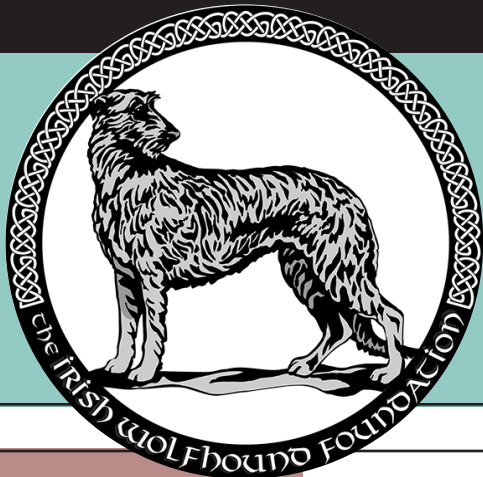


# THE Irish Wolfhound Foundation



# Focus

Winter 2023

## The Irish Wolfhound Foundation, Inc.

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The Irish Wolfhound Foundation is a 501(c)(3) charitable organization. Your donation is tax deductible to the full amount allowed by law.

## Focus

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## Research supported by the IWF 2022

All much appreciated donations support research to benefit Irish Wolfhounds. The IWF relies on volunteers and has essentially no overhead.

### Expenses

Expenses for cardiac clinics include payment and travel expense for the cardiologists. The IWF now helps support clinics at regional specialties including Potomac Valley, IWANE, Delaware Valley, and Nor Cal in addition to the National Specialty. Data from these clinics has helped clarify the heart disease in the IW.

An independent data input and data base operator is an ongoing expense.

Monies also must be spent for equipment.

The IWF recently purchased a holter monitor and will be adding a second one. In many parts of the country the wait time for a cardiologist appointment and holter monitor can be several months.

Hounds in the VPC study needing holter follow up for the study or for clinical reasons can contact the IWF. The holter will be mailed and can be placed by the owner or local veterinarian. The results are available within a few days and are reviewed by Dr Tyrrell and forward-

ed to the referring cardiologist. This also saves the IWF considerable dollars as the cost of cardiology services continues to increase.

The IWF also purchased another EKG machine for increased availability to regional clubs and IW gatherings.

All remaining donations go directly to funding research, education or rescue projects.

### Osteosarcoma Genetics

All data continues to show osteosarcoma is the number one killer of Irish Wolfhounds.

"Genetic Basis of Early Onset Osteosarcoma in the Irish Wolfhound" has initiated sequencing of samples. COVID and organizational difficulties have slowed this study but a progress report will be available in a few months and on the IWF website.

This is the only genetic osteosarcoma research study to pinpoint a specific subset of our hounds. The recently completed Irish Wolfhound state of the art genome and new sequencing techniques will be used.

Although there are enough samples to begin sequencing any potential genes must be validated so more samples from control and affected

hounds are still needed. Please participate if you have a hound 5 years or younger with osteosarcoma or a hound free of osteosarcoma 10 years or older. Further information is on IWF website under "studies".

### Blood Test for

### Preclinical Osteosarcoma

There has recently been a plethora of blood and urine tests to use as screening for cancer diagnosis in dogs. Most of these involve cell free DNA or circulating tumor cells or measure specific tumor mutations. These will not be effective to find osteosarcoma before the tumor is present.

The IWF supports COED ( Canine Osteosarcoma Early Detection). This study, under the guidance of Dr Jaime Modiano from the University of Minnesota, utilizes exosome-membrane bound vesicles that are released into the blood and contain information about the cells that released them (such as the scaffolding for the tumor or abnormal bone cells that are present as osteosarcoma quietly begins).

The first step of the study is to validate this blood test. The IWF has joined a consortium of 7 breed clubs to fund and recruit for this study.

