

Summer 2016

**Questions? Comments?
Suggestions?**

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PRESIDENT'S MESSAGE

We are again proud to report on the Westie Foundation of America's (WFA) year-end financials. WFA, like other ideal non-profit organizations, spends most of its funds on program services.

The WFA's Fiscal Year 2015 expenses for program services, consisting of research and education, were 81% while management expenses were a much lower 15% and fundraising 4%. Please review the "Financial Report – Fiscal Year 2015" in this issue for more details.



Bebe Pinter

It is also important that you know the WFA's plans for how donations and fundraising dollars are used. Currently, there is ongoing analysis on how best to develop a database and DNA repository for the West Highland White Terrier breed. This is a vital project to benefit our breed. Once we have determined a direction to pursue, we will conduct extensive fundraising and ongoing sample collection. Once the repository is implemented, the WFA will oversee the database and repository so that samples are available for researchers for years to come. In order for this plan to be successful, we will need your help not only for donations to make this possible but also your assistance to provide a thorough history of each Westie used in the databank. In addition, the WFA will continue to support education and credible research projects benefiting the Westie breed.

This Summer issue of *Westie Wellness* focuses on Kidney disease. Please read the articles "Renal Dysplasia Disease" and "Polycystic Kidney Disease" reprinted by permission of the Vetbook. According to the articles Renal Dysplasia is usually an inherited syndrome but congenitally acquired neonatal urinary tract infections, viruses and vitamin A deficiency may result in a phenotypically-identical presentation of arrested or delayed nephric

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(President's Message continued from page 1)

development. Polycystic Kidney Disease has been reported as a breed specific syndrome in the West Highland White Terrier. I am wondering how many times these diseases cost the life of one of our Westies but we don't know if it may be inherited.

Also very interesting is the article "Removing the Stigma of Genetic Disease Breeding Programs". Dr. Jerold Bell is a well-known geneticist to the dog fancy.

Thank you WFA Vice President Teresa Barnes and PJ Kessler with her Tyler for the article "Owners, Experts Share Experiences, Discuss Possibility that K (Laser) is Okay for Treatment of IPF in Westies". Barnes has expanded Tyler's story on laser treatment to include feedback from other experts and owners. According to Kessler, "The best thing is there are not any terrible side effects." Also of interest is the information about the Facebook support group called the Westie Lung Disease-IPF in USA (Treatments, Symptoms, Studies, Etc.).

Don't forget that if you wish to submit a Westie Remembrance or Tribute for that special Westie who has crossed to The Rainbow Bridge, please visit our website at <http://www.westiefoundation.org/remembrances.html> for the form. The form provides text and photo requirements as well as payment information. Allison Platt, WFA Webmaster, can assist you. Remembrances and Tributes remain on the WFA website indefinitely.

Thank you for your continued involvement and support of the WFA but most of all, your love of Westies!

Bebe Pinter

The Westie Foundation of America, Inc is a nonprofit corporation, recognized by the IRS as a 501 (C) (3) organization. The mission of the Foundation is to advance and support medical research to benefit the health and quality of life of West Highland White Terriers: and to further develop and communicate information regarding the health, care, breeding and quality of life of Westies to Westie owners, Westie breeders and veterinarians.



Request for Samples

RESEARCH PROJECT	SAMPLES NEEDED	CONTACT INFORMATION
Genetic marker for Atopic Dermatitis	Saliva swabs or blood samples from dogs with skin disease or from normal dogs 5 years of age or older from family lines free of allergies	Kim Williams North Carolina State University 919-513-7235 kdwilli4@ncsu.edu
Genetic susceptibility of Transitional Cell Carcinoma (TCC) (Bladder Cancer)	Blood samples from dogs diagnosed with TCC and dogs over the age of nine who have no known cancers	Gretchen Carpintero Ostrander Lab National Human Genome Research Institute 301-451-9390 Dog_genome@mail.nih.gov
Genetic marker for Addison's Disease	DNA from cheek cells and/or blood from affected dogs and unaffected dogs over the age of 7	Dr. A.M. Oberbauer UC Veterinary School (Davis) 530-752-4997 http://cgap.ucdavis.edu/
Clinical Features and Genetic Basis of Idiopathic Pulmonary Fibrosis (IPF)	Blood samples from dogs diagnosed with PF and healthy dogs over age 8 without lung disease	Drs. Ned Patterson and Peter Bitterman Katie Minor (contact) University of Minnesota 612-624-5322 minork@umn.edu
Idiopathic Pulmonary Fibrosis (IPF)	Cheek and/or blood samples from dogs diagnosed with pulmonary fibrosis	Dr. Victor J. Thannickal University of Alabama Sample collection coordinated by Dr. Pamela Whiting, DVM pgwhitingdvm@aol.com 707-529-9222 (cell/text) 707-837-8101 (clinic)
Dry Eye Syndrome (keratoconjunctivitis sicca)	Dogs diagnosed with dry eye and dogs over 7 years old with no ocular abnormalities *participants must be available for appointments at UC Davis Veterinary Center (CA)	Dr. Sara Thomasy UC Veterinary School (Davis) 530-752-1770 smthomasy@ucdavis.edu

For more information about any of the above projects visit www.westiefoundation.org

News On The Healthfront

By Kay McGuire, DVM, MS

There have been a couple of health issues affecting Westies that were brought to my attention during the last month. Number one is the cardiac disease called sub-aortic stenosis. Although our current Health Survey found on www.offa.org lists cardiac disease frequency as 5%, I wonder how many instances there really are in Westies. This particular condition is a congenital defect (present from birth). The problem arises when the outflow of the left ventricle of the heart to the rest of the body is narrowed. The restriction makes the heart pump harder trying to send oxygenated blood to the body. Most frequently this produces a very loud heart murmur in very young puppies. Severe cases have significantly shortened life spans even with drug or surgical treatment.

The number two health issue brought to my attention is the presence of polycystic kidney disease in our Westies. This is a heritable disease, usually with a dominant gene transmission. These dogs act normal until acute kidney disease symptoms manifest themselves. Definitive diagnosis is made through an ultrasound examination. Please see the article “Polycystic Kidney Disease” in this newsletter describing the condition.

If you are aware of any cases with the above diagnoses, please contact us at health@westiefoundation.org. We need to follow the incidence of the diseases and hopefully with pedigree analysis, discover the mode of inheritance.

