




AMERICAN KENNEL CLUB®
CANINE HEALTH
FOUNDATION®

Discoveries

Spring 2026 | Vol. 121



Uncovering the Genetics of Gum Overgrowth in Boxers

Genetic drivers of gingival enlargement are being studied to support healthier mouths for Boxers.

When Canine Disease Crosses Borders

Research is examining leishmaniasis in imported dogs to help guide safer import practices and improve disease awareness.

New Insights into Epilepsy in Rare Breeds

Research into Otterhounds and Petit Basset Griffon Vendéens is revealing how epilepsy can differ between breeds.

**Advancing the health of all dogs
through knowledge and discovery.**



Message from the CEO

Dear Friends,

Spring is my favorite season. It's a time of possibility and beauty, when what is carefully tended can flourish beyond its earliest promise.

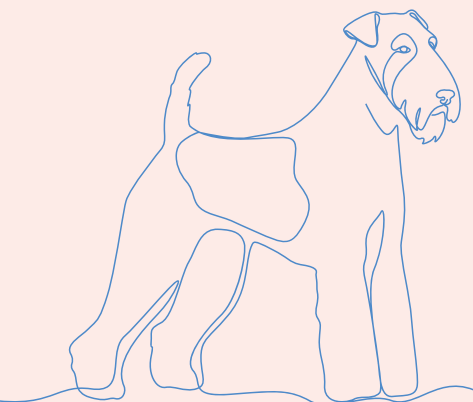
In that same spirit, this Spring edition of *Discoveries* celebrates thoughtful breed-relevant research. These projects often begin with love for a single breed and grow to benefit dogs far beyond it.

Much of what we accomplish at the AKC Canine Health Foundation begins when devoted individuals ask important questions about the breeds they cherish—questions that blossom into discoveries that improve the lives of dogs everywhere.

This spring, we celebrate the leadership of breed champions—people and organizations who have created lasting legacies that grow stronger with every act of support.

Thanks to you, our legacy continues to flourish, and with each lengthening day, the future for dogs shines brighter and brighter.

With gratitude,
Stephanie Montgomery
DVM, PhD, DACVP



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Where to Find Us:

2026 Charity Beneficiary of the Tar Heel 10

April 18 / Chapel Hill, NC

German Shorthaired Pointer National Specialty

May 20–21 / Virginia Beach, VA

International Partnership for Dogs

May 30 – June 2 / Bologna, Italy

- **Dr. Montgomery Presentation**
May 31 / Bologna, Italy
- **World Dog Show**
June 3–7 / Bologna, Italy

Cover Photo: Monica Bush's Dog, Flux.



Researchers Search for a Genetic Answer to Gum Overgrowth in Boxers

By Dr. Stephanie Montgomery

For many Boxer owners, dental care becomes especially important as their dogs grow older. A common condition veterinarians often see in the breed is gingival enlargement, a gum overgrowth that affects up to a third of older Boxers.

Although it may start as a cosmetic issue, it can develop into a serious health problem. As gum tissue enlarges and thickens, it can cover part of the teeth, trap bacteria and create an environment where infection can flourish. Dogs with gingival enlargement may develop ulcers in their mouths, have trouble chewing, and lose teeth. Over time, the condition can lead to periodontal disease and ongoing discomfort.

A Closer Look at a Common Condition in Boxers

Although gingival enlargement occurs in various breeds, Boxers are more frequently affected and experience the condition more severely than most other dogs. The cause remains unknown, and because it usually develops later in life, it is difficult to address it through traditional breeding selection practices.

Researchers believe genetics may hold the key

“Since Boxers are affected more often and at a higher severity than other breeds, we believe there may be an underlying genetic cause,” explained Dr. Jacquelyn M. Evans, a canine geneticist, and Dr. Santiago Peralta, a veterinary dentist, both at the Cornell University College of Veterinary Medicine.

Using Genetics to Search for Answers

With support from the AKC Canine Health Foundation, the research team is working to identify the genetics that may lead to gingival enlargement in Boxers.