(Continued on page 2)

## NO HOLTER NEEDED for Irish Wolfhound OFA Advanced Cardiac Clearance

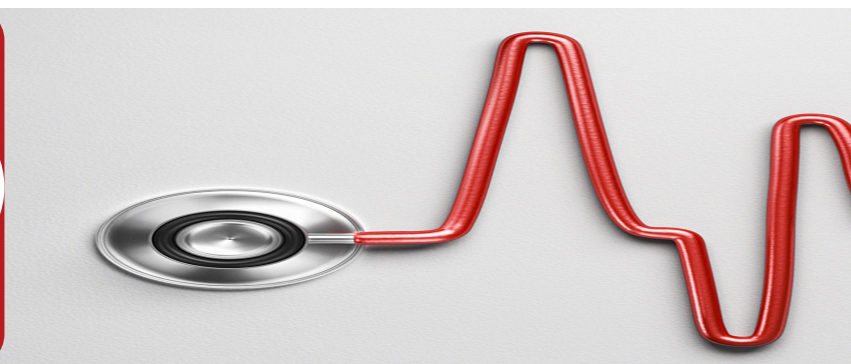
IW owners taking hounds to cardiologists for OFA Advanced Cardiac Clearance have been told an Echo and Holter are required for this clearance.

There was a recent proposal that ALL dogs seeking this clearance should have a holter.

Drs. Tyrrell and Rosenthal presented data from IW studies showing a holter on asymptomatic IWs with no EKG arrhythmia would provide no health benefits.

The ACVIM voted that holters continue to be required on Dobermans and Boxers. Not IWs

If the cardiologist chosen to certify your hound says a holter is needed please ask him/her to check further. A letter clarifying this requirement will be sent to all member cardiologists for reference.



# Update on IW Health from LCSII 2021-2022 Data

Ongoing research to improve the health of all Irish Wolfhounds depends on a robust data collection documenting health problems within the breed. The IWF has sponsored such a data collection since 2016. The LifeCycle Study is convenient and can be entered or updated online. The data provides a tally of age and cause of death of entered hounds as well as documenting trends in health problems affecting our hounds.

A single blood sample is requested for the DNA bank and can be sent at any time.

Research and published studies have documented atrial fibrillation is inherited in the IW and expressed in the aging hound with mean age of onset 5.4 years. A yearly screening EKG is requested to follow the incidence of heart disease in our hounds and for the benefit of each IW. Heart disease responds to affordable and well tolerated medications. If the blood draw and yearly EKG cannot be done the information is still needed.

### Consider Participating

All information in the following report has limited accuracy because of small sample numbers. The number of hounds participating had

been steadily increasing but in 2022, for the first time since establishing this data base, participating owners decreased in number. To validate data 1000 living participating hounds is the goal. Last year this number declined to 324 owners responding or entering their hounds. Hounds of any age are needed to participate. Any IW is welcome and needed.

Please help us reach a greater population to improve the health of our hounds. Just go to the IWF website and click on studies. Scroll down to the LifeCycle II study and information is provided and the easy entry form can be filled out.

### Health Concerns 2022

Remember the following numbers are not cause of death but hounds living with this health problem during the past year.

In 2022 182 of 324 responding reported no health problems the previous year. The incidence of robust good health remains prevalent.

Although osteosarcoma is the number one killer of Irish Wolfhounds, the most common problem owners and hounds are living with is rear end weakness. Nearly 10% have difficulty getting up. Males are afflicted more than fe-

males. Cause is multifactorial in IWs and more information provided on the IWF and IWCA websites.

The second health problem hounds and owners are living with is heart disease. This has been number 1 or 2 since this data collection started. The number reflects the good response to treatment which has improved over the years and verifies the incidence of cardiomyopathy remains high in the breed.

The incidence of reported allergies in our hounds began to increase in 2019 and is now the third most common problem hounds and owners live with. Although in 2022 allergies were reported in about the same numbers of dogs and bitches combined data from 2017 onward show more males (62)with allergies compared to bitches(32) with 1082 bitches and 848 males in the data set.

Pneumonia continues to be the number 3 or 4 concern and in 2022 was fourth in reported health problems. Although treatment and survival have improved,the reasons behind the persistently high incidence of pneumonia in the hounds is not clear. Incidence seems to be about the same in bitches and dog.

