Table 3: Disease states associated with alterations in gut microflora in dogs

Disease State	Alterations in Fecal Microbiome	Source
Chronic enteropathy of unknown cause	Higher abundance *of Lactobacillales, Actinobacteria*, and *Erysipelotrichales* in the duodenum	Allenspach 2010
Diarrhea, undetermined cause	Lower abundance of *Bacteroidetes*, notably *Bacteroides* vulgaris in the feces	Chaban 2012
Acute hemorrhagic diarrhea	Lower fecal abundances of *Blautia* and *Rumonococcaceae* but higher abundances of *Sutterella* and *Clostridium perfingens* in dogs with hemorrhagic diarrhea. Higher fecal abundance of Clostridium in dogs with non-hemorrhagic diarrhea. Reduction in relative proportion of species known to produce SCFAs	Suchodolski 2012
IBD	Lower species richness and lower abundance of *Bacteroidetes* but higher abundances of *Enterobacteriaceae* and *Clostridiaceae* in the duodenum	Xenoulis 2008
IBD	Higher abundance of *Proteobacteria* and lower abundance of *Clostridia* in the duodenum. Higher counts of *Pseudomonas, Acinetobacter, Conchifomibious, Achromobacter, Brucella*, and *Brevundimonas* in the	Suchodolski 2010

	duodenum	
IBD	Lower abundance of *Fusobacteria, Bacteroidaceae, Prevotellaceae,* and *Clostridiales* in the duodenum. Lower counts of *Firmicutes* and *Bacteroidetes* and higher counts of specific genera of *Proteobacteriaceae,* including *Diaphorobacter* and *Acinetobacter*	Suchodolski 2012
Obesity	No significant changes in microbial diversity or composition associated with obesity. Beagles fed ad lib had increased *Clostridiales* and whereas dogs fed a calorie-restricted diet had decreased fecal *Gammaproteobacteria* and *Alphaproteobacteria*	Handl 2013
Exocrine pancreatic insufficiency	High abundance of *C. perfingens* on culture of duodenal juice, associated with marked reductions in mucosal brush border enzyme activities.	Williams, *et al.*