The West Highland White Terrier Club of America’s (WHWTCA) national specialty provides opportunities for health clinics and the annual seminar. The national specialty is held in conjunction with the Montgomery County Terrier Show on Sunday, October 8, 2016 in Pennsylvania.

On October 7, 2016, we will provide a Craniomandibular Osteopathy (CMO) collection clinic in conjunction with the OFA Eye Certification clinic at the Kimberton Fire Hall. OptiGen, LLC is offering this genetic test for a special price



of \$75 if the test is registered on line and the special code of CMO16 is used. The WHWTCA is subsidizing the cost of the eye clinic for Westies owned by WHWTCA members at \$25 for members and \$35 for non-members.

In addition, the Westie Foundation of America will host its annual health seminar on Thursday, October 6th at the Kimberton Fire Hall. Dr. Matthew Breen, North Carolina State University; will deliver an exciting presentation on new changes available in cancer diagnostics and prognostication of treatment. The seminar will begin at 6:30 PM and sandwiches and snacks will be provided. Don’t miss out on this informative lecture from one of our countries premier cancer researcher.

CMO Testing Made Easier

By Kay McGuire, DVM, MS



There is news from OptiGen to make performing the genetic test for Craniomandibular Osteopathy (CMO) easier with a faster turn-around time!

OptiGen is offering to perform the CMO genetic test at the sale price of \$75 if registration is done on line. Please use sample code CMO16. If you prefer to submit the order by mail, the test is \$80. Sample brush kits will be sent with the registration or upon request. Results usually are available within a two-week time frame.

The Westie Foundation of America will support a sample collection clinic at Montgomery County Specialty week. We will have brush kits available at our National Roving Specialty in Ohio, August 14, 2016 that can be taken home and brought back in October. If there are dogs at home that you wish to sample, these tests can be brought back to Montgomery County and submitted together for the \$80 price.

Prior to Collection/Preparations:

- The dog to be sampled should not eat or drink for at least one hour prior to having the sample collected. This is to reduce the chance of contamination.

- The dog should be isolated from other dogs, toys and other possible sources of oral contamination for at least several hours, preferably one entire day, prior to sampling. This is to reduce the chance of dog to dog contamination.
- Just prior to sampling, check the dog's mouth to see that no food or other material is obviously present. If there is, clean/rinse the dog's mouth to remove it and wait another hour before collecting the sample.
- The person taking the samples should avoid touching the inside of the dog's mouth. Disposable latex gloves will help reduce contamination by the handler.
- If more than one dog is being sampled, the person doing the collections must wash hands or change gloves between collections.
- Never allow the sterile swab to touch anything except the inside of the dog's mouth or the inside of the package that it came in. Especially never allow contact between swabs from different dogs.
- Prepare a clean surface on which to place the opened swab package, or have the witness hold the open package and the second swab while you are swabbing the dog.

(Continued on page 5)

How to Collect the Cheek Swab Samples:

1. Use two swabs per dog.
2. Label the swab packets with the dog's call name, the owner's last name, permanent identification or registration number (if applicable) and collection date.
3. Label a standard paper (letter size) envelope with the same information as in #2.
4. Open the swab package at the handle end (NOT the collection tip end) and carefully peel the package away to within about an inch of the end and remove the first swab. Do not touch the collection tip of the swab.
5. Do not allow the tip of the swab to touch anything other than the inside of the dog's mouth and the inside of the packaging.
6. While holding the handle end of the swab, insert the tip along the inside of the cheek. Rotate the collection tip along the inside of the cheek for about 20 seconds. Pushing on the outside of the dog's cheek while rotating the swab will firmly press it between the gum and cheek and will enhance cell collection.
7. Hold the swab while it air dries for several seconds **Do NOT blow on the swab.**
8. **Reinsert the tip of the swab into the closed end of the package** and remove the second swab (if there are 2/package). If your swabs came in plastic containers instead of paper sleeves, put the swab directly into the labeled paper envelope; **DO NOT** use the plastic container.
9. Repeat the above steps on the other cheek with the remaining swab (i.e. 2 swabs/dog).
10. Place the packaged swabs in the labeled paper envelope (NOT a plastic bag) Do NOT put the test request form in the envelope with the swabs.
11. **OptiGen requires signatures on the test request form by the owner and by either a witness or the person collecting the sample if other than the owner. Two signatures are required in order to proceed with testing.**
12. Send the sample and completed test form following the Ship Sample (http://www.optigen.com/opt9_cheekswbship.html) instructions.



REMEMBER: If you wish this Test result to be available on the OFA website, your dog must have a permanent identification of either a microchip or tattoo.

**PLEASE NOTE THE
NEW ADDRESS FOR
MAILING DONATIONS**

**Westie Foundation of America, Inc
c/o Jim McCain, Donor Manager
302 Hemlock Cove
Ball Ground, GA 30107**

Renal Dysplasia in Dogs

By Vetbook

Renal dysplasia is an autosomal-dominant multifactorial genetic renal disease of dogs characterized by delayed maturation of renal and other parenchymal tissue, leading to progressive renal degeneration, protein-losing nephropathy and chronic renal disease.

This disease is usually an inherited syndrome but congenitally-acquired neonatal urinary tract infections, viruses and vitamin A deficiency may result in a phenotypically-identical presentation of arrested or delayed nephric development.

An autosomal-recessive genetic predisposition has been noted in the Soft Coated Wheaten Terrier^[2].

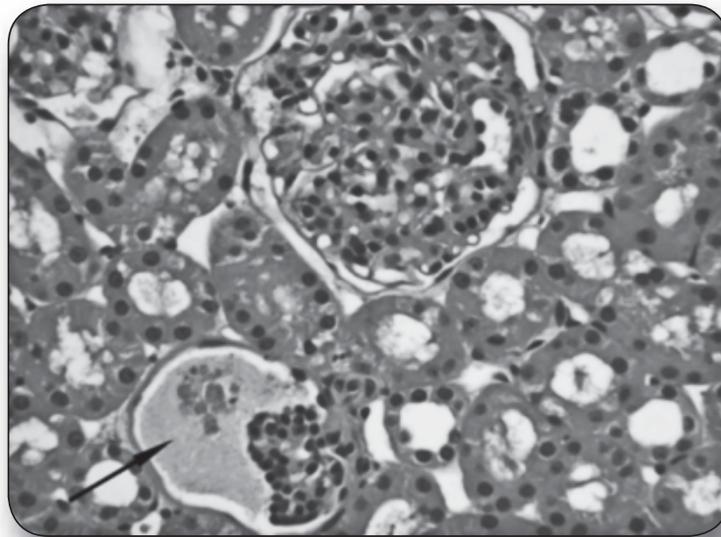
Because of the typically adult-onset nature of this condition and the multi-organ involvement, it can be confused with non-hereditary causes, and has few consistent clinical signs.