## Research (Continued from page 1)

The eventual hope is treatment to stop the cancer from being expressed in hounds with a positive test. Decades of work have gone into the Shine On Study utilizing this principle for hemangiosarcoma. There is a (for research only) blood test that is shown to predict hemangiosarcoma and treatment that returns this blood test to negative. It is projected that the expressed incidence of hemangiosarcoma will be markedly decreased.

The COED study is peer reviewed but not funded by the AKC Canine Health Foundation and the process to start up was slow. The IWF funded a pilot study with 25 participating IWs to begin this project. There was good owner support and all 25 slots filled. The initial phase of the study is projected to complete in 3 years and IWs are leading the way.

50 IWs will be eligible to participate in the main study. All funding and needed reviews were completed and recruitment started last summer. 30 IWs have completed preliminary screening and are accepted for participation in the study.

There are specific requirements for the blood collection and a lim-

ited number of samples can be processed at a time. Arrangements for sample collection is randomized among participating breeds. Please consider joining this study but understand patience is needed as collection arranged.

This study must be blinded. The owner or vet will not be notified if the test is positive.

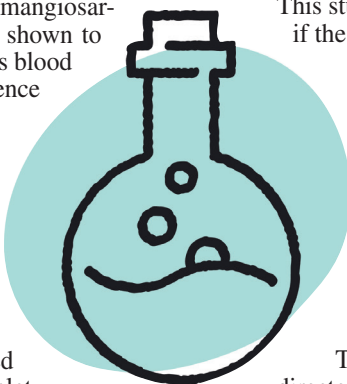
This study is for all wolfhounds of the future but will not be able to help your participating hound. Each owner will be asked to supply simple health follow up for three years to see if indeed this blood test can predict osteosarcoma before any clinical expression.

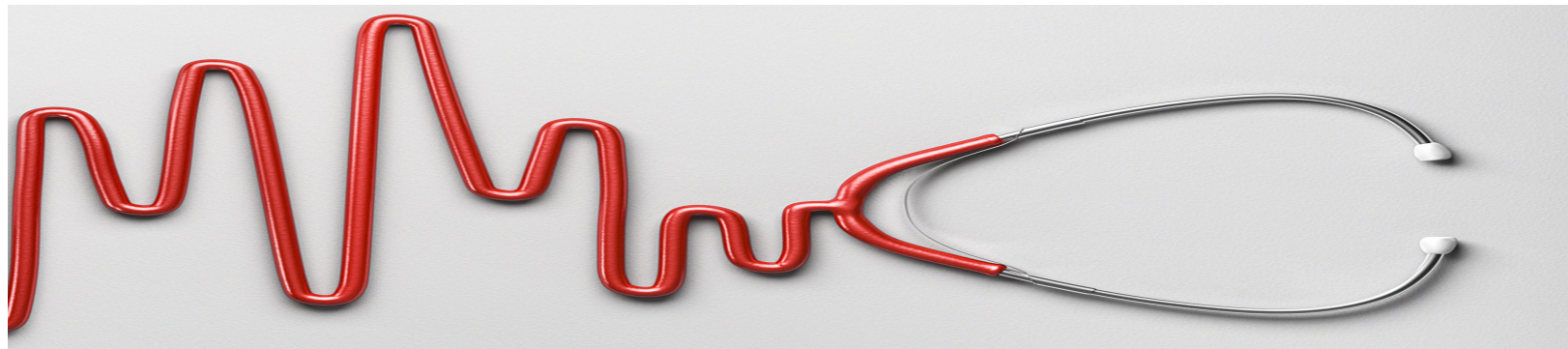
The next step will be treatment of a hound with a positive test to see if the test becomes negative and the incidence of osteosarcoma is decreased. No longer the number one killer of Irish Wolfhounds.

### A possible new and effective treatment for osteosarcoma.

There have been recent reports that histotripsy or intense directed ultra sound may be an effective treatment for osteosarcoma. The IWF via funding from our AKC directed donor fund is supporting two studies to better examine this new technique.

