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Old dogs offer new insights, study finds

By NEWStat



The Murphy Cancer Foundation's David J. Waters, DVM, PhD, shares details of his discoveries about dog aging (2013).

If you want to know how to live to 100, ask an old dog. At least, that's what a new study suggests.

The study, conducted by scientists at the Gerald P. Murphy Cancer Foundation's Center for Exceptional Longevity Studies, reports that exceptional longevity in our canine companions is associated with sex (female, to be exact) and the ability to resist disease.

The study results have not yet been published but were presented April 23 at the ninth annual meeting of the Organization for the Study of Sex Differences hosted by Stanford University.

"In this first study of exceptional longevity in pet dogs, we discovered a female longevity advantage of 5:1 over males in dogs that achieve the most extreme longevity," said lead scientist David J. Waters, DVM, PhD, and Director of the Center for Exceptional Longevity Studies.

Waters' Stanford presentation was a stop on his [2015 Old Grey Muzzle Tour](#), a cross-country tour to visit the 15 oldest Rottweilers in the country.

The results build on [previously-published data](#).

The Center for Exceptional Longevity Studies has cataloged the lifetime health and medical histories of more than 300 canine "centenarians." The study focuses on Rottweilers that lived at least 13 years, which is more than 30 percent longer than breed average and equivalent to 100 years of age in humans.

The scientists found that canine centenarians display profound resistance to cancer. The cancer mortality rate is only 8 percent in dogs with the most extreme longevity. This compares to more than 70 percent in dogs with usual longevity.

"A notable aspect of highly successful aging is the delay or avoidance of age-related diseases, such as cancer," Waters said.

"The exceptionally long-lived Rottweilers we are studying have figured out how to side-step cancer, hold it in check. Our autopsy studies are showing that although relatively few of these dogs die of cancer, more than 90 percent of them are harboring one or more types of cancer at the time of death."

Like in humans, the study is showing that exceptional longevity in dogs is accompanied by what researchers refer to as "morbidity compression," or a squeezing of major age-related diseases into the

final years of life. Among dogs with the most extreme longevity, Waters classified 76 percent as "escapers," free of all major diseases for the equivalent of the first 100 years of life.

The new data on the female longevity advantage in dogs complements a growing catalog of human sex and gender differences in biology and health, ranging from susceptibility to autoimmune disease and cancer, to adverse drug effects and the symptoms of heart attack.