The age of onset and clinical disease symptoms are highly variable, and kidney failure from this birth defect can occur at any age, even in dogs that are up to 10 years of age or beyond.

Clinically affected dogs are often middle-aged dogs of any breed which present with weight loss and extreme polyuria and polydipsia. The extreme polyuria and polydipsia seen in younger dogs (under 6 months of age), is thought to be

caused by lack of response by immature renal tubules to antidiuretic hormone activity^[3].

Renal biopsy confirms the histological presence of immature fetal glomeruli, persistent primitive mesenchyme and metanephric ducts, asynchronous differentiation of nephrons, and atypical tubular epithelium^[4].



Renal dysplasia in a dog, showing characteristic a large, normally developed glomerulus, and a small fetal glomerulus with a dilated Bowman's capsule (arrow)^[1]

Blood tests usually reveal non-regenerative anemia, hyperammonemia, hypercreatinemia and hyperphosphatemia^[5]. Urinalysis may reveal concurrent pyelonephritis^[6]. Hyperfibrinogenemia is a consistent finding, and these dogs have a higher risk of thromboembolism^[7].

Ultrasonography often features poor corticomedullary definition, multifocal hyperechoic speckles in the renal medulla or a diffusely hyperechoic medulla^[1].

Diagnosis requires renal biopsy, as no mutation-based DNA test is available. A surgical wedge biopsy is the only reliable diagnostic method, as approximately 100 glomeruli have to be evaluated, and the architecture of the renal cortex has to be assessed^[8]. Histopathology usually demonstrate abnormal or asynchronous differentiation of renal tissue, with the presence of immature or fetal glomeruli and mesenchymal tissue in the medulla^[9]. Other histological features include mineralization of renal tubules and diffuse interstitial fibrosis in the cortex and medulla^[10].

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Concurrent genetic abnormalities have been reported in dogs with pre-existing renal dysplasia, including urolithiasis, ectopic ureter^[11], renal agenesis, hepatic capsular fibrosis, lymphatic duplication of connective tissue, pulmonary calcification^[12] and half-circular tracheal rings^[13].

A differential diagnosis would include psychogenic polydipsia, diabetes insipidus, hyperadrenocorticism, hypoadrenocorticism, other causes of chronic renal disease disease such as polycystic kidney disease, chronic pyelonephritis, *Leptospira spp*, as well as congenital disorders such as renal agenesis or hypoplasia (Ask-Upmark kidney)^[14].

There is no specific treatment for this disease, and in clinically affected dogs, renal degeneration continues to end-stage renal disease. Poor quality of life factors usually dictates renal transplantation or euthanasia.

Renal transplantation may be the only viable curative procedure for this condition^[15].

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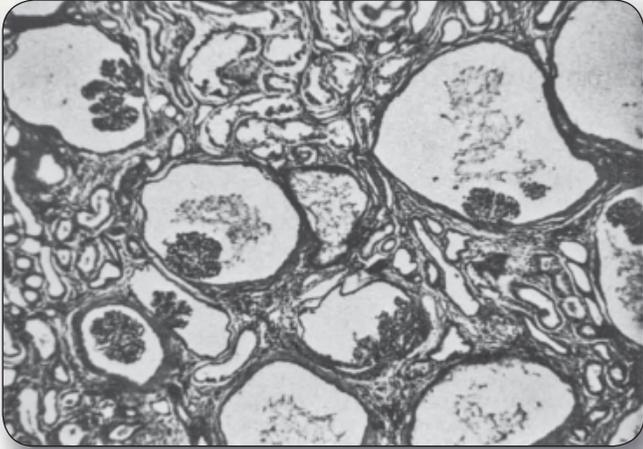
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Retrieved from "http://www.vetbook.org/wiki/dog/index.php?title=Renal_dysplasia&oldid=16780"



Polycystic Kidney Disease

By Vetbook



Glomerular polycystic kidney disease in an 11-month-old blue merle Collie^[1]

Polycystic kidney disease is an autosomal-dominant genetic disease of dogs characterised by renal and occasionally liver cysts^[2].

This disease has been reported as a breed-specific syndrome in West Highland White Terrier and Staffordshire Bull Terrier^[3], with affected dogs heterozygous for the condition^[4], with concurrent heightened risk of mitral valve endocardiosis, left ventricular outflow obstruction and other cardiac abnormalities^[5].

A similar condition has been reported in Golden Retrievers^[6], Blue Merle Collie^[1] and West Highland White Terriers^[7] where polycystic kidney disease is associated with congenital biliary cysts of the liver.

Other breeds have been reportedly affected, including the Shiba^[8] and Belgian Shepherd^[9].

Many dogs are subclinically affected, but homozygous patients may present at a young age (6 months or older) with clinical signs referable to chronic renal disease, consisting of lethargy, dehydration, vomiting and in severe cases, seizures^[10]. Polyuria and polydipsia are commonly observed, with urinalysis usually revealing hyposthenuric urine with evidence of albuminuria.

Diagnosis is based on breed-predisposition, blood tests (which usually reveal hyponatremia, hyperkalemia and variable non-

regenerative anemia) and ultrasonographic findings^[11].

Cysts can be detected using renal ultrasonography, the currently preferred method of diagnosis for this disease, allowing breeders to diagnose disease prior to breeding, and thus prevent breeding of affected animals^[12].

Renal cysts are usually bilateral, occur in cortex and medulla and vary in size from less than 1 mm to over 2.5 cm in diameter.

Histologically, cysts are lined with epithelial cells of nephron origin and associated with this is renal tubular loss and dilation as well as interstitial inflammation and fibrosis^[13].

A definitive diagnosis requires DNA testing using PCR analysis^[14].

A differential diagnosis would include renal dysplasia, renal cystadenoma associated with dermatofibrosis, renal amyloidosis and Fanconi's syndrome^[15].

There is no specific treatment for this condition and some dogs may remain clinically stable for years prior to onset of terminal renal failure.

Testing of potential carriers is recommended to eliminate transmission of this hereditary condition.