Histotripsy has been used to treat human cancers although not osteo-





# Why Heart Testing Should Be Done on an Annual Basis



“He already has a CHIC number.” “You tested her last year and she was fine.” “He may have VPCs or AF but the cardiologist said his echo was just fine.” We hear things like this all the time while testing hearts for the Foundation. They are true statements up until the words “so he/she doesn’t need to be tested again.”

First IW type cardiomyopathy is an adult onset disease (usually between 4-6 years of age) so testing is required on an annual basis and should be done as part of a pre-breeding exam. It isn’t a bad idea to test more frequently on older dogs. Fortunately IW type cardiomyopathy is usually different from the occult dilated cardiomyopathy (DCM) found in some other breeds. In the initial stages IW type cardiomyopathy is usually detectable with a simple, inexpensive test, an electrocardiogram (EKG). Your veterinarian can do this test and it can be transmitted to a cardiologist if necessary for evaluation. For your hound’s health it should have this simple test every year. A dog with no symptoms and a normal EKG does not need an echocardiogram (echo).

The primary purpose of IWF heart testing is research. The IWF supports a number of research programs but the primary reason for the heart testing we sponsor is to gather statistics for the Life Cycle Study (LCSII) and identify dogs for additional studies. For this research to be meaningful it is important to have a good number of dogs from different backgrounds and ages not just the healthy 2-3 year olds. It is also important to get longitudinal data, annual information for the life of the dog. This way we know, not only what diseases affect our dogs’ length and quality

of life, but also the influence of age.

Finally, it is often the case that we can detect heart disease before it gets serious and plan treatment accordingly, giving your dog a longer, better life.

The first years of heart testing were concentrated on doing EKGs and it was not unusual to do 75 dogs in a day. We started introducing limited echoes in 2006 in conjunction with the National Specialty. That testing was expanded in 2012 for the Echo/EKG Study, a study intended to get simultaneous data on both tests to determine if the electrocardiogram (EKG) would be as effective as an echocardiogram (Echo) for early detection of heart disease in our breed. The Echo/EKG study confirmed that EKGs were adequate and necessary for early detection of heart disease at a rate of 97% for over 600 wolfhounds. Auscultation by a cardiologist was adequate for detecting some of the other diseases. An echo was only required for dogs that had questionable or affected results on EKG and auscultation. Doing an echo takes approximately 3-4 times as long as an EKG and auscultation.

This finding had many advantages. An EKG can be done by most vets and some technicians and it can be transmitted via email or telephone to a cardiologist greatly decreasing cost and stress for the owner. For research purposes it means we can get data on three to four times as many dogs in a day.

sarcoma. Bone cancers are composed of many different density components and it was unclear if this technique would be effective.

Early studies indicated destruction of the osteosarcoma and preservation of surrounding tissue. A pilot study treated a small number of dogs with osteosarcoma with histiotripsy. These dogs had all been scheduled previously for amputation. After amputation examination of the limb verified the osteosarcoma had been eradicated and surrounding tissue spared.

Supported studies include investigation as to the optimum size of the tumor to be treated/ dose of US that is needed and long term safety concerns. The second supported study investigates if destroying the tumor with histiotripsy will stimulate the immune system and decrease future metastatic disease.

All of us have watched with dread the relentless growth of osteosarcoma in a beloved hound. The local tumor burden and the resultant pain and fracture risk are usual reasons for euthanasia. A treatment to reduce local pain and fracture risk would be miraculous for our hounds.

Although many treatments have been touted and then not worked this could be a great step forward.

Thus the IWF is supporting the attack on osteosarcoma from 3 different directions. Your continued support is appreciated by all hounds and owners.

## IW Cardiomyopathy

Information from participating owners and hounds have helped clarify the heart disease of the Irish Wolfhound. IW cardiomyopathy is inherited. At this time there is not a genetic test for cardiomyopathy in the IW. Typical presentation is with atrial fibrillation at a mean age of 5 years. This can be asymptomatic and found on yearly screening EKGs.