To investigate, the team collected DNA data from 62 Boxers and compared it with genomic data from over 400 additional Boxers available in public research databases. They used advanced computational techniques to fill in missing genetic information, helping the researchers develop a more complete dataset. They also examined gum tissue pathology from healthy Boxers and those with gingival enlargement to better understand how the disease alters the tissue’s structure and behavior.

Toward Better Treatments and Prevention

Using these combined data sets, Drs. Evans and Peralta are now studying specific genes that may influence the development of gingival enlargement.

“Our goal is to discover genes and pathways that could be targeted with treatments to improve the quality of life for affected dogs,” the researchers reported to CHF. “Our results may also lead to breeding tools that could be used to reduce the frequency of gingival enlargement over time.”

For Boxer families, discoveries like these offer hope for healthier smiles and more comfortable lives.

To learn more about research improving the health of Boxers, visit <https://www.akcCHF.org/grant-directory/03172/>.

Champions for Health!

Agility champion Cynthia Hornor turned her Westminster win into a gift for dogs everywhere by donating her award winnings to the AKC Canine Health Foundation. Cynthia chose to support CHF because of her deep belief in its mission to help dogs live longer, fuller lives. “I don’t believe any other organization is doing more research on a variety of diseases in dogs to help prevent, treat, and cure them,” she shared. **We are so grateful for Cynthia’s and Honor’s generosity.**



Active Grant Highlights

03526-A: Identification of a Tumor Cell Associated Protein Target and Development of a Therapeutic Nanobody for the Treatment of Canine B cell Lymphoma

*Principal Investigator: Anna Blockeel, MVSc; Ghent University - Faculty of Veterinary Medicine
Total Grant Amount: \$3,780; Grant Period: 2/1/2026 - 1/31/2027*

This project is developing a targeted immunotherapy for canine B-cell lymphoma that helps the dog’s immune system attack cancer cells, with the goal of more effective treatment and less side effects than chemotherapy.

03535: Crossbreed Genetics and Neuron Modeling to Explain Seizures and Temperament in Dogs

*Principal Investigator: Hannes Lohi, PhD; Folkhälsan Research Center
Total Grant Amount: \$301,300; Grant Period: 3/1/2026 - 2/28/2029*

This project investigates the genetics of canine epilepsy in dogs and has identified ADAM23 as an important gene linked to seizure risk and certain behavioral traits. The research aims to improve the ability to predict which dogs are at risk and guide future treatment strategies.

03576: Protective Role for Insulin-like Growth Factor 1 (IGF-1) in Canine Cognitive Dysfunction

*Principal Investigator: Evan MacLean, PhD; University of Arizona
Total Grant Amount: \$191,081; Grant Period: 4/1/2026 - 3/31/2029*

This research explores whether IGF-1, a hormone linked to body size and known to help protect the brain, may also protect dogs from cognitive decline. This work could help identify which dogs are at risk for cognitive dysfunction and guide new treatments for aging dogs.

See our full research grants directory at [akcCHF.org/research](https://www.akcCHF.org/research).



Imported Dogs, Emerging Risks: Studying Leishmaniasis in North America

By Dr. Stephanie Montgomery

Recent U.S. Dog Import Rules Reshape the Global Dog Community

In 2024, the Centers for Disease Control and Prevention (CDC) announced a new rule requiring dogs to be at least six months old before they can be imported into the United States. The policy also requires an ISO-compatible microchip, a completed CDC Dog Import Form, and additional documentation depending on the rabies risk of the country of origin.

The rule was designed to reduce the risk of rabies entering the country after several incidents of imported rescue dogs with rabies despite vaccination paperwork—often involving very young puppies. By requiring dogs to be at least six months old, the CDC aims to ensure they are old enough to be properly vaccinated and that records are more reliable.

While everyone supports stronger safeguards to prevent disease from entering the U.S.,

the rule has created unintended challenges for responsible breeders in the purebred dog community. According to the American Kennel Club (AKC), the rule does not fully recognize the role of international collaboration among breeders and sportsmen who work to preserve rare and vulnerable breeds.