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http://www.vetbook.org/wiki/dog/index.php?title=Polycystic_kidney_disease

MATTHEW BREEN, PhD

Dr. Breen is a professor of genomics, genomic mapping and comparative cancer research at North Carolina State University School of Veterinary Medicine. His lab, The Center for Comparative Medicine and Translational Research (CCMTR), encourages collaborative work between human and veterinary researchers. Dr. Breen's full biography is on page 11.



THURSDAY, OCTOBER 6TH KIMBERTON FIRE HALL



Snacks and sandwiches provided
6:30 PM

WFA HEALTH SEMINAR

DR. BREEN
PRESENTS EARLY
AND PROGNOSTIC
CANCER
DETECTION

The Future of
"One Health"

Genetic Testing
for Canine
Lymphoma and
other cancers

Seminar will be
recorded

WESTIE
FOUNDATION OF
AMERICA

www.westiefoundation.org

Thursday, 10-6-2016

Removing the Stigma of Genetic Disease Breeding Programs

By Jerold Bell, DVM, Department of Clinical Sciences, Tufts Cummings School of Veterinary Medicine

(This article originally appeared in the “Healthy Dog” section of the October, 2003 AKC Gazette)

Reprinted with permission.

An inevitable consequence of breeding is the occurrence of genetic problems. No one wants to produce affected dogs, yet some breeders and owners are quick to assign blame. There are no perfect dogs, and all dogs carry some detrimental genes.

The emotional reaction to producing a dog with a genetic disorder often follows what is called the grief cycle:

- Denial: This isn't genetic. It was caused by something else.
- Anger: This isn't right! Why is this happening to my dogs?
- Bargaining: My dog sired more than 100 other dogs that are healthy. So this one doesn't really count, right?
- Depression: My kennel name is ruined. No one will breed to my dogs.
- And, finally, acceptance: My dog was dealt a bad genetic hand. There are ways to manage genetic disorders, breed away from this, and work toward a healthier breed.

Getting Beyond Denial

Unfortunately, many breeders can't get beyond the denial stage. Some will hold to increasingly improbable excuses, rather than accept that a condition is genetic. They will falsely blame relatively rare disorders on common viruses, bacteria, or medications. The fact that these organisms or drugs are common to millions of dogs annually that do not have these disorders is not considered.

Some owners state that their veterinarian recommended not sending in a hip radiograph because the dog would probably not



get certified. Then these owners lull themselves into believing that since the dog wasn't evaluated, it does not have hip dysplasia. The fact that a dog does not have an official diagnosis does not mean the dog is normal or “not affected.”

It is important to confirm diagnoses of genetic disorders with blood tests, radiographs, or pathology specimens. However, the primary concern should always be for the individual dog. If an affected dog is not suffering, it should not be euthanized simply to obtain a pathological diagnosis. The increased availability of non-invasive techniques has made diagnoses easier to obtain.

Once confirmation of a genetic disorder is made, denial sometimes becomes deception, which is not acceptable. There are breeders who actively seek to prevent diagnoses and later necropsies, but who eventually realize that their actions are detrimental to their breed, and in the long run to themselves.

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Matthew Breen PhD CBiol, FRSB

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Member, Center for Human Health and the Environment, NCSU

Member, Cancer Genetics Program, UNC Lineberger Comprehensive Cancer Center

Visiting Scientist, Broad Institute of Harvard/MIT

MatthewBreen@Breenlab.org Lab site: <http://www.BreenLab.org>

Matthew Breen completed his PhD in cytogenetics in 1990 and then worked as a postdoc at the UK Medical Research Council's Human Genetics Unit in Edinburgh developing new techniques as part of the emerging human genome project. After four years at the University of Queensland, Australia, he returned to the UK where he developed molecular cytogenetics reagents, resources and techniques for canine genome mapping and cancer studies. In 2002 Dr. Breen relocated his laboratory to NCSU's College of Veterinary Medicine. Over the past decade Dr. Breen and his team have developed a series of cytogenetic tools and applied these to investigate cytogenetic changes in numerous canine cancers. These studies have resulted in the development of molecular assays to enhance diagnosis, early detection and prognosis. Taking a comparative approach, these studies are also advancing what we know about human cancers and helping accelerate cancer gene discovery. Dr. Breen's research interests also include genome mapping, comparative genomics, the genomics of military working dogs, and veterinary/wildlife forensics.

Dr. Breen is a Professor of Genomics in the Dept. of Molecular Biomedical

Sciences at the NCSU College of Veterinary Medicine and Associate Director of the NC State Forensic Sciences Institute. He is a member of the NCSU Comparative Medicine Institute (CMI), the Center for Human Health and the Environment (CHHE). Dr. Breen is on the steering committee of the Consortium for Caine Comparative Oncology (C3O) in partnership with the Duke Cancer Institute, a member of the Cancer Genetics Program at the University of North Carolina's Lineberger Comprehensive Cancer Center and a visiting scientist with the Broad Institute of MIT and Harvard. Dr. Breen was a charter member, and serves on the Board of Directors, of the Canine Comparative Oncology and Genomics Consortium (CCOGC), a 501c3 not-for-profit organization established to promote the role of the dog in comparative biomedical research. He is also a charter member of the Sea Lion Cancer Consortium (SLiCC).

Presentation Summary

The application of genomics to canine biomedical research has resulted in significant advances as we strive to enhance the health and welfare of our companions. Over the past several years we have recruited tumor tissues and

blood samples from hundreds of dogs presenting with a variety of cancers, as well as their family members. During the same period we generated a series of sophisticated molecular reagents and resources that complete the genomics 'toolbox'. Collectively these tools provide a robust means to interrogate tumor specimens for organizational changes to the genome, which lead to identification of genome regions and genes associated with cancer.

We have demonstrated the presence of numerous genetic signatures associated with canine cancer subtypes and are using these to develop more sophisticated means of cancer diagnosis and prognosis. For example, we identified that 85% of dogs with a transitional cell carcinoma (TCC) have a specific mutation in their cancer cells. We have developed a highly sensitive test to detect these mutant bearing cells in a non-invasive/free catch urine sample from a dog. We are now using this test for early detection of TCC, and also to confirm diagnosis of TCC in dogs with urinary tract symptoms. In addition we have begun to define genetic lesions that correlate with prognosis. For example, in our work with canine lymphoma we have developed a cytogenetic test that allows us to predict

(Continued on page 12)

how long dogs diagnosed with lymphoma will respond to doxorubicin based chemotherapy.

