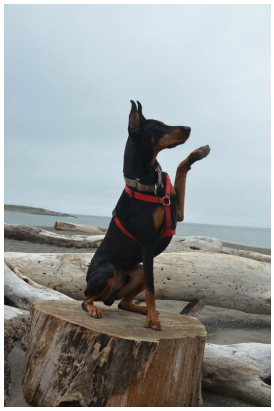
DOBERMAN PINSCHER
HEALTH FOUNDATION



Doberman Pinscher Health Foundation Summer 2024

President's Message

Welcome to the Spring / Summer 2024 Newsletter.

The DPHF is ramping up for another exciting year in the field of veterinary research.

We are currently in the midst of the application process for our annual grant award. The application period will close in just a couple of weeks and we are excited to see what new research Is being done on behalf of our beloved breed.

Our mission of funding veterinary research hits very close to home right now. Two of our board members, myself included, have lost our beloved show and performance dogs since our last newsletter. We are announcing a fundraiser in their memories in this newsletter.

On a happier note, the DPCA National is just around the corner. We will once again have board members attending this event. We love attending and are always eager to talk about what we do. Please let us know if you would like more information.

Finally, the Board of Directors would like to thank James Barron for his years of service to the DPHF.

We wish James all the best with his future retirement plans!

Grant Updates

The DPHF is proud to announce our 2023 grant recipient. We would like to thank our research committee for their hard work in selecting this worthwhile project from the field of grant proposals we received.

Our 2023 grant recipient is:

Dr. Molly McCue, DVM, MS, PhD, DACVIM (LAIM)

Professor, Equine Medicine, Genomics & Population Medicine

Associate Dean for Research, College of Veterinary Medicine University of Minnesota

“Defining genetic architecture and enabling early detection of doberman hepatitis”

This research is part of the Disappearing Doberman Project and addresses Liver Disease in the Doberman Pincher.

Liver Disease is a complex issue in the breed. Doberman Pinchers are susceptible to both Copper Storage Disease and Chronic Active Hepatitis.

Copper Storage Disease, results when an excess of copper is built up and stored in the liver causing a increase of liver enzyme levels.

Chronic Active Hepatitis appears to be an immune mediated disease resulting in inflammation of the liver.

Doberman Pinchers may have either or both of these conditions.

The study hypothesizes that Doberman hepatitis is a complex trait resulting from alleles in a large number of genes involved in copper metabolism and immunoregulation, and the interaction of those alleles with environment.

This study will be based on a sample size of 300 dogs divided equally between dogs diagnosed with one or both conditions and a control group of dogs 8 years old or older with normal liver values. The goal is to identify the alleles and genes involved in liver disease to create a genetic test that can identify dogs at risk. It is believed that this will allow for early testing and intervention, resulting in a longer life span for dogs with these conditions.

Dr. Chris J. Martyniuk & Dr. Amara Estrada – University of Florida

"Genome Editing in Induced Pluripotent Stem Technology (IPSC)-derived Doberman Pinscher Cardiomyocytes"

Cardiomyopathy gene editing research update

Members of the gene editing team at the University of Florida. Dr. Noble Iheukwumere on the left and Veterinary Student Nirali Patak working on gene editing in Doberman Pinscher cells

Doberman Pinschers and other breeds of canines are susceptible to heart disease due to genetic abnormalities in specific DNA sequences.

Veterinarians and researchers in the College of Veterinary Medicine at the University of Florida are studying a gene called Pyruvate Dehydrogenase Kinase 4 or PDK4. This protein regulates heart metabolism and can be missing part of its DNA sequence in Doberman Pinschers, which renders the protein less effective in regulating heart metabolism. This project is advanced technologies for editing canine genes to correct mutations associated with genetic diseases, moving us closer to the potential for gene therapy in canines.

The team collected patient skin cells or “fibroblasts” and have grown these cells in culture media. Using an instrument that measures metabolism of the cells, we were able to show that that different genotypes or DNA sequences show differences in their metabolic capacity (healthy versus disease). We have also demonstrated proof of concept that we can remove pieces of DNA from Doberman Pinscher cells with high efficiency (more than 90% of

cells can be corrected!). To date, we have determined an optimal gene editing strategy using specific probes that can cut our gene of interest to correct the missing DNA fragment of PDK4. Once corrected at the level of the DNA, functional PDK4 proteins can be produced to perform required roles within the cell.