Imported Dogs Can Carry More Than Rabies

While rabies prompted CDC regulations, it isn't the only disease capable of crossing borders with dogs imported with unknown health histories. One example is leishmaniasis.

Leishmaniasis is caused by a parasite transmitted through sandfly bites. Infected dogs can carry the parasite for life, even if they never show signs of illness. When the disease develops, it can affect multiple organs and may be fatal. Although the disease is not native to the United States, cases can occur when infected dogs are imported from regions where it is common.



New Research Aims to Understand the Risk

There is still very limited data on leishmaniasis in dogs in North America. Dr. Katie Clow, an epidemiologist and Assistant Professor in One Health at the Ontario Veterinary College, is working to fill that gap.

With support from the AKC Canine Health Foundation, she is researching how often leishmaniasis occurs in imported dogs, which



— Did You Know? —

It is estimated 1.2 million dogs enter the United States each year, though this figure is difficult to accurately track.

The top three reasons for importing dogs in the United States are:

- 1. Importing high-demand breeds**
- 2. Importing dogs to place in rescue shelters**
- 3. Traveling with pets**

The most prevalent health condition of imported dogs is rabies.

Sources: USDA APHIS; Centers for Disease Control and Prevention (CDC); PubMed Central, National Institutes of Health (NIH); Global Health Vet.



factors might increase the risk of developing the disease, and how the disease spreads between dogs.

Her team has already enrolled over 70 imported dogs for testing and more than 20 dogs diagnosed with clinical leishmaniasis. These dogs have been monitored for one to two years to better understand symptoms, diagnostic challenges, treatment options, and outcomes.

The findings will help veterinarians, breeders, and dog owners better understand the risks of importing dogs and promote safer practices moving forward. Ultimately, this research benefits everyone and helps us feel more confident that we are protecting the health of the dogs we care about.

To find out more about this study or similar ones, visit <https://www.akcchf.org/research/research-portfolio/program-area/infection-immunity-research/>.

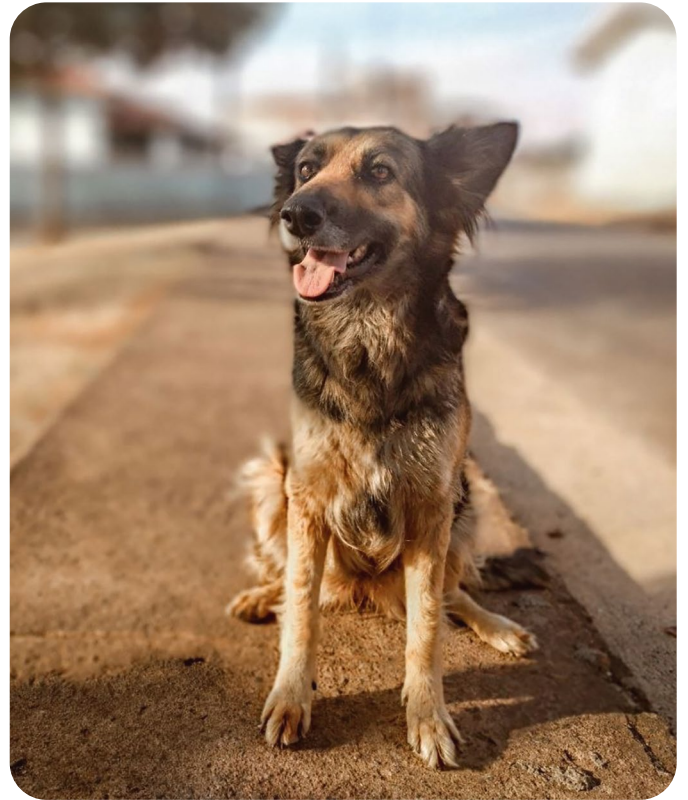
A Safer Way to Grow a Truly Beautiful Garden

By Dr. Stephanie Montgomery

Spring brings a burst of garden color, but several popular blooms and garden plants can be very dangerous to dogs. While many owners know about the risks of foxgloves, oleanders, boxwoods, and azaleas, fewer realize that eating tulip, hyacinth, or daffodil bulbs can cause stomach upset because toxin levels are highest underground.

