From the President, Robette Johns
6976 Coyote Trail, Oak Hills, CA 92344
Phone: 704-219-8277/Email: president@colliehealth.org

It’s hard to believe it’s already summer. The good news is the annual “Gathering at Sunnybank” is just around the corner. I’ve said this before and I’ll not stop saying this until I die, if you haven’t been it’s one of the best experiences any Collie lover can have in two days. There is information in this newsletter, so I won’t bore you with details. I do have it on good authority that the “Madam” has another spectacular “Collie” event planned.

Talking about wonderful events, my mind immediately goes to the 2018 CCA National in Virginia Beach. Wasn’t it a great show? Kudos to the host show committee! The Foundation had a glorious week also. We couldn’t have done it without all the volunteers. So, thank you, thank you and thank you! If you participated in the MDR1 or Martha E Hoffman CHIC DNA banking clinics, thank you!!! Give yourself a pat on the back from all of us at CHF and the Collie breed. We had so many people that wanted to participate, we ran out of supplies! I know some people were turned down or asked to only bank senior dogs or dogs with health issues because of this. I hope to correct this for the National in Peoria in 2019. Thanks to all who donated items for our auctions. We can’t do it without you either!

I’m proud of many of you who took the time to learn more about the AKC Canine Health Foundation, meet Dr. Diane Brown, Chief Executive Officer, and Andrea Fiumefreddo, Director of Programs, and learn about the CHF partnership.

I hope if you had questions about Dermatomyositis, and DMS Risk Assessment Testing, you came to see Dr. Leigh Ann Clark speak prior to our dinner and live
We had another great dinner and live auction following Dr. Clark’s mini seminar. One highlight was surprising Ana and Julien Goulet from Gardiner & Goulet with a “thank you” for their years of devotion to the Collie Health Foundation and celebrating their 50th wedding anniversary. Krista Hansen, Vice President, and I presented the Goulet’s with an engraved vase with the CHF logo. It has been a tradition for years to end our live auction with whatever piece, or lately pieces, Gardiner & Goulet have donated to CHF. Their recent donations have been “in memory of” Ana’s dear partner and friend, Virginia Perry Gardiner. The photo of Ana and Julien with their vase and a 50th anniversary cake is courtesy of Karen Soeder.

The other highlight was, as President, I awarded the CHF’s President’s Trophy to the one volunteer I felt went above and beyond with a long-term commitment to the Collie Health Foundation. Please see more in this newsletter. I think I really surprised the winner!

I want to close by saying how proud I am of our Collie Health Foundation Family. When the planning started for the CCA National in Virginia Beach, I was very worried about where all the volunteers would come from to man everything we had planned. The Martha E Hoffman CHIC DNA Banking Clinic took volunteers from veterinarians, vet techs, and holders of dogs to handlers of blood and paperwork, I met members that are veterinarians that I had never met. Somehow the chair, Nancy Kelso, DVM made it all work. Thank you, Dr. Kelso and all your volunteers, for a great job. We had a wonderful turn out at the MDR1 collection clinic run by David Hansen, DVM and helped by his trusty sidekick, Steve Johns. For all of you who worked tirelessly at the Foundation tables, auctions, promos, dinner and live auction, thank you. Dr. Laura LaBounty did an amazing job on the night auction and dinner, and when her set up crew got sick, so many people pitched in that doors only opened a little late. I special thanks to Toni Jasper Bailey with her wonderful Collies, Curtis and Dave, entertaining the crowd and collection donations for CHF before doors opened. Great job everyone!

- Robette
GRAY DAWN, A Study in Blue
August 18-19, 2018

The 22nd ANNUAL GATHERING AT SUNNYBANK
381 Terhune Drive, Wayne, NJ 07470
HELD BY AND FOR THE BENEFIT OF THE COLLIE HEALTH FOUNDATION
www.colliehealth.org

SUNNYBANK DAY - SATURDAY
9:00a

SUNNYBANK WALKING TOURS

SPECIAL GUEST SPEAKERS
Kathryn George, Noralee Smiley, Marilyn Horowitz, Kristina Marshall, Judy Leathers

CANINE GOOD CITIZEN TEST $15
Joni Primas, Evaluator

THERAPY DOG CERTIFICATION $30*
Bright & Beautiful
CGC Dogs must be 6 months; Therapy Dogs must be 1 year
Entries Limited - Pre-registration Required
*Call Sue Chandler 973-696-2506 or greyskyes110@optonline.net

GATHERING GROUP PHOTO

ELEPHANT VIRTUES MATCH
Bring your favorite toy elephant to enter for the biggest ears, longest trunk, biggest belly, sweetest smile...

COLLIE DAY - SUNDAY
9:00a

COLLIE MEMORIAL CELEBRATION
See Form Below

VIRTUES MATCH
Moderated by Royal Rock’s Leslie Canavan
Kris Mulligan, Glenshire,
Annette Rawlings, Sealore
Candace Ardizone, Travler

THE GATHERING JUNIOR’S MATCH
Hannah Rawlings, Sealore

LAD MEMORIAL MATCH
Jennifer Mulligan, Glenshire
Hannah Rawlings, Sealore

Banquet Dinner @ Portobello’s
Main Floor Dining Room, 155 Ramapo Valley Road, Oakland
$38 Advance Reservations OR $48 at Door◊ Send Check Payable to “CHF” to Gerrie by 8/10