For these techniques to advance into viable gene therapy strategies, additional work is required to test efficacy of gene editing in actual heart cells. One of the last processes to undertake is growing stem cells and converting them into cardiomyocytes or heart cells. Induced Pluripotent Stem cells (iPSC) are stem cells that are reprogrammed into different cell types. iPSCs have the same properties as embryonic cells, so they self-renew and can differentiate in the body. This is a long process, and the cells are very delicate. We are currently able to maintain cells for 21 days in culture. The next phase of the research will test whether we can edit the mutation in iPSCs-derived cardiomyocytes.

Veterinary professionals may one day use gene therapy in the clinic to treat patients with high risk of heart failure or those suffering from cardiomyopathies. Targeting specific gene mutations known to be associated with dilated cardiomyopathy like PDK4 with gene editing tools has the potential to correct damaged genes.

The team has garnered additional funding from the American College of Veterinary Internal Medicine (ACVIM), American Kennel Club, and the Morris Animal Foundation. Funding from multiple supporters ensures “significant momentum for continuing the research and developing gene therapy for all canine breeds suffering from heart disease."

DPHF Board Member Opportunity

As noted in the President’s message, James Barron has stepped down from his position on the Board of Directors of the DPHF. This is a great loss to our organization. James is passionate about protecting and serving the Doberman breed, which is evident in his service to both the DPHF and the DPCA.

With his departure, the DPHF will be looking for one or more motivated, passionate individual(s) to serve on the Board.

We understand that being on the Board can be a big commitment. We are also always looking for DPHF ambassadors who can help spread the word about the DPHF as well as run fundraisers in various parts of the country.

If you are interested in serving in either of these rolls please reach out to us here.

Once again, thank you to James for your service on the DPHF Board. We wish you all the best in whatever your retirement brings you.

Donation Match

“Quake”

AKC GCH CH UDC CH (Altered) Wingate’s Beast Mode RN CA
SWN SCA SIA RATCHX2 CZ8G,TKA, ONYX, TF-I, .DJX, DS,HDN,AJ,
NW1, ORT, ROM

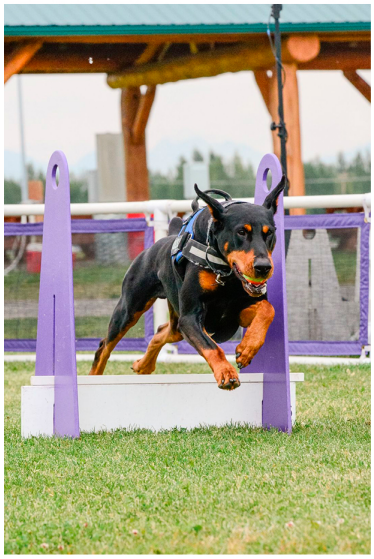
“PIVO”

CH Koral’s Ryexing Sun V Radiant RA RI MX MXB MXJ MXJS MXF

T2B DS CGCA TKN ROM,

Similar to Ch Montwood's Texas Hold Em, whose death sparked the creation of The DPHF, Pivo and Quake were well known dogs in their local communities. Both dogs exemplified the total Doberman exhibiting proper structure, temperament and drive. They also succumbed to genetic diseases this year rather unexpectedly.

"Quake"



The DPHF strives to make a difference for dogs like these and Dobermans everywhere by funding research that can make a difference in their quality and length of life.

In honor and memory of these two dogs, one of our generous benefactors is once again offering a 50% match on donations to the foundation recieved in the month of June.

If you have been considering supporting the DPHF we encourage you to do that now and get the most out of your donation here. The DPHF is a 501.3.c charity all donations are tax deductible.

"Pivo"

DPHF First Aid Kits

The DPHF has a limited number of our popular first aid kits available. Don't let the size of this first aid kit fool you, it is packed with the equipment you will need for a minor emergency with your dog, and in a size that makes it convenient for your car or show bag.

The kits are available for $35 here.

DPHF Logo Items

The DPHF has partnered with Studio 134 to provide embroidered merchandise. This merchandise will feature our logo as well as other unique Doberman designs.

You can order the DPHF merchandise here

Or from the DPHF Online store

We hope you have found this issue of the DPHF Newsletter informative and wish you all the best this summer.

If you have questions or ideas for information that you would like to see in our newsletter, please let us know!

Remember, none of this is possible without the generous support of our donors!

Sincerely,

DPHF Board of Directors:

Jenn Cannerelli
Mike Dellorto
Libby Hargrove
Kaye Krueger DVM
Sue Lynch
Denise McKay
Shirlee Walker
Linda Zaeske