

A new anti-aging pill for senior dogs just entered clinical trials. Could it one day help humans live longer?

February 12 2024, by Cesareo Contreras



A new anti-aging drug for senior dogs could help scientists develop life-extending medications for humans. Credit: Alyssa Stone/Northeastern University

For most dog owners, their four-legged friends are more than a trusty

companion. They are practically members of the family.

Unfortunately, dogs just don't live as long as humans, living on average from 10 to 13 years.

But what if there was a way to extend a dog's lifespan by years with just a daily pill?

A first-of-its-kind anti-aging [drug](#) for dogs that targets the metabolic fitness process has now entered [clinical trials](#), and the scientists behind the chewable pill say it could lay the groundwork for similar medical treatments designed for humans.

It has been observed that dogs make good models for human research because they have the same number of genes as humans and they can be diagnosed with the same diseases, according to the nonprofit Understanding Animal Research. Dogs have been used for human cancer research, Duchenne muscular dystrophy research, and much more.

Carmen Castaneda Sceppa, dean of Bouvé College of Health Sciences at Northeastern and healthy aging expert, says she knows of research involving mice that has been conducted to study [human metabolism](#) and its impact on health and aging. This new drug and trial could help further our understanding of that process.

"They are talking about addressing metabolism," she says. "Metabolic changes that are age-related happen at the peak of adulthood," she says. "Starting around age 30, in terms of muscle mass, which is a very important tissue that contributes to metabolism and maintaining health in humans, we start to see that decline unless we are intentional about maintaining and grow [muscle mass](#), like exercise would do."

The STAY study, as it has been named, is being conducted by Loyol, a

San Francisco-based veterinary company that developed the drug. It has partnered with more than 50 independent vet clinics across the country to distribute it.

More than 1,000 dogs over the age of 10 will participate in the study over the course of four years. The plan is to gain conditional FDA approval by early 2025 and to make the drug accessible to dog owners, and the company [is actively inviting owners](#) with dogs over the age of 10 and at least 14 pounds to participate.

The medication, which is called LOY-002, was specifically designed for ["older dogs of all but the smallest breeds,"](#) the company says on its website. The first dog [to participate in the trial](#) is an 11-year old whippet named Boo.

Loyal is also developing an injectable (LOY-001) and pill (LOY-003) for large and giant breeds designed to target the biological mechanisms believed to cause larger dogs to die sooner than smaller dogs, but those drugs are in earlier stages of development and deployment.

Sceppa is quick to note some skepticism around the drug. There are a lot of factors that can influence the aging process, including genetics, diet and physical activity. It might not be as simple as popping a pill. It's also important to consider both the emotional and psychological well-being of both the dogs and the [dog owners](#) through this process, along with potential side effects.

To its credit, Loyal is quick to note on its website that some animals participating in the clinical trial may experience side effects.

"We have extensive safety data for this drug at doses much higher than those used in the study. Even so, anytime your dog takes medication there is the possibility of a side effect. There will be more information

about safety in the Informed Consent form you'll receive from your veterinary team," it says. "If your dog does experience side effects from the drug, you'll be supported with safety resources, including training on how to recognize side effects and access to a 24/7 hotline."

While there are many questions surrounding the study and its impact, Sceppa says she's interested in seeing the process play out.

"It's by tapping into the unknown and asking questions and creating these challenges and opportunities that we advance science and discovery," she says.

This story is republished courtesy of Northeastern Global News news.northeastern.edu.

Provided by Northeastern University

Citation: A new anti-aging pill for senior dogs just entered clinical trials. Could it one day help humans live longer? (2024, February 12) retrieved 29 April 2024 from <https://phys.org/news/2024-02-anti-aging-pill-senior-dogs.html>

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