In January of 2013 the AKC CHF announced "a major effort underway to tackle the devastating condition commonly known as bloat. The Bloat Initiative will address the need for both education and research." Versatility in Poodles was one of the inaugural sponsors of the Bloat Initiative.

On October 3, 2013 funding was awarded through the bloat initiative to two grants:

1935: Abnormalities in the Stomach's Ability to Contract Predisposes Large-Breed Dogs to Bloat

Principle Investigator: Laura L. Nelson, DVM; Michigan State University

Grant Amount: $233,774.00

Project Dates: January 1, 2014 - December 31, 2015

Collaborative Team:
Dr. John C. Fyfe, DVM, PhD; Michigan State University
Dr. James J. Galligan, PhD; Michigan State University
Dr. Joe G. Hauptman, DMV; Michigan State University
Dr. William A. Horne, DVM, PhD; Cornell University
Dr. Kent R. Refsal, DVM, PhD; Michigan State University
Dr. Bryden J. Stanley, BVMS; Michigan State University

Abstract: Gastric dilatation-volvulus (GDV or "bloat") is a devastating disease common in large and giant-breed dogs. Occurring most frequently in older dogs with a close relative who has also suffered the condition, the stomach becomes both displaced and distended with air. Without emergency medical stabilization and surgical intervention, affected dogs quickly experience shock, damage to the stomach wall, and death. Most of the research relating to GDV has described risk factors for the disease, determinants of outcome with treatment, and the effectiveness of preventive surgery (gastropexy). However, the underlying cause of GDV remains unknown. Abnormalities in the ability of the stomach to contract have been documented in dogs after naturally-occurring GDV. An analogous stomach condition in cattle, left-sided displacement of the abomasum (LDA) has been shown to, in some instances, be associated with

abnormalities in the motilin gene. Motilin is an important driver of stomach contraction. This suggests that LDA and potentially GDV may be primarily caused by a stomach that does not properly contract, and that this condition may be inherited. The goals of Dr. Nelson's study are to determine the relationship of abnormal stomach contraction with GDV and to define the biochemical and genetic alterations that may be associated with these stomach abnormalities. In the long term, they hope to develop a test to identify dogs at high risk for GDV that would allow selective breeding to eliminate the condition and to determine which dogs will benefit most from prophylactic gastropexy or other preventive therapies.

1937: Evaluating the Complex Genetic Basis of Bloat

Principle Investigator: Claire Rebecca Sharp, BVMS; Tufts University

Grant Amount: $251,097.00

Project Dates: January 1, 2014 - December 31, 2015

Collaborative Team:
Dr. Jerold S. Bell, DVM; Tufts University
Dr. Steve Hannah, PhD; Nestle Purina PetCare Company
Dr. Kerstin Lindblad-Toh, PhD; Broad Institute
Dr. Elizabeth A Rozanski, DVM; Tufts University

Abstract: Gastric dilatation and volvulus (GDV), or bloat, is a common condition in large and giant breed dogs with an unacceptably high morbidity and mortality rate. Due to the importance of GDV in many dog breeds, several previous studies have investigated potential risk factors for the development of GDV. It is known that there is no single cause for GDV, rather its occurrence is multifactorial, with both genetic and environmental factors contributing. Dr. Sharp proposes to further investigate how these risk factors cause GDV through the application of genomic and molecular methods. She will do this by analyzing samples from purebred dogs with GDV and comparing them to dogs of similar age and breed that have not developed GDV. She will perform a genome wide association study (GWAS) to identify differences in the genetic makeup of dogs with GDV, and see which genes are turned on and off in GDV (epigenomics). She will also determine if dogs with GDV have different types or amounts of proteins, hormones and other molecules in their blood and tissues (transcriptomics, proteomics and metabolomics). She and collaborators hypothesize that only when we put all of this information together (genomic, epigenomic, transcriptomic, proteomic and metabolomic) will we truly understand what causes GDV. The ultimate aim of understanding what causes GDV is to allow us to best intervene to prevent the disease from occurring.