HOLIDAY INN EXPRESS
303 Union Ave, Haskell, NJ 07420
$105+ Tax, Plus Pet Fee $25 per room/night
Block ID #242204 Call 973-839-4405

RED ROOF INN
855 US Highway 46, Parsippany, NJ 07054
$67.99 Double & 1 Pet Free
Code B072SUNNY1
800-733-7663

LA QUINTA INN & SUITES
38 Two Bridges Road, Fairfield, NJ 07004
$109+ Tax Double Room & 2 Pets Free
Call 973-575-1742 Before 7/15
Code “The Gathering at Sunnybank EPO”

FMI: Gerrie Oliver, 60 Columbus Avenue, Closter, NJ 07624 - (201) 768-1282 - olivergerrie@gmail.com

Collie Memorial Celebration at Sunnybank - Send by August 1, 2018
Memorial Card Order Form

Name for (memorial) (celebration)____________________________________________________________________________
Any additional information (title, year of birth, etc.) (8-10 words only please)______________________________________

Your Name:_____________________________________________________________________________
Street Address: ________________________________________________________________________
City State Zip:___________________________________________________________________________
Email: ______________________________________ Phone: _________________________________

Number of cards ordered at $4.00 each _____ Total amount enclosed: $ ___________ Mail To: Mrs. Susan DeLorenzo
______________________________________________________________________________
4-2018

If you wish to have your card(s) mailed after the Memorial, enclose a No. 10 SASE for every 2 cards ordered, or a SAS priority mailer if you are ordering a large quantity.
President’s Trophy 2018

This trophy is given by the President to someone who has shown a sincere dedication in volunteering and the desire to protect and serve the Foundation. Over the years, most of the people that have received this coveted award have become part of the bedrock ensuring the continuation and advancement of the Collie Health Foundation. They have become icons in our Foundation. This year’s winner is no different.

Joining CHF 12 years ago with a family membership was the first step towards this award. This person volunteers for the local club and has been a volunteer for the Collie Club of America for years. While only becoming a Corporator in 2016, this member has helped CHF for years helping the Membership Chair with donation letters. After I became President, the current Membership Chair decided it was time to move aside. Her “assistant” was one of the first people I contacted because she was also a longtime casual friend. In the past two years, this individual jumped in without being asked. Whether it was help on the old and new website, or making herself being available to answer questions on the CHIC DNA Banking project. When a Board position became available in 2017, I nominated this person to fulfill that position. What I said to the Board for that meeting has become even more apparent now. “No one worked harder or volunteered more. Without being asked, she checked links on our website, answered questions on DNA banking, started streamlining the membership process and even found her own successor to help her with donation letters.” As a Board member, she has participated in all phases of our meetings. It is with great personal pleasure that I awarded the President’s Trophy to Gail Currie a future Icon with the Collie Health Foundation. The photo of Gail and Robette is courtesy of Karen Soeder.

Sunnybank Summer 2018
Support the Collie Health foundation with your purchase of our unique items.

Including but not limited to…

- Hand-made sun catchers with a Rough or Smooth Collie
- Pen and notepad 2 pack, with a list of MDR1 sensitive drugs on the back magnet
- Limited edition throws - get yours soon, they are almost gone
- Pin brushes - perfect for the collie coat
- Mutt Mats - a unique adjustable dog bed
- Note card 10 pack with the CHF logo
- MDR1 sensitive drugs dog tags for your Collie’s collar

Support the Collie Health foundation with your purchase of our unique items.
Welcome to the Family!

The Collie Health Foundation Welcomes the Following New Members

Mary Selzer Allen
Williamsburg, MI
Krista Allison
Moncton, NB
Jaye Athy
Gainesville, FL
Diana Hiiesalu Bain**
Auburn, CA

Stephanie Barber**
Monongahela, PA
Jesika Baur**
Charlotte, NC
Steven Baxley **
Aiken, SC
Lea Bertsch
Spicewood, TX

Daniel Black
Olney, MD
Kim Broster
Hazel, KY
Cody Campbell
Casper, WY
Sherri Camps
San Carlos, CA

Cheryl Clark
Basehor, KS
Sheila Cole
Carnation, WA
David & Jill DeVoe
Payson, AZ
Kathy Drabik
Castlewood, VA

Annette & Jim Eppley
Vienna, OH
Ken & Kathy Ezell
Madison, AL
Monica Falk
Stockholm, Sweden
Sarah & Neva Fox
Rayland, OH

Susanna French
Hamburg, NJ
Marilyn Furno
Conneaut Lake, PA
Evelyn Godown**
Newton, NJ
Kristen Hartshorn
Vancouver, WA

Tamara & Mark Harty
Chantilly, VA
Caroline Jones
Ringoes, NJ
Tammy Takako Kitami
Langley, BC
Sherry Kronheim**
Wellington, OH

Cheryl Lang
Ossipee, NH
Linda Lee**
Fountaintown, IN
Rachel Lee
Hood River, OR
Carrie Lenhart**
Bel Air, MD

Brandi Loan
Gladys, VA
Lynn Mayer
Alhambra, CA
Lynn McDermott**
Bolivar, PA
Michelle McEwen
West Salem, OH

Nancy McGovern
Washington, DC
Michele Phillips
Monkton, MD
Kristina & Carolyn
Pirro**
Joni Primas
West Orange, NJ

Nancy Reid
Central, SC
Sue Rioux
Hampton, NB
Michael & Jennifer
Rutkas**
Kathleen & John Seery
Newark, IL
Toms River, NJ