We have demonstrated that the genetic changes we continue to observe in several canine cancers are shared with the corresponding cancers in humans. These data provide strong evidence for a shared pathogenetic origin of several cancers affecting both human and dog. Analysis of our data has revealed we are well on the way towards development of more sophisticated molecular sub-classification

of canine (and maybe even human) cancers, a process that should facilitate the emergence of improved and tailored therapies. Comparing the changes present in human and canine cancers is allowing us to refine key signatures to a subset that are shared, thus reducing the size of regions of interest. By considering the canine and human genomes in such a comparative context, we have identified that the genomic complexity of cancers may be less than human studies alone have suggested. An overview of these studies will be presented.

Overall these studies are advancing rapidly and indicate that the keys to unlocking some of nature's most intriguing puzzles about cancers may be found in the genome of the dog. Finding such keys in the dog will also lead to improved understanding of human cancers. For 15,000 years the dog has been man's best friend, in the 21st Century it is becoming increasingly evident that the dog is also man's best biomedical friend.

Working together to improve our breeds

Reducing the stigma of genetic disease involves raising the level of conversation from gossip to constructive communication. Dealing with genetic disorders is a community effort. Each breeder and owner will have a different level of risk or involvement for a disorder. We do not get to choose the problems we have to deal with. Breeders should be supportive of others who are making a conscientious effort to continue breeding their dogs while decreasing the risk of passing on defective genes.

Breeders ought to follow up on the puppies they have placed. They should periodically contact their buyers and ask about the health of the dogs. Some breeders fear they will be castigated if a dog they placed develops a problem. However, the vast majority of owners of affected dogs are pleased that their breeder is interested in their dog, and in improving the health of the breed so that other affected dogs are not produced.

A breeder cannot predict or prevent every health problem. If an owner's dog is discovered to have a problem, show your concern.

Breeders and breed clubs should be cooperative and supportive of researchers studying genetic disorders in their breed. Through research funded by breed clubs and by the AKC Canine Health Foundation (CHF), new genetic tests for carriers of defective genes are continually being developed.

The Canine Health Information Center (www.caninehealthinfo.org) was established by the CHF and the Orthopedic Foundation for Animals. CHIC is an online registry that works with the breed parent clubs to establish a panel of testable genetic disorders that should be screened for in each breed. The beauty of the CHIC concept is that dogs achieve CHIC certification by completing the health-checks. Passing each health test is not a requirement for certification.

CHIC is about being health conscious, not about being faultless.

My hope for each breed is that there will eventually be so many testable defective genes that it will not be possible for any dog to be considered "perfect." Then we can put emotions aside and all work together on improving our breeds.

Breeders must lead the way to remove the stigma of genetic disorders. The applications for both the OFA and CHIC health registries include options that allow for open disclosure of all health-test results or semi-open disclosure listing only normal results. It is up to breeders to show that we are ready to move genetic disorders out of the shadows and check off the boxes for full disclosure.

More national clubs are having health seminars and screening clinics at their specialties. It was thought these events would scare away potential owners. We now know that without addressing the problems, in the long run, the breed may not be there for the owners.

Owners, Experts Share Experiences, Discuss Possibility that K (Laser) is Okay for Treatment of IPF in Westies

By Teresa Barnes



Tyler



University of Minnesota Veterinary Medical Center Rehabilitation Manager, Kim Colvard, with Tyler



Dr. Lindsay Merkel with Tyler

When PJ Kessler’s West Highland White Terrier, Tyler, developed a cough and breathing issues following surgery for a torn anterior cruciate ligament (ACL), she feared the worst for her pet.

Tyler’s veterinarian, Lindsay Merkel, DVM, Assistant Clinical Professor, Small Animal Internal Medicine at the University of Minnesota Veterinary Medical Center, wasn’t sure, at first, the cause of his symptoms. Upon further examination, Merkel heard crackles (or a sound like paper crumpling) in the dog’s chest. A CT scan confirmed her concerns and helped her make the diagnosis of Idiopathic Pulmonary Fibrosis (IPF), also known in the Westie community as “Westie Lung Disease” (WLD).

Kessler was familiar with the disease and knew what it meant for her dog – the lung disease was deadly and most dogs were lucky to survive just a few months. She also knew that much research was being done in IPF, much of it through visibility of the work driven by the Westie Foundation of America (WFA). She quickly learned there were two relatively new drugs that had been approved by the U.S. Food and Drug Administration for humans with the same disease, but they were unavailable for canines.

Unwilling to accept the fate of almost imminent death for her dog, Kessler sought options. She began with her own veterinarian, Dr. Merkel, and her friend, Sandy Gilmer. Gilmer’s dog, Kalie, suffered from IPF and was treated with a class III laser. She survived for five

years with treatment. Kessler quickly learned about a therapy that had been used in other diseases and conditions that researchers, including Merkel, were interested in testing in Westies.

A class IV laser therapy using a device called K-Laser may offer some relief for Tyler and other canines. Certified veterinary technician, MacKenzie Quast, works with Merkel at University of Minnesota, and has performed the therapy on Tyler. She says lasers have been used successfully in the treatment of post operative arthritis as well as osteoarthritis and post operative knee and back surgeries. She said the laser treatment reduces inflammation and pain in the area of treatment. “It is an accepted treatment tool in our arsenal for various conditions”.

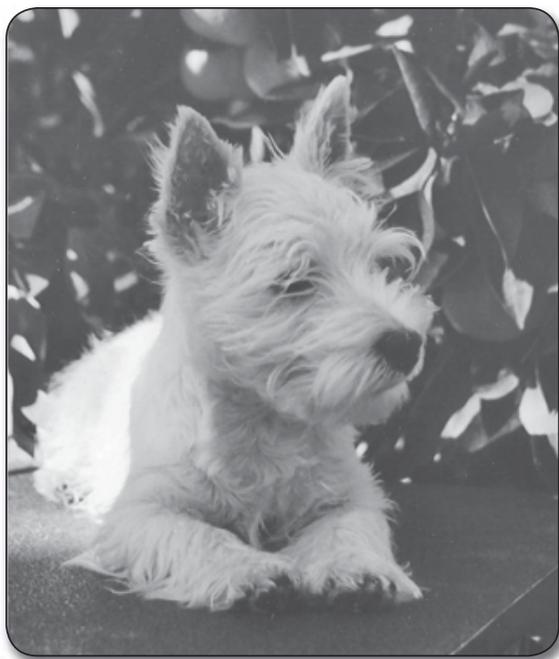
(Continued on page 14)

Laser therapy has been used for about 20 years in veterinary medicine, however, the class IV laser devices, such as the K-Laser, were cleared by the FDA in 2005.