Cardiomyopathy responds to medications that are well tolerated and affordable.

Still worldwide heart disease continues to be a too common cause of death for IWs.

### Polymorphism in the ACE Gene affects 95% of Irish Wolfhounds

Recent publications investigating a polymorphism on the ACE gene (involved in cardiomyopathy) noted the IW had a 95% incidence of this abnormality. This was a small study with only 20 IWs and the first step was to document this in a broader population of hounds. This is underway at UC Davis where DNA from more than 100 hounds participating in IWF sponsored atrial fibrillation studies was available. The next step is to see if there are functional repercussions of this polymorphism.

Previous studies show dogs with this polymorphism do not respond as well to a class of drugs called ace inhibitors which are commonly used to treat heart failure.

(Continued on page 5)

# Macho Macho Man

*Submitted by Maryellen Dentino*

A well constructed male Irish Wolfhound with hard muscle and quiet confidence is a creature of glory-unrivaled for his masculine presence. Is he really the macho macho man this image projects?

Once upon a time a wolfhound lover and veterinarian researcher working with a reproductive veterinarian hospital in Finland heard tales that IW males had softer, smaller testicles and less sex drive than other male dogs. Small or soft testicles are often associated with abnormal sperm. He felt this needed investigation. 37 male IWs (aged 2-5 years) and 67 control dogs (1-10years/28 different breeds/8-78kg in weight) had their testicles palpated and measured, their libido and sperm examined and testosterone levels recorded.

### Inglorious Results

25.7% of the male IWs and only 10.5% of controls had soft testicles. Both IWs and controls with soft testicles had significantly lower total sperm counts and these sperm were less likely to be motile and morphologically normal.

Overall Irish Wolfhounds were 3 times more likely to have poor semen quality than controls. When overall sperm count is expressed as sperm/kg of body weight, IWs had significantly less sperm.

In these 37 IWs testicular size did not correlate with body weight, age or sperm count although testicular size did correlate with weight in controls. In the IW, a bigger hound did not necessarily have bigger testicles and bigger testicles did not necessarily produce more sperm.

### Not Tonight

Libido was measured on a scale of 1-4 utilizing a bitch in season for a 2 minute exposure.

1- dog showed no interest (0 IWs and 2 controls)

2- sniffing and licking but no mounting attempts (14 IWs and 16 controls)

3- mounting behavior within the 2 minutes (20 IWs and 24 controls)

4- immediate mounting (3 IWs and 25controls)

IWs showed less immediate mounting activity compared to control dogs and this was statistically significant. IWs were then deemed less sexually active than controls. Perhaps they just had better manners.

### Manly Hormones No Help

Testosterone was measured after semen collection and after HCG stimulation to avoid cyclic variation. Testosterone levels in IWs DID NOT CORRELATE with libido, age, size of testicles, consistency of testicles, or semen quality.

### Two Years Passed

25 of the 37 IW males were available for follow up 2 years after the original study was completed. The purpose of the follow up study was to see if the sperm decrease and testicular changes were progressive and also to investigate if differences in semen quality and libido could be the result of inbreeding.

No change in libido after 2 years was noted among IWs or controls. The incidence of soft testicles had not changed and was not associated with older (> 7years) or younger (< 7years) IWs. However overall IW semen quality had declined and differences between IWs and controls were more striking. Several of the males had had other illness and this may have effected semen quality.

Data from all 37 of the original IW males was included to assess the influence of inbreeding on testicular size, total sperm count

and litter size.

Inbreeding coefficients were calculated from four generation pedigree data using recursive tabular method. No influence of inbreeding on testicular size, total sperm count or litter size was detected.

### It Seems to be True

A well done clinical study documents this cohort of IW males (study population from Finland) was less sexually active, had lower semen quality, less semen, and a higher incidence of soft asymmetrical testicles compared to control dogs. The reproductive problems appeared to be progressive when these dogs were examined 2 years later.

