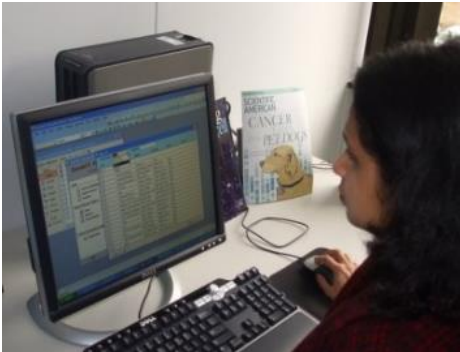


About The Center for Exceptional Longevity Studies



The Gerald P. Murphy Cancer Foundation's Center for Exceptional Longevity Studies seeks to identify important genetic, lifestyle, and environmental determinants of healthy longevity and to better understand the complex relationship between aging, cancer, and cancer avoidance. The Center is the home of The Exceptional Longevity Database — the first systematic study of exceptional longevity and cancer avoidance in pet dogs. This one-of-a-kind resource is documenting intriguing similarities between the longest-lived dogs and humans, shedding light on the basic biology behind why we age. While the scientific community looks for reliable research approaches to verify exciting scientific leads, we see enormous value in studying pet dogs living with their owners as a virtual aging laboratory. There is a big payoff for validating this kind of innovative thinking — an opportunity to promote healthy longevity and cancer avoidance in both pets and people.

Since 2010, investigators at the Center have committed themselves to gathering fresh clues to highly successful aging and cancer resistance by studying the oldest-living Rottweilers (≥ 13 years old), who have lived 30% longer than average for the breed, equivalent to 100-year-old people. What's so special about studying these dogs? The oldest-old Rottweilers have figured out something that every cancer scientist wants to figure out: *How to transform cancer from lethal killer to non-lethal nuisance*. Although relatively few of these exceptionally long-lived dogs die of cancer, almost all of them are harboring cancer at the time of necropsy. To them, cancer is just a nuisance, like athlete's foot (described in Dr. Waters' TEDx talk "The Oldest Dogs as Our Greatest Teachers" at <https://youtu.be/XS9fiDn4Qo8>).

From its inception, the research strategy of the Center for Exceptional Longevity Studies has been driven by forward-thinking. First, we envisioned as crucial the development of a unique, *combined expertise in both cancer and aging* so that we might generate fresh ways of approaching the cancer problem — because cancer is a disease that develops in aging tissues. Second, we are concentrating our energies on *collecting clearer signals by studying exceptional individuals* (so-called extreme natural biology), an approach borrowed from investigators who seek to gain clues to creativity by studying individuals with extreme creativity, not average creativity. Finally, we are capitalizing on a unique *out-of-the-laboratory-into-the-living-room approach* that enables us to *secure valuable first-hand observations of these special dogs in their homes*.

Moving forward, the Center's activities will be dedicated to the in-depth study of these highly successfully aging dogs that have figured out how to keep cancer at bay, holding cancer in check. Through research — the detailed examination of tissue and careful identification of markers circulating in blood — we hope to find the keys that will unlock the mechanism of how they do it, enabling our pets (and us) to walk around with cancer as a nuisance instead of a lethal killer. That is why we have established the Longevity Biorepository at the Center for Exceptional Longevity Studies, which represents the world's first collection of blood cells, serum, autopsy tissues, and DNA from exceptionally long-lived dogs. Guided by the oldest-old dogs, we hope to uncover the secrets of elite aging and cancer resistance — not just living longer, but living longer and healthier. By gathering fresh clues that can only come from detailed study of these special populations, we move closer to developing practical interventions to reduce cancer risk in pets and people.