Sorrel Shoenberger
Enderby, BC
Kaylie Simmons - #1 Junior
Cicero, NY
Stuart Smith
Centralia, WA
Matilde Fernandez
Sobrino
Buenos Aires, Argentina

Barbara Starr**
Fishers, IN
Brian & Sherry O'Brien
Stevens**
Biblehill, NS
Michael Stoll
Gravel Switch, KY
Russ & Rene Tiejema
Tampa, FL

Jennifer Weiner
Rocklin, CA
Rex & Loma Willhelm
Waco, TX
Kathleen Zehetner
Franklin, WI

Note: **indicates previous member…Welcome Back!
New Members – February 16, 2018 through June 30, 2018
### In Honor/Celebration/Memory/General Donations

**February 16, 2018 – June 30, 2018**

<table>
<thead>
<tr>
<th>Donor</th>
<th>In honor/celebration/memory of....</th>
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<tbody>
<tr>
<td>Krista Allison</td>
<td>In Memory of her beloved Ennismoor Diva</td>
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<tr>
<td>Mary Jane Anderson</td>
<td>In Memory of Lenora Alexander</td>
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<tr>
<td>David &amp; Darla Budworth</td>
<td>In Memory of Roz Durham</td>
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<tr>
<td>Susan Burakoff-Hopkins</td>
<td>In memory of Regal N' Siena King of Hearts owned and loved by Lucinda Marvin</td>
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<tr>
<td>Barbara Buscareno</td>
<td>In Memory of Galatean Sweetspot of Gold UD, RN, CGC</td>
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<tr>
<td>Central Kansas Collie Club</td>
<td>General Fund</td>
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<tr>
<td>Sharon Calahan</td>
<td>In Celebration of my collie, Dream Chaser &quot;Chase&quot;</td>
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<tr>
<td>Ted &amp; Jean Chamberlin</td>
<td>General Fund</td>
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<tr>
<td>Nancy Daigle</td>
<td>In Memory of Larry Jung</td>
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<tr>
<td>Helen &amp; Ken Dombeck</td>
<td>In Memory of Lynn Howells</td>
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<tr>
<td>Kathy Drabik</td>
<td>General Fund</td>
</tr>
<tr>
<td>Roz Durham</td>
<td>General Fund</td>
</tr>
<tr>
<td>Marilyn &amp; Carter Eggers</td>
<td>In Memory of Sweetwaters Samantha’s Anthem “Sam I Am”</td>
</tr>
<tr>
<td>Damon Farber Landscape Architects</td>
<td>In Memory of Larry Jung</td>
</tr>
<tr>
<td>Suzanne Freiheit</td>
<td>In Memory of Larry Jung</td>
</tr>
<tr>
<td>Evelyn Godown</td>
<td>General Fund</td>
</tr>
<tr>
<td>Jane Howells</td>
<td>In Memory of My Beloved Husband, Lynn, who so loved his collies</td>
</tr>
<tr>
<td>Liz Huemmer</td>
<td>In Honor of Mary Jackson &amp; Mary Robischon</td>
</tr>
<tr>
<td>Mary Hunter</td>
<td>In Loving Memory of Steve - CH Alcor Arran Letters From Home BN. Lost to cancer way too soon</td>
</tr>
<tr>
<td>Mary Hunter</td>
<td>In Memory of Kara Jean - CH Liege's Standing in the Rainbow. Bred, owned and loved by Emily Berkley</td>
</tr>
<tr>
<td>Robette Johns</td>
<td>In Memory of Martha Ramer, a best friend, mentor &amp; big sister</td>
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<tr>
<td>Robette &amp; Steve Johns</td>
<td>In Memory of Roz Durham</td>
</tr>
<tr>
<td>Robette &amp; Steve Johns</td>
<td>In Memory of Larry Jung</td>
</tr>
<tr>
<td>Robette &amp; Steve Johns</td>
<td>Celebrating her 12th birthday - CH Row-Bar’s Flying Finish – Colleen</td>
</tr>
<tr>
<td>Indiana Collie Club</td>
<td>In Memory of Lenora Alexander</td>
</tr>
<tr>
<td>Helga Kane</td>
<td>In Memory of Martha Ramer</td>
</tr>
<tr>
<td>Gayle Kaye</td>
<td>In Memory of Roz Durham, a devoted Collie lover</td>
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<tr>
<td>Syndi Keats</td>
<td>In Memory of Can CH Mudville's Reign Delay, PT</td>
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<tr>
<td>Luann Korono</td>
<td>Matching Donation (Schwab Charitable)</td>
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<tr>
<td>Rita Lahtonen</td>
<td>In Memory of Larry Jung</td>
</tr>
<tr>
<td>Susan Larson</td>
<td>In Memory of Roz Durham</td>
</tr>
<tr>
<td>Terry Libro</td>
<td>General Fund</td>
</tr>
<tr>
<td>Nancy McDonald</td>
<td>Happy 13th birthday to CH Random Acres Over the Wall!</td>
</tr>
</tbody>
</table>
Celebrating Our Seniors!

In the past, CHF has had sponsored challenges to raise money to increase our funds. Our newest challenge, started by CHF President Robette Johns, is to celebrate our Senior Collies, 11 and older. It’s time to start showing off our long-lived friends. The Challenge is not just about the money, but to start keeping track of our dogs that hit the 11-year-old milestone. Robette would like to challenge everyone who has a Collie that is 11 or older to participate. Here is the Challenge:

Provide the following
Your name:
Dog’s Registered Name and Call Name:
Birthdate:
Breeder:
Owner:

- You are encouraged to send any amount that is comfortable for you on their next birthdays.
- You may also recognize your dogs that reached senior status before passing away. Please provide date of birth as well as the date they passed away.
- If your Collie doesn’t have a registered name or is a Rescue, please join us by using their call name and estimated year of birth.