There is much to be done to prove, scientifically, if the laser is an effective treatment for IPF in dogs, as there are no clinical research studies completed that demonstrate the efficacy of the treatment for the disease in canines.

“At this time, we don’t have enough data to confirm that we are seeing longer remissions or duration of disease control with the addition of laser therapy. Subjectively, the patients that have received it are more comfortable, are using less medication, and seem to have improved duration of control of disease compared to historical information,” said Merkel.

There are other experts besides Merkel who have seen the same improved outcomes in other Westies. In an article



written for the Westie Foundation of America (WFA) in 2009, Michael Ina, DVM, of Arguello Pet Hospital in San Francisco, described laser treatment performed on Gilmer’s Westie with similar results as the ones Merkel continues to use on Tyler.

He wrote: “On February 17, 2009, we took radiographs to compare the lungs after the laser therapy... Although the lungs are not completely inflated, they do appear somewhat more lucent on today’s study. The bronchovascular markings remain indistinct but are improved in appearance. No evidence of free pleural fluid. Conclusion: There appears to be an improvement in the appearance of the lungs compared to the previous study.”

The next step is to validate the results in Merkel’s case study of a single dog, and to set up a clinical study at the University of Minnesota.

“We are working on getting a standardized exercise tolerance measurement or test to assess before and after laser therapy response to be able to accurately prove our results are valid improvements. We currently have not seen an improvement in the results of the CT scan or blood gas data, but we have fewer cases where we have that data. We are very hopeful we will prove there is a true vs. perceived improvement,” said Merkel.

Anecdotally, Quast believes it is helping though the subsequent CT scan of Tyler’s lungs after therapy shows the IPF is still progressing. “Symptomatically,

the dog is doing better,” she said. According to Quast, before treatment, the dog had a markedly worse cough, was panting more and struggled to walk around. Now, she says, the dog can walk longer and further and is panting less. “Symptoms and quality of life seem to be improving.”

Merkel says the most common change with the use of the laser for IPF is a decrease in the severity of the cough experienced by the patient with an increase in exercise and activity tolerance, overall improved breathing ease and comfort. “We can also see a decrease in the number and amounts of medications needed to keep the patient comfortable,” she said.

The therapy is non-invasive and the K-Laser device produces an infrared light that is emitted from a wand that the technician moves over the treatment area. For the treatment of this canine, Quast treats the dogs left side and then right side of the thoracic area or the area on the underside of the dog’s chest. The laser therapy is performed without sedation and the dog may get up and move normally following completion which usually takes 25 minutes.

Merkel and her technician follow a protocol produced and recommended by the product manufacturer which includes what she calls a “3,2,1 system”: three times a week for the first week, twice the second week and once the final week. Thereafter, she says, it is used on an as-needed basis. Most patients receive one to two treatments per week and taper when they start to see symptom subside. Treatments are continued through the patient’s life and the veterinarian works to develop a frequency of treatments

(Continued on page 15)

that work best for each patient. The recommended maintenance protocol is once every three to four weeks as needed for the life of the dog.

Results vary, she says, but Dr. Merkel is seeing positive changes. “Every patient is different in how long it takes for results to be seen by the owner and veterinarian. Some improvements can be seen within a day to as long as three weeks or longer. It is dependent on the extent and severity of disease,” she said. “Laser is not a cure for WLD, but shows promise as a means to help make the pet more comfortable.”

At \$27 per laser treatment and no other real options, owners like Kessler have been willing to try and continue the treatments.

“K-Laser has no curative effect,” said David Bradley, DVM, an executive who works for K-Laser USA. “The main benefit is decreasing symptoms and the amount of drugs needed for symptoms. It seems to slow progression.”

WFA board member and Houston-based veterinarian, Kay McGuire, DVM, is optimistic about the laser’s use in IPF in Westies. “I use the laser for all kinds of treatment. I definitely think it’s beneficial and it makes sense,” she said. “No one really actually knows what it is doing, but they can see the end result.”

Elizabeth Rozanski, DVM, at Tufts University isn’t so sure. She has extensive experience in IPF in canines hasn’t yet used the laser technology for dogs with the disease, but is familiar with Merkel’s work using the laser. Rozanski is anticipating future clinical studies using it. “I think it is a placebo effect but I don’t know for sure,” she said.

Laser therapy is not currently used for IPF in humans and some human pulmonary researchers are seeing laser treatments for lung disease in humans limited to diseases of the airways and bronchi, such as COPD and asthma. IPF is a disease of the lung tissue that becomes damaged and scarred.

However, in 2015, there was a bleomycin-induced mouse study published in the European Respiratory Journal that suggests low level laser therapy (LLL) could hold promise for humans. In their published papers, lead author Nicole Cristine Rigonato-Oliveira of Laboratory of Pulmonary and Exercise Immunology, Nove de Julho University, Sao Paulo, SP Brazil concluded, “The results indicate that LLL reduced pulmonary inflammation, by reduction cell numbers in the BAL ($p<0.05$) and levels of cytokines IL1 β , IL6, IL10, IFN γ and TNF α ($p<0.05$). There was a reduction of inflammatory mediators in the supernatant of cell cultures ($p<0.05$), collagen deposition in the airways ($p<0.001$) and caspase 3 ($p<0.05$). In contrast, the levels of PCNA [proliferating cell nuclear antigen] were elevated ($p<0.001$). We conclude that LLL reduced the impact of IPF mediated through modulation of the inhibition of pro-inflammatory cytokines and increase expression of PCNA.”

“It’s just so unbelievable how much the laser therapy is helping our Westies with this disease,” said Kessler. “The best thing is there are not any terrible side effects.”



Kessler and other Westie owners whose dogs have been diagnosed with IPF/WLD created a Facebook page on which to share and compare information and experiences. More than 600 Westie and other terrier owners and enthusiasts participate in the closed group. Merkel and Bradley are advisors to the group and help to answer technical and medical questions the group has on the subject.

