

Update on Tricuspid Valve Dysplasia?

Drs. Wright-Huff and Benson have made tremendous strides in their work on TVD. Most importantly, they have determined that TVD is inherited as an autosomal recessive disease with reduced penetrance. This means that only one parent need be affected (sire or dam) to produce affected offspring, and that the affected parent or the affected puppies produced may show no signs of TVD on physical examination or a complete ultrasound exam of the heart (echocardiogram). The presence of a carrier state makes things difficult from a breeding standpoint. Interestingly, our findings support the presence of a founder effect. This means that it is likely that a single popular dog in the past had a spontaneous TVD mutation and set up the chain reaction to spread the defect widely. Offering hope to Labrador breeders, we have narrowed the genetic defect to a segment on a single chromosome, which is a huge stride. We now need to determine the exact site or locus where the mutation lies. This will allow us to offer a blood test to determine whether a given dog is affected or not. In order to do this, we need to receive blood samples and pedigrees from confirmed affected dogs and their parents. The genetic research into this disease has slowed considerably without sufficient numbers of these samples. Strict confidentiality is maintained for all dogs.

Other interesting findings include the following. We have found many dogs with mild or even moderate tricuspid valve dysplasia exhibit no noticeable differences in behavior or exercise capacity. The majority (but not all) of these dogs will have soft to moderate intensity heart murmurs that are heard on the right side of their chest. Given the ability of a dog's panting and wiggling to "hide" these murmurs if special maneuvers are not performed, murmurs in many of these dogs have gone undetected for variable periods of time. We have also found that dogs with severe TVD as an isolated congenital heart disease tend to do much better than the literature suggests and it can be many years before they develop clinical signs.

What you can do to help advance these important studies for Labrador Retrievers:

More dogs with accessory pathways are needed to map and ablate their abnormal rhythm and to study the genetic basis of the disease. Specific funding from the Morris Animal Foundation allows us to offer these very advanced procedures for trivial costs to the owner. The chance to cure these dogs of their rapid heart rates is an exciting and unique ability that we have here in Cincinnati. To enroll your dog in the study, you should contact Dr. Wright-Huff or Holly Irvin, her veterinary assistant, at 513-530-0911 (telephone), kwright9@cinci.rr.com, or 513-530-0811 (fax).

Dogs that are affected with TVD are needed for the TVD study. Blood tubes can be sent to your veterinarian to draw appropriate samples from the affected dog and his/her parents. This "trio" is very important to advance the strides we have made in uncovering the genetic basis for this disease. We also are still screening Labradors (physical exam, complete echocardiography, ECG, and blood sample) with known affected family members at Cincinnati Children's Hospital at no cost to the owners. Please contact us at the listed numbers or e-mail if you have any questions or need additional information.