You do not have to be a CHF member, so tell all your friends. CHF strives to lengthen the lives of all canines, but especially our Collies.

All dogs and information will be listed in our newsletters. The first persons to accept the challenge are:
Through June 30, 2018

Karen Anderson
CH Foremost Hot to Trot – Pia
Born: 7/17/2004
Breeder: William K. Brokken & Janice Otte Read
Owner: William K. Brokken, Janice Grillo & Karen Anderson

Gail Currie
Creston-Sylvan’s Midnight Sky – Sky
Born: 3/21/2006
Breeders: Gail Currie & Connie DuBois
Owners: Loved and owned by Jerry & Merlyn Strickland

Gail Currie
Creston-Sylvan’s Heavenly Song – Hannah
6/29/2004 - 6/13/2018
Breeders: Gail Currie & Connie DuBois
Owners: Loved and owned by Steve & Diane Sargent

Connie DuBois
GCH Sylvan Argent Simply Irresistible – Sax
Born: 11/9/2006
Multi BIS, BISS, CCA AOM. Producer of five champions. Greatest influence on our future & always in our hearts. Love you beautiful girl!!

Marilyn & Carter Eggers
Sweetwaters Moonlit Frost – Dazlyn
Born: 9/23/2004
Breeder: Karla Hutchings
Owner: Carter Eggers

Marilyn & Carter Eggers
Sweetwaters Enchanted Treasurer – Honey
Born: 3/19/2007
Breeder: Karla Hutchings
Owner: Marilyn & Carter Eggers

Marilyn & Carter Eggers
Sweetwaters Samantha’s Anthem “Sam I Am” – Sam
9/23/2004 - 6/16/2017
Breeder: Karla Hutchings
Owner: Marilyn Eggers

Dawn Forsythe
Princess
Breeder: Unknown
Owner: Dawn Forsythe

Robette & Steve Johns
Ch. Row-Bar's Flying Finish – Colleen
Born: 8/8/2005
Breeders/Owners: Robette & Stephen Johns

Alicia Moore
CH Contempo’s Alainn Aithne - Kate
Born: 12/20/2005
Breeder: Contempo Collies
Owners: Alicia & Thomas Moore

Alicia Moore
MACH PACH Moore’s Alainn Aoife RAE HSAds MXG MJG MXP3 MXPB MJP5 MJPS PAX MXF XFP T2B – Kenzie
Born: 6/14/2007
Breeders: Alicia & Thomas Moore
Owners: Alicia & Thomas Moore & Virginia Kost

Deborah Muir
Voyager’s Blue Sky Spirits CDX GN RAE – Sky
Born: 1/27/07
Owners: Joni E Primas & Karen Tecott

Mary Hunter
CH Alcor Arran Attitude CGC HP-N – Fred
1/26/2002 - 1/12/2015
Breeder: Susan Joslin
Owners: Mary Hunter & Susan Joslin

Alicia Moore
CH Moore’s Tiernan Dash HT NDD - Breanna
6/20/2004 - 10/1/2017
Breeders: Vicki & Randy Crew
Owners: Alicia & Thomas Moore

Alicia Moore
GCH CH PACH2 Moore's Lord Peyton RAE HSAds AX AXJ MXP9 MXPG MJP10 MJPC PAX2 NF MFP T2BP – Peyton
Born: 6/20/2007
Breeders/Owners: Alicia & Thomas Moore

June Morris
GCH Twin City Cleopatra – Cleo
Born: 2/10/2007
Breeder: Carl Williford
Owner: June Morris
Grant Updates!

Andrea Fiumefreddo, Director of Programs, AKC Canine Health Foundation has provided progress reports on several AKC grants the Collie Health Foundation has helped to fund.

**Grant 02257: Identification of Genetic Risk Factors for Canine Epilepsy**  
Principal Investigator: Dr. Gary Johnson, DVM PhD; Institution: University of Missouri, Columbia

**Original Project Description:** Epilepsy is one of the most common neurologic diseases of dogs and a top concern of dog breeders. Despite strong evidence that genetics is important in determining the risk of idiopathic epilepsy, numerous gene mapping studies have failed to identify a locus that accounts for that risk in either dogs or humans. Seizures occur when excessive activity goes beyond the normal threshold for brain function, many factors contribute to that level of activity, and therefore, mutations in numerous genes may collectively contribute to increased activity until that threshold is exceeded, resulting in epilepsy. Any one of these mutations may be present in non-epileptic dogs, but because it only partially alters activity, it would not produce seizures. Therefore, traditional gene mapping studies might overlook that mutation. Using a novel whole genome sequencing approach the investigators hope to identify DNA variations in epileptic dogs that could affect the function of genes such as ion channels and neurotransmitter receptors that have been shown to alter the seizure threshold in humans or rodents. The frequency of such variations in populations of epileptic and non-epileptic dogs will be directly compared rather than the indirect markers used in traditional mapping studies. The increased power provided by looking for specific gene candidate variations rather than linked markers will aid the identification of epilepsy risk factors, perhaps leading to development of DNA tests to enable breeders to select against such risk factors.