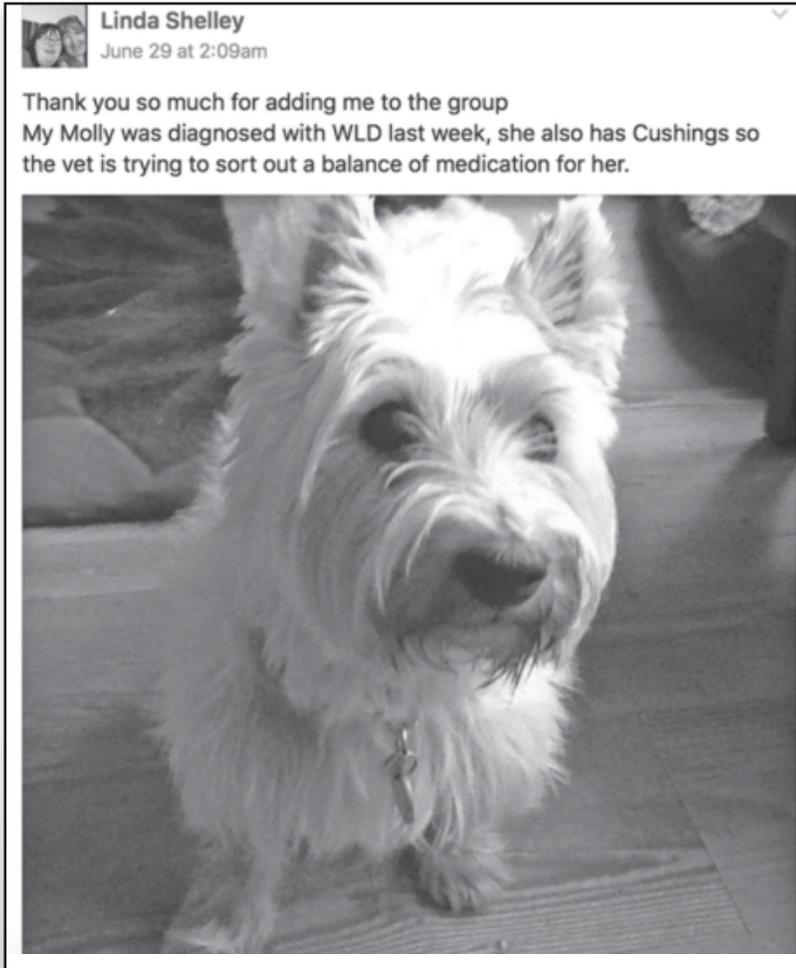
According to Merkel, most members of the WLD Facebook group are seeing good results including a significant decrease in their dogs’ symptoms. “The patients that are the most likely to have positive results are ones where the disease has been recognized early and where treatment with the laser has started early,” she said.

You may find the WLD closed Facebook page at the group’s webpage at westielungdisease.net. The Facebook page’s administrators, in addition to Kessler, are: Sandy Gilmer, Janet Kurnick and Renaye Delano.

Note: For information provided by the manufacturer of K-Laser, see the story that appeared in the Summer 2015 issue of the WFA newsletter (pages 18-19).

Facing Westie Lung Disease/IPF with Facebook and Friends

By Teresa Barnes



(photos and posting approved by Linda Shelley)

Dealing with a sick dog isn't easy and when the diagnosis is Idiopathic Pulmonary Fibrosis (IPF)/Westie Lung Disease (WLD), owners are often at a loss for who to turn to and what to do for their pet. Thanks to a Facebook page dedicated to helping Westie owners navigate options, helpful suggestions from an empathetic and compassionate group of Westie lovers are just a click away.

Linda Shelley joined the group soon after her Westie, Molly, was diagnosed with IPF in late June. She posted: "Thank you so much for adding me to the group. My Molly was diagnosed with WLD last week, she also has Cushings so the vet is trying to sort out a balance of medication for her."

Shelley says she recommends the group to others who are seeking information and need support after their dog's diagnosis. "To know there is always someone to ask advice from and offer support means a lot," she said.

In a recent post, Christine Leftakes asked questions about her Westie's symptoms to get input from others regarding their experiences with advancing lung disease. "Sophie has had a terrible past few days and I'm not sure if it's a pattern of a larger problem like her bronchitis/pneumonia or if the WLD is getting progressively worse," she wrote.

Some join the group for comradery in dealing with their dogs' health issues while others join to seek answers to their questions during extremely difficult times. They compare notes on symptoms and issues related to their dogs, sharing videos, photos and supportive words for each another. Others find counsel while they grieve as they comment on their loss of a Westie family member.

(Continued on page 17)

 **Christine Leftakes**
June 28 at 8:02am

The last few days have been a bit nerve wrecking. Just when I think things are going ok - poof- not ok. Sophie has had a terrible past few days, and I'm not sure if it's a pattern of a larger problem like her bronchitis / pneumonia or if the WLD is getting progressively worse. She is going for her laser treatment today and my husband is going to ask the vet to check her out for anything else. She has been coughing much more, wheezing and she becomes breathless a lot easier. The weather has been hotter and more humid lately, and it's been quite difficult on my girl. Hoping for the best...



(Photo and posting approved by Christine Leftakes)

Group administrator and page creator PJ Kessler recently wrote on the group's page: "I know so many of you are in the same boat and miss your babies. The grief comes in waves and when you love them so much, it hurts for a very long time. Friends...please post when you need some love and support. We all care."

Kessler created the group in January 2015 after her Westie, Tyler, was diagnosed with IPF and had undergone laser therapy. "She put the group together to provide a forum to share information easily with others," she said.

The closed group, "Westie Lung Disease--IPF in USA (Treatments, Symptoms, Studies, Etc.*)" now has more than 600 members. The page provides a few documents as resources to help new members gather information quickly. They include a welcome letter that provides an overview of the disease and the current state of affairs related to treatments, a fact sheet on the lung condition, and a protocol for laser therapy provided by a veterinarian who is a representative of the manufacturer of K-Laser.

Two veterinarians who serve as advisors to the group and regularly respond directly to members' questions are Lindsay Merkel, DVM, of the University of Minnesota Veterinary Medical Center and David Bradley, DVM, who is also employed by K-Laser, the manufacturer of a laser that is being more commonly used for Westies with IPF.

The Facebook group's administrators have each had one or more Westies diagnosed with IPF. In addition to Kessler, other admins, Renaye Delano, Sandy Gilmer, Janet Kurnick and Dena Zimmer regularly respond to participants and do posts of their own to engage their members. Kessler encourages members to communicate with the admins. "They are here to assist you and answer questions regarding diagnosis, treatment and caring for your IPF Westie. Please don't hesitate to contact them".

You may find the WLD closed Facebook page at: westielungdisease.net.



Legacy Alliance
Earn your wings.