### Yet we flourish

There is a well known and well documented "lack of diversity" in the IW gene pool. There is a history of several significant bottleneck sires. Since no influence of inbreeding on lifespan could be found in previous studies, the influence of inbreeding on fertility and litter size was further examined. All litters registered in Sweden from 1976-2007 were included in this report. A pedigree database back to 1862 was available. There was no significant influence of Wrights inbreeding coefficients in over 30 generations. The conclusion was inbreeding coefficient does not influence fertility in the IW. This may be related to earlier careful genetic "purges". The robust health of today's hound is a tribute to past breeders and heroic efforts to preserve only the best genes for a small gene pool.

It is unknown if there is an inherited component for the noted male reproductive abnormalities or if these problems are becoming more widespread. IW males may or may not commonly have low libidos

## Focus Rescue Report – January 8, 2023

Irish Wolfhound Foundation – Rescue Grant Report  
Rescue Reimbursements from January 1, thru December 31, 2022

The reimbursement costs listed below are shared rescue funds between the IWCA and the IW Foundation.

Date	IW	Amount	State
February 23, 2022	Two Females	\$2,498.18	OH
March 4, 2022	Female	\$366.46	MO & TX
May 26, 2022	Female	\$2,886.49	WA
August 10, 2022	Female	\$1,778.02	WA

I can't stress enough just how much these rescue volunteers "appreciate" this financial help they receive from both the Irish Wolfhound Club of America and the Irish Wolfhound Foundation. Each organization helped by contributing \$3,764.58 for a yearly (2022) total of \$7,529.15. To each club member who donated to the Rescue Fund of these organizations, I thank you from the bottom of my heart. Remember, none of this would be possible without your kind support.

Jean A. Minnier - IWCA & IWF Rescue Chair

# Future Heart Screening Clinics



**Bel Air, MD • April 02, 2023**  
**PVIWC**

Pre-registration deadline: March 26, 2023.

This screening clinic is being held in conjunction with the PVIWC specialty shows at the Harford County Equestrian Center.

**McKinney, TX • April 19-20 2023**  
**IWCA National Specialty**

Wednesday, April 19 (only EKGs available in the morning; all screening tests available in the afternoon) and Thursday, April 20 (all screening tests available). Pre-registration deadline: April 12, 2023.

This screening clinic is being held in conjunction with the IWCA National Specialty Show. We are offering EKGs, and auscultation and echocardiograms performed by Board-certified veterinary cardiologists.

## Research (Continued from page 3)

Drs. Bill Tyrrell, Emily Seuss and Josh Stern are investigating this in the IW. This study is funded and supported by the IWF.

Hounds were identified and recruited by Dr Seuss. After blood tests measuring the RAASI system (proteins affected by cardiovascular changes the hounds were treated with an Ace inhibitor (such as enalapril which is commonly used to treat abnormalities of RAASI to improve heart failure).

Blood tests to demonstrate the effectiveness of the medication were then drawn.

If hounds with the polymorphism do not show effective blocking of this system with the medication and 95% of IWs HAVE this mutation- recommended heart failure treatments will be modified. Results will hopefully be available next year.

Thank you to owners and hounds participating in this study.

### Ventricular premature contractions

The VPC (Ventricular Premature Contraction) study continues to recruit hounds. The usual heart beat starts in the top part of the heart (atria) and the electrical impulse then initiates ventricular (bottom or pumping chambers of the heart-contraction. A ventricular premature contraction occurs when the ventricle fires by itself. These beats alone are asymptomatic and not harmful however if they start coming from several different areas of the ventricle or appear in runs of several beats together they can degenerate into ventricular fibrillation which leads to fainting and sudden death.

The study was originally established to show single source VPCs on a screening EKG in asymptomatic hounds were benign and not a predictor of heart disease in the IW as they are in the Doberman or boxer etc.

However more data showed that nearly 30% of asymptomatic hounds had a significant arrhythmia needing treatment to decrease the risk of fainting or sudden death.

