Degenerative Myelopathy

Test for Degenerative Myelopathy gene NOW AVAILABLE!

Dr. Gary Johnson at the Animal Molecular Genetics Laboratory and Dr. Joan Coates at the Comparative Neurology Program of the University of Missouri and Drs. Claire Wade and Kerstin Lindblad-Toh at the Broad Institute of MIT/Harvard and their colleagues have identified a DNA mutation that is a major risk factor for development of degenerative myelopathy in dogs.

A DNA test is now available for use by veterinarians, breeders and pet owners. This test is available through the OFA (Orthopedic Foundation for Animals - www.OFFA.org). The test clearly identifies dogs that are clear (have 2 normal copies of the gene), those who are carriers (have one normal copy of the gene and one mutated copy of the gene), and those who are at much higher risk for developing DM (have 2 mutated copies of the gene). However, having two mutated copies of the gene does not necessarily result in disease.

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Dogs that have clinical signs and a confirmed diagnosis of DM have tested as genetically affected. A relatively high percentage of dogs in several breeds (including Boxers, Pembroke Welsh Corgis, Chesapeake Bay Retrievers and Rhodesian Ridgebacks) have the predisposing mutation. It is important to note that there are a large number of dogs that have tested as genetically affected, but are reported as clinically normal by their owners. It may be that many of these dogs will develop clinical signs as they get older or it is possible that symptoms will never manifest in these dogs. Research is still needed to determine the frequency of the mutation in breeds known to have DM (German Shepherd Dogs, Rhodesian Ridgebacks, Pembroke and Cardigan Welsh Corgis, Boxers, Chesapeake Bay Retrievers, Standard Poodles). In the future, we may identify other risk factors in those dogs that have tested as genetically affected. Wise use of this test can reduce the incidence of dogs at risk for DM in the long-term, particularly if other low frequency risk factors are identified that can more easily be reduced. It is likely to take many generations to reduce the frequency of this disease in breeds with higher frequency of the mutation.

As part of an ongoing collaborative effort by research scientists at the University of Missouri and the Broad Institute, a free DNA test is offered for dogs that have been diagnosed with DM, and for older dogs in selected breeds.

Complete disease and testing information is available in the Degenerative Myelopathy section of www.CanineGeneticDiseases.net.