The reason bulbs often cause problems is both behavioral and botanical. Dogs are natural diggers, attracted to fresh soil and scents from bulbs or organic fertilizers, which may contain bone meal or fish, can make newly planted beds very tempting.

Be sure to store bags of organic fertilizer carefully, as they are highly concentrated and have strong odors that dogs can easily detect, making them vulnerable to being torn open and ingested before the product is even used.



Some plants are much more dangerous. The sago palm is particularly toxic, with all parts of the plant containing cycasin, a toxin that can cause sudden liver failure even in small amounts.

Creating a dog-safe garden starts with careful plant choices. Selecting plants like camellias, snapdragons, and roses lets gardeners add color, texture, and seasonal beauty with less risk, making it easier to keep curious dogs safe while having a beautiful garden.





Unraveling the Genetics of Epilepsy in Rare Dog Breeds



By Dr. Stephanie Montgomery

Breed Diversity Can Provide Clues to Canine Diseases

From tiny Chihuahuas to towering Irish Wolfhounds, dogs are among the most diverse species on the planet. That remarkable diversity not only affects their appearance, but also influences how some diseases develop and progress.

Veterinarians know that a disease may not behave or respond to treatment the same way in every breed. By studying how disorders differ across breeds, researchers can uncover important biological insights that help improve care not just for those breeds, but for dogs everywhere.

Investigating Epilepsy in Two Uncommon Breeds

Dr. Karen Muñana, professor of neurology at North Carolina State University's College of Veterinary Medicine, is working to better understand epilepsy in two uncommon breeds: Otterhounds and Petit Basset Griffon Vendéens (PBGVs).

Her work begins with detailed owner and breeder surveys designed to evaluate how often epilepsy occurs in each breed, the clinical signs affected dogs experience, and how the disease may be inherited.

First Insights Illustrate Breed Differences

Early observations suggest epilepsy looks very different in the two breeds. PBGVs often develop epilepsy at a young age and tend to have focal seizures, which start in one area of the brain and may appear as repetitive movements like limb twitching.

In contrast, Otterhounds tend to experience a more severe form of the disease. Epilepsy is more common in males of this breed, usually beginning around three and a half years of age. Many of these dogs have cluster seizures, or multiple seizures within a 24-hour period, which can sometimes lead to death or euthanasia in extreme cases. Pedigree analysis also reveals a clear hereditary pattern in Otterhounds, with many affected dogs sharing common ancestors.

What These Early Findings Teach Us

These findings emphasize the importance of collecting detailed health data across a breed. Insights like these not only assist breeders, veterinarians, and families in making better decisions, but also offer clues that could enhance understanding and treatment of the spectrum of epilepsy in dogs of different breeds.

To learn more about ways to partner with CHF for your breed, visit <https://www.akcchf.org/collaborations/donor-originated-grants/>.



People Spotlight

A Special Thank You to Dr. A Duane Butherus and Scott Smith

By Trent Brown

The AKC Canine Health Foundation has a long history of being led by people who believe deeply in the power of science to improve the lives of dogs. Today we extend our sincerest gratitude to two extraordinary leaders whose service has shaped the Foundation in lasting ways:

Dr. A. Duane Butherus and Scott Smith.

Dr. A. Duane Butherus: A Champion for Science and Dogs

For decades, Dr. A. Duane Butherus has been a guiding force behind the vision and scientific rigor that define the AKC Canine Health Foundation (CHF). Through his service on the Foundation's Board of Directors and Scientific Review Committee, including time as Chairman of the Board, he helped ensure that CHF-funded research meets the highest standards of excellence.

A trained chemist, Dr. Butherus brought a scientist's perspective to every discussion. His thoughtful leadership strengthened the review process that guides CHF's research investments and helped advance discoveries that benefit dogs.