**Report to Grant Sponsor from Investigator:** This study has two parts. Part 1 is to first use the DNA from epileptic purebred dogs to produce whole genome sequences and to identify potential breed-specific genetic risk factors that increase the likelihood that a dog will develop epilepsy. We proposed to generate and analyze whole genome sequences from at least 18 epileptic dogs. So far whole genome sequences from 23 epileptic purebred dogs have been generated and analyzed. Samples from five additional epileptic dogs have very recently been sequenced at a sequencing center in St. Louis, Missouri and we expect to complete the initial analysis of the sequence data from these five dogs in the next two or three weeks. The second step to part 1 is to select high-priority breed-specific genetic factors and use DNA tests to see if they occur more often in epileptic dogs then in non-epileptic dogs of the same breed. We proposed to evaluate at least seven high-priority breed-specific genetic factors. So far we have completed the evaluation of six of them, but none have proven to be genetic risk factors for epilepsy. Preliminary results for a seventh genetic risk factor, this one in English Setters, look promising; however, we will need to complete testing and statistical analysis to validate our findings. Work is just started on an eighth potential breed-specific genetic factor. In addition, we expect to evaluate additional risk factor candidates identified in the last five whole genome sequences.

The second part of the study is to analyze our entire collection of whole genome sequences from both epileptic and non-epileptic dogs to identify and genetic factors that increase the risk for developing epilepsy in multiple breeds. As soon as the final five whole genome sequences from part one become available, we will add them our database of whole genome sequences and begin work on part 2. Initially we proposed to evaluate 15-to-25 candidate risk factors. We expect new alternative technology to enable the evaluation of twice that many epilepsy risk factor candidates.

**Grant 02210: Gene Therapy for Canine Degenerative Myelopathy**  
Principal Investigator: Dr. Kathrin Meyer, PhD; Institution: The Research Institute at Nationwide Children's Hospital

**Original Project Description:** Degenerative myelopathy (DM) is a devastating neurodegenerative disease that affects multiple breeds of dog. DM is an adult-onset disease that manifests at the later stages of life. It is
characterized by progressive weakness and inability to control hindlimbs, ultimately leading to involvement of forelimbs and complete paralysis. With no current treatments available, euthanasia is the only option available for DM-affected dogs. Recent studies have identified mutation in the Superoxide dismutase 1 (SOD1) gene to be a high-risk factor associated with canine DM. In humans, mutations in the same SOD1 gene cause Amyotrophic Lateral Sclerosis (ALS), a neurodegenerative disorder very similar to canine DM. It is also shown that reduction of mutant SOD1 in ALS mouse models provides beneficial effects. Hence, therapeutic approaches to reduce the expression of mutant SOD1 in DM-affected dogs may improve survival and preserve neurologic function. In this study, a viral-based gene therapy approach to treat DM will be evaluated, utilizing Adeno-associated Virus 9 (AAV9) mediated delivery of shRNA to reduce the mutant SOD1 in DM affected dogs. AAV9 is a safe, well tolerated and widely used vector for gene therapy in animals as well as for humans. If successful, this one-time treatment with AAV9 SOD1 shRNA will result in improved quality of life, and significantly extend the survival of dogs affected with this previously hopeless disease.

Report to Grant Sponsor from Investigator: Degenerative myelopathy (DM) is a devastating neurodegenerative disease that affects multiple breeds of dog. It is characterized by progressive weakness and inability to control hindlimbs, ultimately leading to involvement of forelimbs and complete paralysis. With no current treatments available, euthanasia is the only option available for DM-affected dogs. Recent studies have identified mutations in the Superoxide dismutase 1 (SOD1) gene to be a high risk factor associated with canine DM. In humans, mutations in the same SOD1 gene cause Amyotrophic Lateral Sclerosis (ALS), a neurodegenerative disorder very similar to canine DM. It is also shown that reduction of mutant SOD1 in ALS mouse models provides beneficial effects. Hence, therapeutic approaches to reduce the expression of mutant SOD1 in DM-affected dogs may improve survival and preserve neurologic function. The overall goal of this study is to improve survival and the quality of life of canine patients with Degenerative Myelopathy by a viral based gene therapy. Our main objective here is to determine the safety and efficacy of AAV9 mediated SOD1 reduction in DM patients. Moving towards our final goal, we had designed and tested 3 different shRNA construct that can reduce the levels of SOD1 in dog skin cells. The most efficient construct has been then molded into an AAV cassette that is optimal for the final preparation of AAV9 shRNA SOD1 virus. To determine if the AAV9 shRNA SOD1 virus is functional before its administration into patient dogs, we have also established a cell-based assay using dog skin cells. Finally, we have also established a screening method to select the suitable patient candidates for the administration of AAV9 shRNA SOD1 based on the levels of neutralizing antibodies in serum. Pre-existing neutralizing antibodies pose an obstacle against viral based therapies as they can clear the therapeutic viral particles thus neutralizing its biological effect. Hence, it is critical to screen and select the patient population with minimal levels of such antibodies to maximize the benefits of the gene therapy. Thus, with the final construct and the essential assays available, we are gearing up for the production of our final scAAV9-dSOD1 shRNA vector to be administered into DM dogs.

