

## **ABSTRACT #95**

**ATYPICAL COLLAPSE IN EXERCISING LABRADOR RETRIEVERS UNAFFECTED BY THE DYNAMIN-1 MUTATION.** E. Furrow<sup>1</sup>, K. Minor<sup>1</sup>, S. Taylor<sup>2</sup>, J.R. Mickelson<sup>1</sup>, E.E. Patterson<sup>1</sup>. 1. University of Minnesota College of Veterinary Medicine, St. Paul, MN. 2. Western College of Veterinary Medicine, Saskatoon, SK, Canada.

Exercise-induced collapse (EIC) in Labrador Retrievers is a neurological disease manifested by limb weakness, ataxia, and collapse. Susceptibility to EIC is very strongly associated with homozygosity for a dynamin 1 gene (*DNMI*) mutation. However, a small population of collapsing Labradors are clear or carriers of the recessively inherited mutation.

The objective of this study was to compare characteristics of collapsing Labradors genetically susceptible to EIC based on *DNMI* genotype with those that are not. Our hypothesis was that dogs unaffected by the mutation have different clinical characteristics from those affected.

Collapse descriptions were obtained via surveys from 244 Labradors with reported collapse; 186 were homozygous for the *DNMI* mutation (genotype EE) and 48 were unaffected (NN or EN). All surveys were reviewed blinded to the *DNMI* genotype.

Several significant differences were found. The EE dogs were a fairly homogenous population exhibiting decreased muscle tone and strength originating in the pelvic limbs with collapse usually limited to these limbs. In contrast, NN and EN dogs were more diverse with a larger proportion exhibiting collapse in the thoracic limbs or all four limbs simultaneously and often resulting in paresis or ataxia without full collapse. Additionally, NN and EN dogs were more likely to have an abnormal mentation during collapse.

This study demonstrates that clinical features of collapse in Labradors that are clear or only carriers of the *DNMI* mutation differ from the classic collapse description in dogs homozygous for the mutation. The cause(s) of this “atypical” collapse has not been determined.