Dr. Butherus also provided valuable insight as a highly respected member of the purebred dog community. Along with his wife Connie, he has bred Champion Afghan Hounds and remains actively involved with the Philadelphia Kennel Club and the



Dr. A. Duane Butherus and his wife, Connie



Scott Smith

Morris & Essex Kennel Club. His lifelong dedication to dogs and science has left a lasting legacy for future generations.

Scott Smith: A Bridge Between Industry and Impact

Scott Smith's passion for dogs has been evident throughout his career and his service to CHF. During his time on the Board of Directors, Scott was a steady champion for CHF, generously sharing his time and expertise while strengthening one of CHF's most important partnerships with Nestlé Purina Petcare.

Over nearly 30 years with Purina, Scott held roles ranging from field sales to leadership of the Breeder Enthusiast Field Team. His deep relationships within the dog community and his understanding of breeders, exhibitors, and enthusiasts made him an invaluable advocate for canine health research.

Scott's steady leadership deepened collaboration between Purina and CHF, ensuring that together we could accelerate research that leads to healthier, longer lives for dogs.

Saying Goodbye With Gratitude

Dr. Butherus and Scott Smith each brought wisdom, generosity, and a profound love of dogs to their work with the AKC Canine Health Foundation. Their dedication has strengthened our mission and helped fuel discoveries that continue to benefit dogs around the world.

On behalf of the entire CHF community, we offer our sincere gratitude for their remarkable service and lasting contributions.

CHAMPS Expands Its National Reach

By Paige Hofstad

The momentum behind Canine Health Ambassadors Making Progress Through Science, or CHAMPS, keeps growing as new ambassadors step forward to champion canine health research in their communities.

Following outreach this year at the Westminster Kennel Club Dog Show and AKC Meet the Breeds, we are thrilled to welcome two new CHAMPS ambassadors: Donna DiPrato from Boston, Massachusetts, and Justin Kelley from New Jersey. Both eagerly embraced the opportunity to represent the AKC Canine Health Foundation (CHF) and are already preparing to introduce CHAMPS to fellow dog lovers in their local communities.

Their enthusiasm shows how the program's reach is growing nationwide. From dog shows and breed clubs to local gatherings and community events, ambassadors like Donna and Justin are bringing CHF's mission into the places where passionate



Donna's Dog, Holly
(passed away from kidney disease)

dog enthusiasts already connect. By sharing the story of canine health research and inviting others to get involved, they help raise awareness and inspire grassroots support.

As CHAMPS expands, the program continues to equip volunteers with more tools, structured onboarding, and opportunities for regional collaboration. These resources enable ambassadors to confidently represent CHF and actively involve their communities in meaningful ways.

Interested in helping advance canine health in your community? Learn more about becoming a CHAMPS ambassador and join a growing network of advocates working to improve the lives of all dogs through knowledge and discovery.

Join us today at www.akcchf.org/volunteer.



CHAMPS



Justin's Dogs

left to right: Clint (11), Willow (8) and Olive (5).



Donor Spotlight

Big Heart, Small Club

By Fleming Samuels

How the Irish Setter Club of Milwaukee Turned Creativity into \$140,000 for Canine Health

