

Dogs' average age at cancer diagnosis is associated with size, sex, breed

February 1 2023



The study, involving over 3,000 cancer-diagnosed dogs, found that all dogs should begin cancer screening at age 7, but certain breeds may benefit from screening starting as early as age 4. Credit: PetDx, CC-BY 4.0 (creativecommons.org/licenses/by/4.0/)

A new analysis has determined median ages of cancer diagnosis for dogs

with different characteristics, providing support for the establishment of cancer screening guidelines that vary according to breed or weight. Jill Rafalko of PetDx in La Jolla, California, and colleagues present these findings in the open-access journal *PLOS ONE*.

More adult dogs die from cancer than from any other cause. Just as in humans, detecting canine cancer earlier can enable more effective treatment. New, noninvasive blood tests for dogs can detect tumor DNA long before other signs of cancer arise. However, formal guidelines for when dogs should be screened using these tests are lacking.

To aid establishment of such guidelines, Rafalko and colleagues sought to determine the median age at cancer diagnosis of dogs with different characteristics. Their analysis included 3,452 dogs with cancer in the U.S.

They found that the [median age](#) at [cancer diagnosis](#) for dogs weighing 75 kilograms or more was 5 years, compared to 11 years for dogs weighing 2.5 to 5 kilograms. The mean diagnosis age for [purebred dogs](#) was 8.2 years, compared to 9.2 years for dogs whose breed was described as mixed or "other."

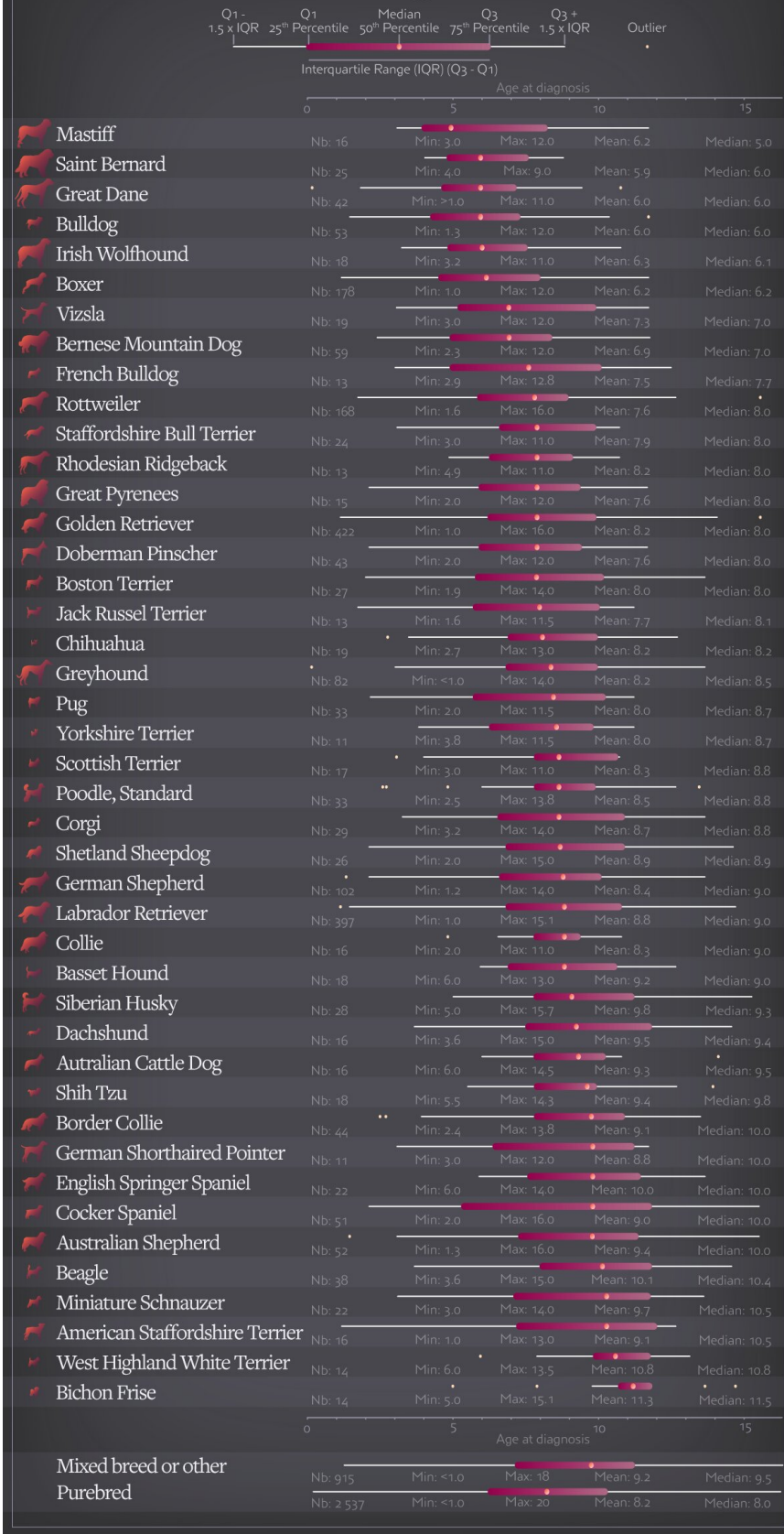
Among breeds with enough representation in the study, the researchers were able to determine that Mastiffs, Saint Bernards, Great Danes, and Bulldogs had the youngest median diagnosis age, at approximately 6 years. Irish Wolfhounds, Vizslas, and Bernese Mountain Dogs had median diagnosis ages of 6.1 to 7 years. At 11.5 years, the Bichon Frise had the oldest median diagnosis age.