Ways to Help Build a Better Life for Westies Today and Forever

LIFE INSURANCE
BEQUEST THROUGH YOUR WILL
LIVING TRUST
RETIREMENT PLAN
GIFT IN TRUST
RETENTION OF LIFE INTEREST
GIFT ARTS, ANTIQUES, AND
COLLECTIBLES



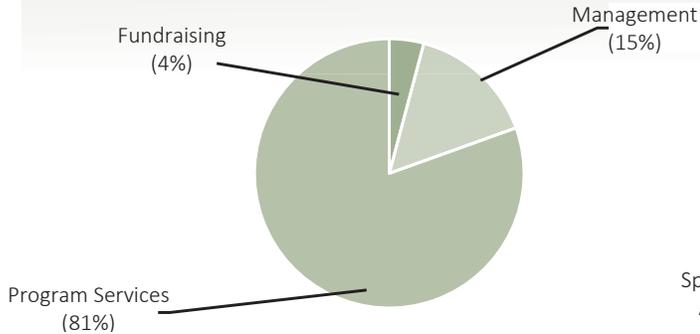
WFA's Wills, Gifts and Bequests package can help you make arrangements to ensure our Westie breed's health will be cared for into perpetuity.

www.westiefoundation.org/legacy-alliance.html

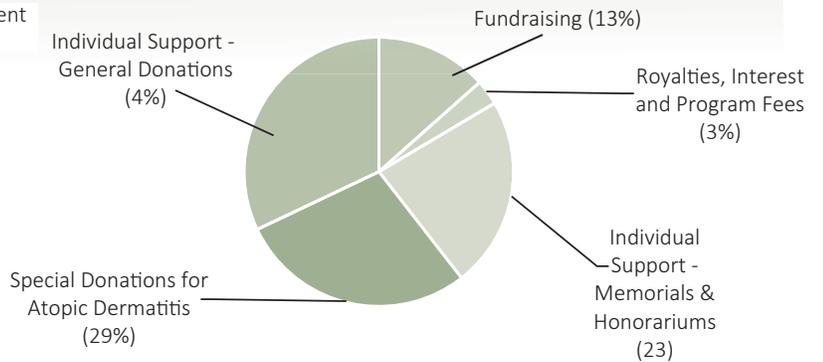
Financial Report – Fiscal Year 2015

Gary C. Sackett, Treasurer

Expenses = \$41,648



Revenue = \$77,259



REVENUE

Individual Support Revenue from individuals supporting the Westie Foundation of America, Inc's (WFA) mission in FY15 totaled \$42,543 (55%) with an additional \$2,353 in royalties from Affiliate programs/ Interest (3%) and \$10,383 from fundraising efforts including the Facebook auctions (13%). WFA received a special gift of \$21,980 from the West Highland White Terrier Club of New Zealand to support research in Atopic Dermatitis (29%).

ASSETS

Endowment Funds All memorials and honorariums are added to the Donor Restricted Endowment Fund which now totals \$240,220. Through the legacies of Nancy Schoch and Daphne Gentry, we have significant funds dedicated to Pulmonary Fibrosis research and a veterinary scholarship. Our Donor Restricted Endowment Fund totals 52% of our assets. The income from these funds may be used to fund projects, but the principal is restricted by the Board of Directors and invested carefully to maintain principal while bringing a reasonable return. In October, the Board decided to pursue a different approach to investing these funds and has decided to focus on four investment grade funds from Vanguard. This change was implemented in early 2016.

Unrestricted Funds The WFA has a cash balance of \$219,541 to fund management operations, fundraising and program services.

The inventory was valued at \$1,968 at year end.

LIABILITIES

Future Projects WFA retains liabilities of \$57,350 to fund planned future projects including deferred revenue (\$15,000) and future publishing (\$42,350).

EXPENSES

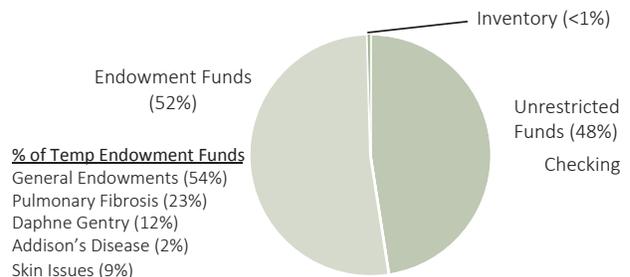
Program Services In 2015, WFA continued support of research and education related to diseases affecting the West Highland White Terrier and held health seminars at the Roving and National Specialties weekend.

Research Funds spent on research were almost all matched by funds from the AKC Canine Health Foundation and Morris Animal Foundation, compounding the benefits our Westies will receive. Grants funded addressed Evaluating the Contribution of Fungal Infection to the Pathogenesis of Atopic Dermatitis (\$8,000), The Genetics of KCS in Westies (\$5,000), Transitional Cell Carcinoma (\$5,000), and Establishing the Best Practices in the Treatment of Atopic Dermatitis to Prevent Antimicrobial Resistance (\$2,000). In addition, the WFA funded \$4,900 to the University of Georgia to update the Westie e-book.

Education Education expenses included our website (\$786), the outstanding **Westie Wellness** (\$5,076), and our sponsored seminars (\$2,757).

Management and Fundraising These expenses were kept to a minimum by careful allocation of resources and the fact that all officers, directors, and committee

Assets = \$461,730



Westie Cartoon Caption Contest

Create the winning caption for this Westie cartoon. The winner will receive a WFA magnet. Please send your caption to bjpinter@msn.com before October 1, 2016. The winner will be announced in the next newsletter with his/her caption.

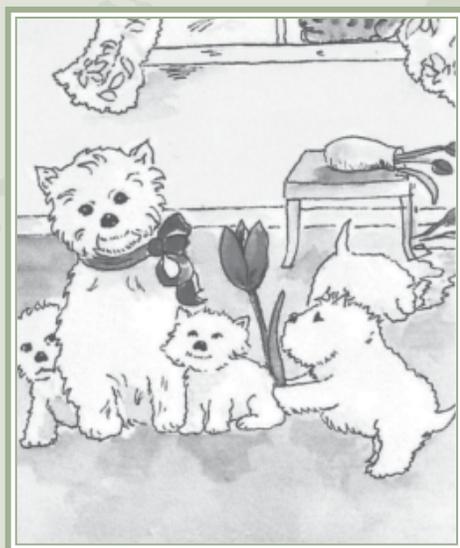


Create a Caption for this Cartoon

Copy of original watercolour by Ruth Sutcliffe, England

Winning Caption of Last Cartoon!

Verna Allbee



“Mom, will you be ours!”



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