Grant 02264-A: Role of E. Coli Biofilm in Canine Pyometra
Principal Investigator: Dr. Marco A Coutinho da Silva, DVM, PhD; Institution: Ohio State University

Original Project Description: Pyometra is a potentially life-threatening infection of the canine uterus by bacteria, most commonly Escherichia coli (E. coli). In humans with recurrent infections, E. coli produces a biofilm, a layer of polysaccharide that protects the organism from the host immune system as well as antibiotic agents, decreasing treatment efficacy. Current treatments for pyometra are costly, time-consuming, and not without risk to the bitch. The investigators postulate that biofilm production by E.coli within the endometrium of the bitch may be responsible for perpetuating the disease and making treatment difficult. In this pilot study, the potential of E. coli obtained from clinical cases of canine pyometra to produce biofilm will be evaluated in vitro and in vivo. Endometrial samples from clinical cases of pyometra procured from collaborating private practitioners throughout the country will be evaluated for the presence of biofilm in situ, as well as the ability of the isolated bacteria to produce biofilm in vitro. If successful, demonstration of the presence of biofilm in the endometrium of bitches affected by pyometra could lead to development of new therapeutics targeted to disrupt the biofilm, resulting in improved treatment for canine pyometra.
Report to Grant Sponsor from Investigator (Final Report): Many strains of Escherichia coli (E. coli) have the ability to produce biofilm, a matrix of extracellular polymeric substances that confers antimicrobial resistance, leading to increased morbidity and recurrent infections. In dogs, production of biofilm by E. coli has been observed in bacteria isolated from recurrent cases of urinary tract infections. However, to date, studies addressing biofilm presence during canine uterine infections caused by E. coli are lacking. The objective of this study was to determine the role of biofilm production by E. coli during uterine infection by: 1) determining the ability of different strains of E. coli to produce biofilm in vitro, and 2) confirming the presence of biofilm in situ. We hypothesized that most strains of E. coli involved in canine pyometra will be capable of producing biofilm both in vitro and in vivo. Samples used in this study were obtained during ovariohysterectomy of dogs affected by pyometra (n=23). A swab of the uterine contents was collected immediately after surgery and submitted for aerobic culture. Two sections of the uterine horns were preserved in 3% glutaraldehyde and 10% buffered formalin. At approximately 24 h of culture, isolated bacteria were identified by matrix assisted laser desorption/ionization and E. coli isolates were frozen at -80 °C. Only tissue samples from cases confirmed to have E. coli infection were evaluated with biofilm assay, histopathology, fluorescent in situ hybridization (FISH) and scanning electron microscopy (SEM). E. coli isolates were analyzed for biofilm formation by microtiter biofilm assay using crystal violet. Optical densities were compared by analysis of variance (ANOVA), using StatPlus software. Significance was set at P<0.05. Sections submitted for histopathology were stained with hematoxylin and eosin and periodic acid-Schiff (PAS) and evaluated by a board certified veterinary pathologist blinded to treatments. Similar sections were submitted to an outside lab for FISH, where they were treated with a generic bacterial probe (EUB) and an E. coli specific probe. During SEM, the surface of the endometrium was evaluated for the presence of bacteria and/or a fibrous matrix. Sixteen out of twenty-three cases (70%) resulted in pure growth of one or two E. coli colonies, totaling twenty different isolates. 15 isolates (15/20, 75%) had significantly higher optical densities than negative controls, indicating in vitro biofilm production. All tissues exhibited endometrial inflammation with varying degrees of luminal exudate on histopathology. Visible bacteria were observed in eight specimens (8/16, 50%). Muco-fibrinous exudate was located within cystic endometrial glands and occasionally overlying epithelium consistent with biofilm on histopathology was visible in 88% of tissue samples (14/16). E. coli was positively identified on 100% (16/16) samples submitted for FISH although clear indications of the presence of biofilm was only noted on 15 tissue samples (15/16, 94%). Areas suggestive of the presence of biofilm were observed on all samples on SEM (16/16); however, bacteria consistent with E. coli were only visualized in eight samples (9/16, 56%).

Grant 02323: Efficacy of Cannabidiol (CBD) for the Treatment of Canine Epilepsy
Principal Investigator: Dr. Stephanie McGrath, DVM MS; Institution: Colorado State University

Original Project Description: Epilepsy is the most common neurologic condition in dogs. Approximately 20-30% of dogs receiving standard therapy remain uncontrolled for their seizures. Additionally, the side effects of the antiepileptic drugs (AED) are often unacceptable. Thus, there is a need for an AED that is efficacious with minimal side effects. Cannabidiol (CBD), a prominent non-psychotropic component of the Cannabis sativa plant, has been shown to have anti-convulsant properties. While CBD offers promise as a treatment for canine epilepsy, controlled studies are needed to prove its effectiveness. In this randomized, double-blinded, placebo-controlled, crossover clinical trial, client-owned dogs with uncontrolled epilepsy will be enrolled following a full seizure evaluation, including bloodwork and magnetic resonance imaging. The canine patients will first receive either a placebo or CBD in addition to their standard AED protocol and then the opposite drug in this crossover designed study. Seizure frequency and medication side effects will be monitored by owners using a seizure log and questionnaire. Regular CBD plasma concentrations, routine bloodwork and serial physical examinations will be monitored by the investigator. The primary goal of the study is to determine the efficacy of CBD in the treatment of canine epilepsy. If CBD is effective in decreasing seizure frequency, it has the potential to improve the quality and length of life for dogs with uncontrolled epilepsy, and add a much needed tool for veterinarians in the treatment of canine epilepsy.