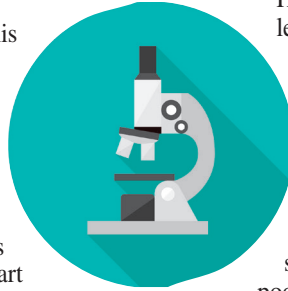
There is NO association with cardiomyopathy and all the IWs with VPCs as the only arrhythmia have had normal echocardiograms.

In hounds with normal EKGs for years, the appearance of VPCs at an older age may predict an inflammatory state- usually cancer that is not clinically evident.

Because of more variation in this arrhythmia than anticipated more hounds are needed to participate for validation. The VPC study will continue to recruit this year.

Any hound with VPCs found on screening EKG is eligible.

Each hound needs entry blood tests to rule out other causes for VPCs and a study entry and yearly echo and holter monitor are required. Holters may be needed to document effectiveness of treatment and these are also covered by the IWF for hounds in the study.



## ABOUT THE IRISH WOLFHOUND FOUNDATION

*The Irish Wolfhound Foundation has three areas of focus:*

### Health

- By initiating, supporting and providing funding for study and research projects which address health problems affecting the Irish Wolfhound.

- By creating educational materials relating to diseases, genetic anomalies, and injuries which occur in the Irish Wolfhound for IW owners and veterinary health care providers.

### Education

- By establishing a library of resource materials.
- By providing educational opportunities for caretakers of the breed and partnering with the IWCA and regional IW organizations for educational events.

### Rescue

- By supporting the rescue efforts of the IWCA, regional IW organizations, and individuals who rehome and care for Irish Wolfhounds in need.

The IWF funds this study and the costs of this testing and cardiology care is covered for participating hounds.

Based on preliminary data EVERY hound with VPCs should have a holter monitor if participating in the study or not.

### Seizures

In 2006 Dr Magi Casal from the University of Pennsylvania published a description of Irish Wolfhound seizures. The cohort of over 1000 hounds showed a high incidence of idiopathic epilepsy -nearing 22%- with an autosomal recessive mode of inheritance. Seizures usually began in young hounds from 6 months to 3 years of age.

Medications help but the IW is a breed that often does not respond well to treatment.

Hounds in the original cohort suspected to be carriers were relentlessly pulled from the breeding pool. The incidence of seizures in the data reported to the LCSII study notes the more common incidence of canine epilepsy- 4-5%.

Seizures are horrible in any dog but problems are magnified in giant breeds. Because it is a recessive the heartbreak is an unwelcome surprise with both parents being seizure free.

A genetic test to identify a possible seizure carrier would be of great help. This would not only decrease the chances of seizures but also prevent hounds being pulled from the breeding pool unnecessarily.

A large contribution by a few genes was suggested by inheritance and genetic data in the earlier study but statistical significance was not achieved.

The IWF recently granted funding to Dr Casal to continue genomic sequencing and genome association studies to locate a possible gene associated with seizures in the IW.

Dr Casal can begin sequencing in January 2023 using samples collected since 2006 from hounds participating in the seizure study. Dr Casal feels that 35 samples of hounds affected with seizures will assure statistical significance. Blood from any hound known to have produced a seizure hound is also needed.

PLEASE participate in this study. It is a one time blood draw. Admit forms for the seizure study and further information can be found on the IWF website under "studies".

## The Irish Wolfhound Foundation, Inc.

### Treasurer's Report

\$488,248.53 Total Cash Assets @01/17/23 - not incl interest nor xfrs from LGL since last bank statements, nor funds held by LGL

#### Category Funds:

\$234,309.26 General Endowment  
\$30,194.72 Rescue Endowment  
\$223,744.55 General Fund

#### Disbursements - 10/18/22-12/22/22

\$204.05 General  
\$17,936.02 Health Research  
\$181.86 Education

-----  
\$18,321.93 Total Disbursements

#### Donations - 10/18/22-12/22/22

\$4,368.58 General - via USPS  
\$1,999.65 via website - unclassified  
\$24,960.00 Health Research  
\$50.00 Rescue

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\$31,378.23 Total Donations

*The Irish Wolfhound Foundation gratefully acknowledges contributions from the following supporters*

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