



Innovative Canine Health Research Open to All

Inside the Dog Aging Project

By Researchers and Staff

Dog Aging Project

For those of us who love and cherish dogs, keeping them healthy and happy as long as possible is a top priority. Now there is a long term research study designed to help us do just that. Best of all, anyone with a dog can participate!

The Dog Aging Project is the largest canine health study in the world. The research team, composed of scientists and veterinarians from the University of Washington, Texas A&M University, and other top research institutions, plans to follow tens of thousands of dogs for ten years in order to achieve two main goals:

1. Understand how biology, lifestyle, and environment influence aging in dogs.
2. Intervene to increase *healthspan*, the period of life spent free from disease.

ALL dogs are welcome to participate! The Dog Aging Project is studying puppies and old dogs, mixed breed dogs and purebred dogs, healthy dogs and those with chronic health conditions as long as they live within the fifty US states (excluding US territories). For some additional studies, they are looking to recruit specific breeds, puppies, dogs who are not yet spayed or neutered, and dogs from rural and urban areas. Human participants should have access to a computer (desktop, laptop or tablet computer) and reliable internet service so that they can complete online surveys about their dog.

There is a particular interest in recruiting more Cairn Terriers into the Dog Aging Project for several reasons. First, studying dogs with known ancestry and a defined genetic background like that of purebred Cairn Terriers makes it easier for researchers to identify environmental and lifestyle factors that influence health. Second, having a significant number of Cairn Terriers in the program makes it

possible for researchers to understand disease risk factors and patterns of disease onset specific to the breed. Third, if the Dog Aging Project can collect baseline data on a significant number of Cairn Terriers, it is more likely that the project will be able to expand into more in-depth, breed-specific research, which could ultimately help us improve the breed's health and longevity.

To participate, visit the project homepage at dogagingproject.org and click the purple *Nominate Your Dog* button. You'll be asked to complete a short survey that includes basic information about you and the dogs in your home and guides you through the process of nominating a single dog for inclusion in the study.

While littermates, housemates, and multigenerational groups can provide very interesting data, and some studies are specifically designed for them, the Dog Aging Project wants to maximize diversity among study participants. This is why they limit enrollment to one dog per household. In addition, this practice avoids errors and mix-ups during data collection, which could undermine the scientific integrity of the research, and it allows the research team to gather information from as many different environments as possible.

For those of you with more than one dog in your home, it can be hard to decide which dog to nominate. However, some characteristics make a dog more informative for scientific research. While ALL dogs are welcome, choosing a dog with as many of the following characteristics as possible is best:

- Dogs of known age (or at least, known within a month or two).
- Puppies! The Dog Aging Project wants to follow dogs through their entire lifetime, starting from as young an age as possible and ideally before they've been spayed or neutered.
- Dogs who will not be spayed or neutered. One key area of research is understanding the health effects of when or if dogs are surgically sterilized.
- Dogs that you intend to keep in your home for at least 4-5 years, and ideally (but not necessarily), for the duration of their lifetime.

After you nominate your dog, you will receive an email invitation to set up your personal research portal at the Dog Aging Project. From your personal portal, you will be able to complete the *Health and Life Experience Survey*. This survey consists of about 200 questions that collect information about your dog's health, behavior, lifestyle, diet, personality, and much more. Upon completion of the survey, your dog will become an official member of the Dog Aging Project Pack!

You'll also have an opportunity to upload your dog's veterinary electronic medical records, which is optional but does make your dog eligible for additional studies that dig deeper into the genetic and physiological underpinnings of health. As the years pass, the Dog Aging Project team will follow up with you and your dog, asking you to update the *Health and Life Experience Survey* annually and providing opportunities to participate in other aspects of research.

The ten-year research plan at the Dog Aging Project includes several other distinct lines of scientific inquiry such as sequencing the genomes of 10,000 dogs, collecting samples (such as urine, feces, blood, and hair) from 1,500 dogs, and conducting clinical trials of a compound which holds out promise to improve healthy aging. Dogs who are part of the Dog Aging Project Pack will be invited to join these additional studies based on specific research criteria. Their owners can decide whether or not they want to take on this more involved level of participation.

Some may have concerns about privacy and data security. The Dog Aging Project has a robust privacy policy, which recognizes that research participants have volunteered to share their time and information with the Dog Aging Project in order to contribute to scientific research. Individually identifiable information about human or canine participants is encrypted and stored in a secure database. It is never shared with breed clubs, external groups, or the public.

Once data have been fully anonymized, they are accessible through Terra, a data platform maintained by the Broad Institute of MIT and Harvard, where researchers can analyze the data and make their own discoveries. The Dog Aging Project does not sell data or information, nor do they make or sell any medical products. They are a non-profit, academic study funded by grants from the National Institute on Aging, part of the National Institutes of Health, and that includes supplemental funding from AKC Canine Health Foundation and other partners.

For those of us who devote significant time and attention to our dogs, the chance to participate in research that could positively influence the health and lifespan of future generations of dogs is motivation enough, but the Dog Aging Project offers an upside for human health as well. The scientists say that because dogs get many of the same age-related diseases as humans (diabetes, arthritis, cancer, cognitive decline, etc) the discoveries made by the Dog Aging Project could help us understand health and aging in humans too.

While the Dog Aging Project is a scientific research study first and foremost, it's also a community for people who love dogs and want to help them live the best lives possible. For those participants who choose to engage further, the Dog Aging Project offers a private, online community where members can attend Q&A sessions

with researchers, talk with other participants about dogs and dog health, and be the first to know about project milestones.

More information about the Dog Aging Project can be found at dogagingproject.org. Please consider nominating one of your dogs and encouraging your fellow club members to do the same so that larger numbers of the breed are represented for future research.