Irish Wolfhound Heart Disease

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Heart disease in Irish wolfhounds has been the subject of an on-going research programme in the UK since 1986. Data has been obtained from over 2000 wolfhounds and many have been examined on several occasions, giving over 4000 separate examinations. Serious heart disease has been diagnosed in about 15% of dogs. Despite all this data, there are many questions still to be answered.

There are some facts that every wolfhound owner should understand:

Heart disease is very widespread in the wolfhound population, but there is a big difference between **heart disease and heart failure**. Many wolfhounds live for years quite happily with hearts that are technically not quite normal and may eventually die of another disease. **However once the problem becomes severe enough that the dog is unable to cope with it, drug treatment will be required or the dog will die.** The condition has been called **Dilated Cardiomyopathy** (DCM) (heart muscle disease) in the past, but actually not all affected dogs fit all the criteria for classical DCM as is diagnosed in humans, and it appears there is a spectrum of disease presentation. It is believed to be an acquired disease, not congenital (ie not something the dog is born with), although some dogs do demonstrate valve abnormalities which could be present from an early age.

Symptoms of heart failure include rapid weight loss, breathing difficulty, abdominal swelling, collapse and sudden death. However it is important to remember that there are other diseases that may cause similar signs, therefore the condition should be diagnosed by a veterinary surgeon, preferably a veterinary cardiologist.

Every wolfhound that has developed heart failure has had an irregular heart rhythm called **atrial fibrillation. This is the "hallmark" of heart disease in the Irish wolfhound.** Although we hoped to find another cause, the sad fact is that the tendency to develop atrial fibrillation appears to be inherited and it may not develop until the dog has already produced offspring. Although the genetics is not yet clear-cut, it is likely to be associated with an autosomal dominant gene, or group of genes. This means that an affected dog will transmit it to 50% of his or her puppies. If all wolfhounds developed heart disease in old age, it would not be regarded as a problem. Unfortunately it may develop in quite young dogs (sometimes under 2 years old). Affected littermates can develop problems at different ages, and just because a dog did not develop heart disease until old age does not mean that its progeny will be similar. Our data shows that males are more likely to be diagnosed than females, but it does not appear to be truly "sex-linked". Males seem to develop the disease at a younger age and

therefore it is perhaps more likely to be picked up at screening, especially if breeders do not heart test their dogs beyond breeding age. The average age of onset in males is 4.5 years and females 5.5 years. **The average time from diagnosis to heart failure is about 2.5 - 3 years, but females may deteriorate more rapidly, especially if subjected to the stress of pregnancy and lactation. Therefore it is most unwise to breed from an affected female, not only from a genetic perspective, but for the health of the bitch herself.**

There may still be other factors involved of course – other contributing factors could be the effects of nutrition, the immune system and viral infections.

Although no-one has a crystal ball to predict what will happen in the future, yearly heart screening is the only way currently available to detect a problem, and this is advised for all wolfhounds, especially breeding dogs, over the age of 18 months. It is recommended that all dogs are examined by stethoscope, electrocardiography (ECG) and echocardiography (ultrasound). Auscultation alone (stethoscope examination) by an experienced vet will identify heart murmurs and rhythm abnormalities, but **will not reveal any information about heart function,** unless the dog is already in severe heart failure and at death's door. It is to be hoped that in this day and age with available technology that we should be aiming to identify affected dogs before they reach this stage, so that we can offer some treatment and prolong the animal's life. Unfortunately not all practising vets have received training in cardiac ultrasonography (echocardiography), even if they are familiar with the technology for medical or obstetrical examination. Therefore the examination **MUST** be performed by a veterinary cardiologist.

Some hounds will have an **"equivocal"** test result ie they will have a minor abnormality on the day, **which may or may not progress**. This simply means that the animal should be retested. Many people are unhappy about the use of the term "equivocal" but it must be remembered that nothing in veterinary medicine is ever black and white, and the only alternative to the use of this term is to call the dog "abnormal".

There is unfortunately no treatment which will prevent progression to heart failure, but heart rate can be controlled, some dangerous rhythm abnormalities can be treated to prevent sudden death and heart failure can be detected early, so even for pet dogs heart testing is a good idea. This can be organised by your own veterinary surgeon, who will refer you to a veterinary cardiologist.

However the IWHG organises **regional screening sessions**, at a very much reduced price, for the benefit of **all** wolfhound owners. By taking part in screening, your dog will also be providing further research information which will benefit the breed. DNA is being collected and it is hoped that one day it may be possible to create Estimated Breeding Values for heart disease in wolfhounds ie a kind of "risk assessment" for breeders.

Although all heart test data is entirely confidential, if breeders wish to have information on the heart status of potential breeding dogs they should ask to see the dog's **Veterinary Cardiovascular Society heart screening certificate, or a report from a veterinary cardiologist.** It is to be hoped that reputable wolfhound breeders will want to publish this data, at least for "Normal" veteran dogs, so that the information will become more widely available.

There is still a dearth of data from old dogs, despite the fact that they are the ones most at risk, and we continue to hope that owners will present these dogs for testing.