your enthusiasm and dedication to the AKC Canine Health Foundation's mission help ensure a healthier future for all dogs.

Special thanks to our many generous sponsors listed below. We also thank our dedicated event committee chairs, Dr. and Mrs. William Truesdale, whose ongoing philanthropic commitment to the AKC Canine Health Foundation makes this event a success year after year.



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# 2024 AKC Canine Health Foundation Clinician-Scientist Fellows

Established in 2013, the AKC Canine Health Foundation's Clinician-Scientist Fellowship Program encourages and supports the next generation of canine health researchers to sustain future advancements in canine health. Visit [akcchf.org/clinski](http://akcchf.org/clinski) for more information. The 2024 fellows are:



**Dr. Matthew Berry** is a veterinary medical oncology resident and doctoral candidate at the University of Illinois College of Veterinary Medicine. Under the mentorship of Dr. Tim Fan, he will study the effects of combining a known cancer cell apoptosis inducer with radiation therapy as a treatment for a variety of canine cancers.

*This fellowship is generously sponsored by the Orthopedic Foundation for Animals (OFA).*



**Dr. Jamie Douglas** is a doctoral candidate at Michigan State University. Under the mentorship of Dr. Dalen Agnew, she will study the role of specific molecular pathways in placental dysfunction in companion animals.

*This fellowship is generously sponsored by the Orthopedic Foundation for Animals (OFA).*



**Dr. Dana Ford-Hrymak** is a small animal internal medicine resident at The Ohio State University College of Veterinary Medicine. Under the mentorship of Dr. Jenessa Winston, she will study long-term outcomes and relapse rates of dogs with chronic enteropathy.

*This fellowship is generously sponsored in part by the Westie Foundation of America.*

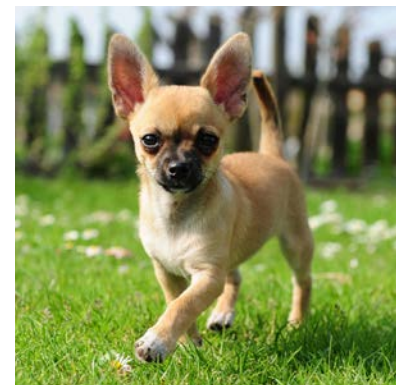
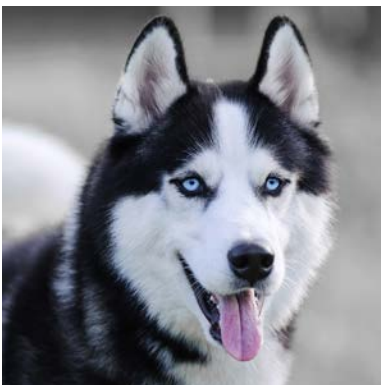


**Dr. John Shamoun** is a doctoral candidate at North Carolina State University. Under the mentorship of Dr. Megan Jacob, he will study how uropathogenic *E. Coli* uses various virulence factors to survive in the ever-changing conditions of the canine urinary tract.

*This fellowship is generously sponsored by owners Carolyn and Gary Koch along with breeders Kristy and Kevin Ratliff in honor of "Rumble," GCHP Hill Country's Let's Get Ready To Rumble ([akcchf.org/rumble](http://akcchf.org/rumble)).*



GCHP Hill Country's  
Let's Get Ready to  
Rumble



**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.

## 2023 AKC Canine Health Foundation Awards



The AKC Canine Health Foundation (CHF) presents the **President's Award** annually to a person or organization that has made an exceptional contribution to advancing canine health. This year's recipient is **Susan LaCroix Hamil**. A licensed veterinary technician, Ms. Hamil has a personal and professional commitment to canine health. She holds numerous influential roles including as a member of the American Bloodhound Club, an AKC Delegate for the Shoreline Dog Fanciers Association of Orange County, California, the Chair of the AKC Delegates' Canine Health Committee, and a member of the Board of Directors at both the Orthopedic Foundation for Animals and AKC Canine Health Foundation.

The **Distinguished Research Partner Award** is given annually to clubs or organizations for their ongoing and outstanding commitment to supporting canine health research. This year's recipients are the **Rhodesian Ridgeback Club of the United States** and the **Rhodesian Ridgeback Charitable Foundation**. These organizations are long-time supporters of CHF-funded canine health research and have pledged \$90,000 in matching funds for canine cancer research donations during 2022-2024.

Awards were presented at the Canines & Cocktails gala in Orlando, FL on December 14, 2023.

For more information on award recipients, visit [akcchf.org/awards](https://akcchf.org/awards).

## Recent CHF Grant Highlights

### **Grant 03212-A: Wolbachia-targeting qPCR for Detection of Heartworm Infection in Dogs**

*Principal Investigator: Guilherme Gomes Verocai, DVM, PhD; Texas A&M University*

Develops and validates a DNA test for Wolbachia, a bacterium crucial for heartworm survival, as a way to diagnose heartworm infection.

### **Grant 03178-A: Effect of a Canine Systematic Exercise Program on the Dimensions of the Lumbar Paraspinal Musculature and Performance Assessment Scores in Healthy Dogs**

*Principal Investigator: Cynthia M. Otto, DVM, PhD; University of Pennsylvania*

Evaluates how a structured exercise routine impacts pet dogs with no previous experience in dog sports.

### **Grant 03158: Associations Between Circulating Saturated and Unsaturated Fatty Acids and the Fecal Microbiome and Metabolome with the Development and Severity of Canine Acute Pancreatitis**

*Principal Investigator: Sharon Kuzi, DVM; The Koret School of Veterinary Medicine, The Hebrew University of Jerusalem*

Examines fatty acid blood profiles and the fecal microbiome to provide new insights into acute pancreatitis and targeted therapies.

See our full research grants portfolio at [akcchf.org/research](https://akcchf.org/research).



## How You Can Help

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](https://akcchf.org/how-to-help).



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