Female dogs were typically diagnosed at older ages than males, and dogs that were neutered were diagnosed later than intact dogs.

The researchers also developed a [statistical model](#) to predict median

diagnosis age based on weight, which could be applied to breeds with less representation in the study and to mixed-breed dogs.

Study of median ages at which dogs of various breeds are diagnosed with Cancer



In this article, researchers studied the median age at which a number of dog breeds are diagnosed with cancer. Of the 43 breeds represented, Mastiffs had the youngest median age at cancer diagnosis (5 years), while Bichon Frises had the oldest median age (11.5 years). The median age of cancer diagnosis was also seen to be lower for purebred dogs than for mixed breed dogs. The median age found for each breed may assist in establishing the age at which cancer screening should be initiated for individual dogs, to increase likelihood of early detection and treatment. Note: For display purposes, outliers are not presented for bars comparing purebred and mixed breed dogs. Credit: Anne-Lise Paris (in-graphidi.com), *PLOS*, CC-BY 4.0 (creativecommons.org/licenses/by/4.0/)

Considering these findings in combination with evidence from prior studies, the researchers propose that canine cancer detection could be improved through blood test-based screening beginning 2 years before a dog reaches the median diagnosis age for their breed or weight.

The authors add, "Dogs now have a new option for cancer screening called '[liquid biopsy](#)' which, similar to the human version of this test, leverages next-generation sequencing technology to detect multiple types of cancer using a simple blood draw. However, the age to start screening for cancer in dogs can vary depending on their [breed](#) or weight. Our study, involving over 3,000 cancer-diagnosed dogs, found that all [dogs](#) should begin cancer screening at age 7, but certain breeds may benefit from screening starting as early as age 4."

More information: Jill Rafalko et al, Age at cancer diagnosis by breed, weight, sex, and cancer type in a cohort of more than 3,000 dogs: Determining the optimal age to initiate cancer screening in canine patients, *PLoS ONE* (2023). [DOI: 10.1371/journal.pone.0280795](https://doi.org/10.1371/journal.pone.0280795)

Provided by Public Library of Science

Citation: Dogs' average age at cancer diagnosis is associated with size, sex, breed (2023, February 1) retrieved 25 February 2025 from <https://phys.org/news/2023-02-dogs-average-age-cancer-diagnosis.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.