WASHINGTON STATE UNIVERSITY
Veterinary Cardiac Genetics Laboratory

EVALUATION FOR THE CANINE ARRHYTHMOGENIC RIGHT VENTRICULAR CARDIOMYOPATHY 1 MUTATION

Arrhythmogenic right ventricular cardiomyopathy (ARVC) is a fairly common form of heart disease in the Boxer dog. It is inherited and our laboratory has identified a mutation responsible for the gene in some Boxers. However, it should be noted that in human beings with the same disease, there are many different genetic mutations which can cause this disease. We do not yet know if this is the only mutation in the Boxer or if there will be many different mutations. **Please keep in mind that we are continually learning about this disease and recommendations will be altered as we obtain more information.**

Currently our interpretation of the test is:

Negative results:

The absence of the mutation in this dog, DOES NOT mean that it will never develop the disease. It means that it does not have the only known mutation that can cause the disease in the dog at this time.

Positive Results:

Dogs that are positive for the test will **not necessarily** develop significant heart disease and die from the disease. Some dogs will develop a very mild form of the disease and will live quite comfortably, some may need treatment.

Importantly, breeding decisions should be made carefully. At this time we have do not yet know what percentage of Boxers will be positive for the mutation. However, removal of a significant number of dogs from the breeding population could be very bad for the Boxer dog breed. Remember that dogs that carry this mutation also carry other important good genes that we do not want to lose from the breed.

Positive Heterozygous (1 copy of the mutated gene and 1 copy of a normal gene) Dogs that are positive heterozygous should be carefully evaluated for signs of disease (Holter monitor and possibly an echocardiogram). If an arrhythmia is detected, possible treatment options should be discussed with your veterinarian. Adult dogs that do not show signs of disease and that have other positive attributes could be bred to mutation negative dogs. Puppies may be screened for the mutation and over a few generations, mutation negative puppies may be selected to replace the mutation positive parent and gradually decrease the number of mutation positive dogs in the population.

Positive Homozygous (2 copies of the mutated gene) **We recommend not breeding the homozygous dogs.** Dogs that are homozygous for the mutation appear to have more significant disease and will certainly pass on the mutation.

Date: 6/16/2009 Owner Name: Colleen Fleury
Dog ID: 266 Dog's Name: Sherwood's Tristan of Camelot
AKC Number: WS20137201

Test result for the DNA submitted for the above dog is: Negative

Result Based on the following sample(s) submitted for this dog: 1 Cheek Swab(s)

Kathryn M. Meurs, DVM, PhD (meurs@vetmed.wsu.edu)
Professor, Richard L. Ott Chair of Small Animal Medicine and Research
Washington State University- College of Veterinary Medicine

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Positive Homozygous (2 copies of the mutated gene) **We recommend not breeding the homozygous dogs.** Dogs that are homozygous for the mutation appear to have more significant disease and will certainly pass on the mutation.

Date: 6/16/2009 Owner Name: Colleen Fleury
Dog ID: 267 Dog's Name: Windwood's Daring Soul of Sherwood
AKC Number: WS26916702

Test result for the DNA submitted for the above dog is: Negative

Result Based on the following sample(s) submitted for this dog: 1 Cheek Swab(s)

Kathryn M. Meurs, DVM, PhD (meurs@vetmed.wsu.edu)
Professor, Richard L. Ott Chair of Small Animal Medicine and Research
Washington State University- College of Veterinary Medicine