Report to Grant Sponsor from Investigator: The preparations for the CBD epilepsy study were started in December 2018, including hiring a fulltime research assistant and part-time works/study student, creating all
of the study documents necessary for the trial, and creating a newsletter/announcement for Colorado veterinarians. We began enrolling patients for the study at the end of January 2018. In the past four months, we have enrolled nine patients, with another three starting in June and July. We anticipated enrolling 20 patients per year; therefore, we are on track with 12 patients in six months. Additionally, we are in the process of obtaining approval for including other clinics in the enrollment process of the study. We anticipate having other clinics in Colorado involved in the study by mid-summer. This should help our enrollment numbers, as well. Our study has gained a lot of press lately, which has helped generate interest in the study from pet owners and veterinarians. At this point in the study, we have not encountered any obstacles. No adverse effects have been noted. For the summer, we have been fortunate enough to be awarded a grant (from the AKC Canine Health Foundation, Grant #2533-E) for a summer research veterinary student. Katie Redd is joining our team for the summer.

The Collie Health Foundation Joins the AKC Canine Health Foundation’s Hemangiosarcoma Initiative as a Champion Sponsor

The AKC Canine Health Foundation announced that in 2018, the AKC would match all donations made in support of canine hemangiosarcoma research, up to $250,000. In early May 2018, the Collie Health Foundation's Board of Directors voted to join the initiative as a Champion level sponsor. The following information from the AKC Canine Health Foundation has been edited and reformatted for our newsletter.

What is Hemangiosarcoma?

- An aggressive and common cancer in dogs.

- While the cause of the disease is unknown, certain breeds (Golden Retriever, Portuguese Water Dog, Boxer, German Shepherd Dog) are considered to be high-risk. This suggests that heritable traits, while not singularly responsible, may contribute to the disease.

- Hemangiosarcoma can develop in any tissue or organ, but the most common primary sites for these tumors include spleen, right atrium of the heart, and the skin.

Why study it?

- While cutaneous masses (affecting the skin) are often treatable by tumor excision, tumors affecting internal organs are associated with poorer prognosis and are almost always incurable.

- Hemangiosarcoma is often called the “silent killer” because the tumors are often not detected until the later stages of the disease, and even dogs harboring large tumors may show no clinical signs or evidence that they have a life threatening disease.

- Because treatments have not improved the overall survival times for dogs with this disease, tremendous efforts are being made through research funded by the CHF and its donors to gain a better understanding of the biology and progression of this disease with the goal to design new and effective approaches to treatment.
AKC/CHF Studies:

02217: A Novel Mechanism to Regulate the Growth of Canine Hemangiosarcoma
Principal Investigator: Erin B. Dickerson, PhD; University of Minnesota
Total Grant Amount: $86,206.00; Grant Period: 1/1/2016 - 6/30/2018

02234-MOU: A Novel Approach for Prevention of Canine Hemangiosarcoma
Principal Investigator: Jaime F Modiano, VMD, PhD; University of Minnesota
Total Grant Amount: $432,000.00; Grant Period: 3/1/2016 - 2/28/2019

02519: Prevalence of Bartonella spp. Infection in Dogs with Cardiac and Splenic Hemangiosarcomas within and between Geographic Locations
Principal Investigator: Edward B Breitschwerdt, DVM; Matthew Breen, PhD; North Carolina State University
Total Grant Amount: $219,026.00; Grant Period: 2/1/2018 - 1/31/2020

02510: Identification of Novel Synthetic Lethal Partners to Optimize PI3K Targeted Therapies in Canine Hemangiosarcoma
Principal Investigator: Cheryl A. London, DVM PhD; Tufts Medical Center
Total Grant Amount: $168,857; Grant Period: 3/1/2018 - 2/28/2021

Webinar:

Prevention Strategies for Canine Hemangiosarcoma

See what Douglas H. Thamm, VMD, DACVIM (Oncology) has to say about cancer prevention as well as what we know about the connection between the use of vaccines, flea, tick and heartworm preventatives and cancer risk in dogs at https://www.youtube.com/watch?v=RhLNfxwKKec&feature=youtu.be

The Hemangiosarcoma Initiative is not the only AKC/CHF initiative with a AKC match that the Collie Health Foundation has supported. Since 2013 we have supported:

2013: Champions Sponsor ($50,000) of the Bloat Initiative
2014 – Champion Sponsor ($50,000) of the Epilepsy Research Initiative
2017 – Additional $25,000 to the Epilepsy Research Initiative
2017 – Champion Sponsor ($50,000) of the Tick-Borne Disease Initiative

In March 2018, in a press release the AKC/CHF announced:

“The American Kennel Club Canine Health Foundation (CHF), a nonprofit organization committed to better health for all dogs, is pleased to announce they have met their 2017 fundraising goals for the CHF Tick-Borne Disease and Epilepsy Research Initiatives. Through the generosity of the American Kennel Club (AKC), donations to these research initiatives were matched dollar-for-dollar to $250,000 for each initiative. CHF would like to thank their wonderful donors and the American Kennel Club for making this possible!”
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BOARD OF DIRECTORS – the officers and Cindi Bossart, V.M.D., Michele Brane, William K. Brokken, M.D., Gail Currie, David Hansen, D.V.M., Pat Jung, Helga Kane, Nancy Kelso, D.V.M., Nancy McDonald, Pati Merrill


CLASS OF 2022 – William K. Brokken, M.D., Mary Ann Campbell, Peggy Darrington, Yvonne Evans-Wynn, Dana Edwards, M.D., Genee Foulkes, Amy Gau, David Hansen, D.V.M., Krista Hansen, Susan Hernquist, Patricia Jung, Helga Kane, Nancy Kelso, V.M.D., Nancy McDonald, Gerrie Oliver, Isabel Ososki, Katrina Warsick.

