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Dogs' lives may offer answers

Purdue University researcher David Waters holds up an X-ray of Bort, a 13-year-old Rottweiler belonging to Gretchen Caldwell, while Bort looks on.

By Dan McFeely, The Indianapolis Star

Purdue University researcher David Waters hopes a bunch of old dogs will be able to teach scientists new tricks about aging and cancer.

Waters has embarked on a 23-day trek across the country to meet face-to-snout with 15 of the oldest-living Rottweilers in the United States. Waters, head of the Gerald P. Murphy Cancer Foundation at the Purdue Research Park, West Lafayette, Ind., has been leading a research team that studies aging and cancer in pet dogs. Over the past three years, the team has compiled a database of scientific data on 140 Rottweilers through breeders and fan clubs. Only 15 are still alive, prompting Waters to put together his "Old Grey Muzzle tour."

"These dogs have lived 30% longer than average," Waters said. "They have dodged cancer and we believe studying them can shed light on what it takes to live well."

All of the Rottweilers are at least 13 years old. Typically, they don't live much past 10. Of the 15 he plans to visit, females outnumber the males 11 to four.

Today, Waters will be in Virginia to visit with "Buzz." On Tuesday, he travels to Tennessee to see "Schatze," and the tour ends in Seattle on April 3 with "Shelby".

"If you want to understand aging, you have to look to those who have been extremely successful," Waters said. "These dogs are equivalent to 100-year-old people and we want to find out their paths to success."

Owners work hard

First stop on the "Old Grey Muzzle tour" was Friday in Holliston, Mass., where Waters met with "Bort," a mild-mannered Rottweiler owned by Gretchen Caldwell.

The Caldwell family raised Bort from a 12-week-old pup. The dog will turn 14 in two weeks.

"He's still pretty active, loves to go on his walks and greet the kids when they come home," said Caldwell, who volunteered Bort for the study. "He still thinks he can catch a squirrel, too."

During each stop, which can last up to four hours, Waters performs a physical examination on the dog. He listens closely to the hearts and lungs. He performs a neurological exam, collects DNA samples, checks joint mobility, and measures body weight and height. Additionally, Waters conducts interviews with owners, exploring the home environment and the things owners have done to keep their dogs healthy.

Caldwell believes she has played a key role in keeping Bort — who weighs in at 82 pounds and is nearly 26 inches tall — healthy and cancer-free. He's been fed healthy, low-grain food, gets plenty of exercise and was neutered at the age of 6, said Caldwell, also owns three other Rottweilers.

"We've worked hard to keep his weight down because obesity can be a big problem in dogs his age," she said. "But I also know that some of his longevity is in his pedigree. Several dogs from his grandfather lived to an old age."

Like similar aging studies on long-living, cloistered nuns, Waters believes there are things to be learned from the Rottweilers on his tour. While genetics typically gets 30% of the blame for cancer and age-related health issues, 70% is lifestyle, he said.

"Decisions these owners made for their pets can possibly influence longevity, whether that be diet, vaccination, ovary removal, or use of lawn chemicals," Waters said. "We want to find out what 's at the root of each dog's exceptionality."

Each 'has its own story'

Using animals to study human aging is nothing new, says Felipe Perez, an expert on aging and associate professor of clinical medicine for the Indiana University School of Medicine's geriatrics program. The practice dates back at least 70 years, but has long used mice in laboratories, not dogs in homes.

Although he has not worked with dogs, Perez said "looking for an answer when you don't have one is always good."

Waters, 51, focuses on Rottweilers, he said, because of the similar patterns of aging and cancer behavior for those that are afflicted. Waters says there is a growing need to find out what impacts healthy aging.

"I know we're going to find that each dog has its own story. The key is what are the different pathways to successful aging? That is what we want to learn. This is where the fresh ideas on cancer prevention are going to come from."

At her home in Holliston, where Caldwell has also agreed to donate Bort's body to Dr. Waters' research team at the Murphy Cancer Foundation when he finally passes on, she hopes there will be some fruit to her pet's labors.

"I would just love for them to be able to figure out some of these connections with cancer and aging," she said. "Anything Bort can do to help unravel this puzzle."

March 11, Harrisburg, Pennsylvania
March 12, Holliston, Massachusetts
March 13, Philadelphia, Pennsylvania
March 15, Keysville, Virginia
March 16, Columbia, Tennessee
March 19, Cambridge, Wisconsin
March 20, Riverside, Iowa
March 21, Alma, Kansas
March 24, Red Oak, Texas
March 26, Castle Rock, Colorado
March 27, Colorado Springs, Colorado
March 28, Tijeras, New Mexico
March 29, Waddell, Arizona
March 30, San Diego, California
April 1, Pacific Palisades, California
April 3, Seattle, Washington