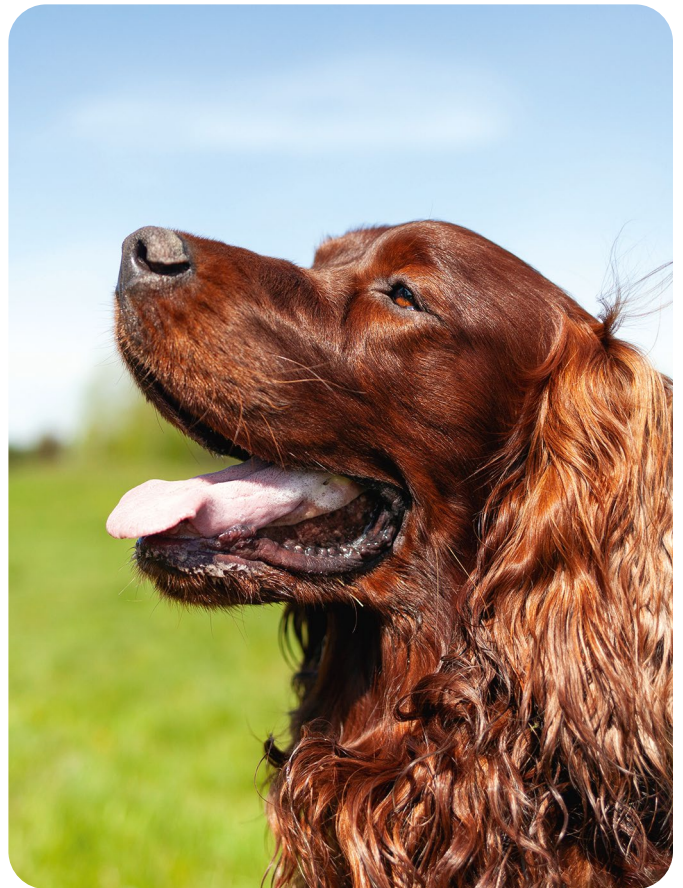
Since 2004, the **Irish Setter Club of Milwaukee** has demonstrated what a small, dedicated group can achieve. Through innovative fundraising and consistent dedication, the club has raised over **\$140,000** for the AKC Canine Health Foundation (CHF) to support canine health research.

Among the more than **1,200 clubs that have donated to CHF since 2002**, the **Irish Setter Club of Milwaukee is one of the top contributors**, which is a notable achievement for a regional specialty club.

Much of the club's momentum comes from **Mike Langkau**, who has led many of the fundraising efforts. Mike credits his mentor, longtime dog show community leader **Don Adams**, who first introduced him to organizing Fast CAT events and instilled a simple belief that still guides his work today: if you love dogs and the sport, *supporting canine health research is part of the responsibility*.

Fast CAT events became a popular way for the club to raise funds while bringing the community together. When Mike realized he wouldn't be able to host them as often, he searched for a new idea to keep the mission moving forward.

The inspiration struck while visiting a friend's cross-country running facility. That moment led



to **Guinness's Run for the Health of It 5K and 10K Dog Run and Walk**, an event inviting runners, walkers, and their dogs to participate together. Every step supports canine health research.

Over the last twenty years, the Irish Setter Club of Milwaukee has demonstrated how creativity, mentorship, and a shared passion for dogs can make a meaningful difference. Their story serves as a reminder that **clubs of any size can advance canine health research**.

Upcoming Webinars

Your front row seat to the future of dog health. Explore cutting-edge canine health research with experts in every webinar.

April

Canine Kidney Disease:
New Research in At-Risk Breeds
April 21 at 7pm ET

May

Understanding Chronic Gut Disease in Dogs:
Microbiome and Molecular Mechanisms
May 19 at 7pm ET

June

Advancing Canine Epilepsy Research:
Study Design and Breed Insights
June 23 at 7pm ET

For more information and to register, visit akcchf.org/webinars.

PAW PUZZLES

Hidden in the picture below are 20 playful Boxers. Find and circle all of them then text a photo of your completed puzzle to the QR code and be entered to win a prize! Entries due by May 31st. The winner will be notified in early June.



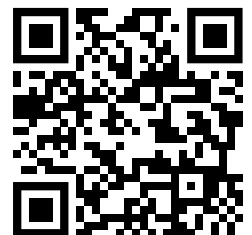
Don't miss your chance to celebrate science, discovery, and dogs with us!



Congratulations to last month's Woof Words Winner, Kelly Priestly of Seattle, WA. Woof Woof!

We Need Your Help to Fuel the Science that Improves the Lives of Dogs!

You can make a direct impact by donating to the AKC Canine Health Foundation. Your support sparks discovery and fuels critical research that leads to better diagnostics, treatments, and hope for all dogs everywhere. Every gift brings us one step closer to saving lives. Please donate today at <https://www.akcchf.org/donate/>



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