Many thanks to those who served the Collie Health Foundation the last several years from the Corporators Class of 2018 and to past Board members and Officers. The Collie Health Foundation is moving ahead and making great strides in the areas of Collie research because of you!
Collie Health Foundation - Statement of Financial Position
As of June 30, 2018

| ASSETS | | |
| --- | --- | |
| Current Assets | | |
| Checking/Savings | 317,893.13 | |
| Other Current Assets | | |
| 1400 · Inventory | 13,229.46 | |
| 1500 · Investments | 960,921.58 | |
| Total Other Current Assets | 974,151.04 | |
| Total Current Assets | 1,292,044.17 | |
| TOTAL ASSETS | 1,292,044.17 | |

| LIABILITIES & EQUITY | | |
| --- | --- | |
| Liabilities | | |
| Current Liabilities | | |
| Accounts Payable | 2,290.00 | |
| Other Current Liabilities | | |
| 2450 · Unearned Interest Income | 1,445.38 | |
| Total Other Current Liabilities | 1,445.38 | |
| Total Current Liabilities | 3,735.38 | |
| Total Liabilities | 3,735.38 | |
| Equity | 1,288,308.79 | |
| TOTAL LIABILITIES & EQUITY | 1,292,044.17 | |

Report on DNA Banking and Rebates

**CHIC DNA Banking:** CHIC (Canine Health Information Center) is sponsored by AKC/Canine Health Foundation and Orthopedic Foundation for Animals. Eddie Dziuk, OFA Chief Operating Officer, reports that as of July 3, 2018, they have received 250 applications from Collie owners and now have **198 samples** in house. To those of you who have made application but have yet to complete the process, please get those samples in! With the reimbursement offered by CHF it should cost you nothing but time. Also, remember to report any changes in your dog's health to OFA to keep the database up to date.

**Rebates:** From January 1 through June 30, 2018, CHF has issues rebates in the amount of $1,050 for 21 CEA tests, $200 for 4 CN (Gray Collie or Canine Cyclic Neutropenia) tests, $8,320 for 128 DMS tests, $1,960 for 98 MDR1 tests, and $2,300 for 46 PRA tests. Keep up the good work. Let's continue to make a difference through health testing!

***** Rebate requests should be sent to Kate Long at assistanttreas@colliehealth.org ******

**New Bequest – Irma Menoff - $218,671.63**

This year in April, we had another wonderful donation made by the Estate of Irma Menoff of New Jersey. If any of you knew Irma, please contact me. Her attorney from Tom's River, NJ handled everything for the executor. Apparently, Irma had no family and instructed her estate to be divided between the University of Pennsylvania Veterinary School for Cancer Research and the Collie Health Foundation. The last information that the attorney had was to contact Nancy Simmons for the Collie Club of America Foundation. I think the Foundation will continue to grow as people see the good that we are doing. Please remember CHF in your will or trust. It doesn’t matter the size.
Molecular Genetic Study of Coloboma in the Dog

Gustavo Aguirre, VMD, PhD
University of Pennsylvania
and
OptiGen, LLC

The following information was obtained from Optigen’s website.

Background

Collie Eye Anomaly (CEA) is an autosomal recessive disease affecting a number of dog breeds. Even though not all of these breeds are collie related, we use the generic term CEA to phenotypically characterize the disease. The disease has 3 major phenotype components: choroidal hypoplasia (CH), coloboma/staphyloma/posterior scleral ectasia (coloboma) and retinal detachment. The frequency of the 3 phenotype components varies, with CH being most frequent, and detachments least frequent. The basic CEA lesion is, in fact, CH, and this abnormality must be present in dogs with coloboma and/or retinal detachment for the latter two severe conditions to be considered related to CEA. It should be noted that there are also other causes of coloboma and retinal detachment that are unrelated to CEA.

We previously identified the molecular defect responsible for CEA as being caused by a 7.8 kb homozygous deletion in the NHEJ1 gene. Testing for this mutation informs on CH, but not on the other phenotype components of the disease. The working hypothesis is that colobomas result from a mutation or sequence change in a second modifier gene(s) that requires that the homozygous deletion in the NHEJ1 gene is present. The aim of this research is to identify the modifier locus/gene.

Your help is needed

To carry out this study we need the assistance of dog owners/breeders, as well as board certified veterinary ophthalmologists (ACVO, ECVO) so that samples for the research study can be definitively ascertained. We are very grateful for your interest in participating in the present research study. Please make sure that only one form is used for each study dog.

A research form for submitting samples and information for this study can be found on the OptiGen website at http://www.optigen.com/doc/Coloboma_Research_Form3_17.pdf

The owner should complete the first section of owner and dog information. The second section of the form requests the examining ophthalmologist to provide brief clinical descriptions and, if possible, clinical photographs. Along with the completed form, we need a copy of the dog's pedigree (5-6 generations), any current/previous eye exam records, and 3-5 ml of whole unclotted blood in EDTA to be sent to OptiGen, 767 Warren Road, Suite 300, Ithaca, NY 14850. Please call OptiGen at 607-257-0301 or email genetest@optigen.com with any questions on sample submission.

NOTE: all the information provided for this study is CONFIDENTIAL and will not be disclosed.