



Winter 2002

Dogs Fed a Reduced-Calorie Diet Live Longer

Stephen Bradt
University of Pennsylvania

Follow this and additional works at: <https://repository.upenn.edu/bellwether>

Recommended Citation

Bradt, Stephen (2002) "Dogs Fed a Reduced-Calorie Diet Live Longer," *Bellwether Magazine*: Vol. 1 : No. 55 , Article 34.

Available at: <https://repository.upenn.edu/bellwether/vol1/iss55/34>

This paper is posted at ScholarlyCommons. <https://repository.upenn.edu/bellwether/vol1/iss55/34>
For more information, please contact repository@pobox.upenn.edu.

Dogs fed a reduced-calorie diet live longer

By Stephen Bradt

A 14-year study of canine diet and health has found that dogs fed a calorie-restricted diet live a median 1.8 years longer than dogs allowed to eat more and are slower to develop chronic diseases such as osteoarthritis.

The findings add to the growing body of evidence that caloric restriction in a wide range of species significantly boosts longevity. Dogs are the only large mammals—and the closest human relatives—for which a diet-restriction study has been completed. Similar studies involving primates are ongoing.

The results, from scientists at the Penn's School of Veterinary Medicine, Nestle Purina PetCare Company, University of Illinois, Cornell University and Michigan State University, was the subject of a Sept. 20-21 symposium in St. Louis. Partial results were published in May in the *Journal of the American Veterinary Medical Association*.

The study involved 48 Labrador retrievers from seven litters. Littermates were paired, with one dog fed 25 percent fewer calories than its sibling starting at 8 weeks of age. The researchers found a median life span of 13 years among dogs whose food intake was reduced, while dogs in the group fed a diet higher in calories were uniformly overweight

and had a median life span of 11.2 years.

"Impressive as they are, the life span figures are only part of the story," said **Gail K. Smith**, professor of orthopedic surgery and chair of the Department of Clinical Studies at the School. "The study also showed that lean body conformation forestalls some chronic illnesses, most notably osteoarthritis, and that diet can either mitigate or exacerbate the expression of genetic diseases.

"This study should reinforce for dog owners the importance of keeping their dogs lean, with palpable ribs and an obvious waistline," Smith said. "Avoid giving dogs too many high-calorie treats and consider a brand of balanced dog food formulated to be low in caloric content while providing a sense of satiety."

Smith said that while simply reducing a dog's food intake, as in this study, can also be effective in maintaining a healthy weight, this approach often leads to begging -- a behavior that many owners find themselves unable to resist in their canine companions.

The team of researchers has reported previously that the onset of osteoarthritis, an often painful and occasionally debilitating condition for many large-breed dogs, was delayed significantly by reduced food intake. Overall frequency of the condition was also reduced: At age 2,

only one of 24 calorie-restricted dogs had developed radiographic osteoarthritis of the hips, compared to six of 24 dogs in the unrestricted group. By age 10, six restricted dogs (42 percent of that study group) and 19 unrestricted dogs (79 percent of that study group) had hip osteoarthritis.

"Dogs in the calorie-restricted group didn't require treatment for osteoarthritis until a mean age of 13.3 years, fully three years later than the dogs in the control group," Smith said. "Because osteoarthritis is painful, this deferral represents a substantial boost in quality of life."

Caloric restriction also significantly delayed the onset and severity of other ailments. Dogs on a restricted diet who developed such conditions were 2.1 years older, on average, than their overfed counterparts.

Dietary restriction has been shown to have a positive effect on the life span of rodents and invertebrates. Research spanning decades has found that dietary restriction is the only nutritional change that consistently extends the life span of animals.

Smith was joined in the study, funded and conducted by Nestle Purina PetCare, by Darryl N. Biery at Penn; Richard D. Kealy, Dennis F. Lawler and Joan M. Ballam at Nestle Purina; Elizabeth H. Greeley and Mariangela Segre at Illinois; George Lust at Cornell; and Howard D. Stowe at Michigan State.

The following have made gifts supporting the Dr. Josephine Deubler Bridge in honor of Dr. Josephine Deubler

Animal Rescue League of Philadelphia
David K. Detweiler, V.M.D.
The Janet H. Hooker Charitable Trust

The following have made gifts supporting the Dr. Josephine Deubler Bridge in memory of Walter H. Annenberg:

Mr. and Mrs. Steven P. Finanger
Mr. and Mrs. Ronald B. Waldman

THE FOLLOWING GIFTS WERE MADE TO NEW BOLTON CENTER:

In memory of those listed:

Mary Jane Allen in memory of Sue Mueller
Jill A. Bailey, V.M.D. in memory of Dr. Eric Tulleners
Gemma M. Pompizzi in memory of Gene McAnally

In honor of a special person:

Jill A. Bailey, V.M.D. in honor of Charles W. Raker, V.M.D.
The Brandy Wine Valley Driving Club, in honor of Jill Beech, V.M.D.
Dr. and Mrs. Mark Silvers in honor of the marriage of Suzie Needles and Allen Coven

In memory of a special animal:

Hilltop Farm, Inc. in memory of "BELL MARINA"
Hilltop Farm, Inc. in memory of "COOPERSMITH"
Hilltop Farm, Inc. in memory of "SPEED TO EXCEED"
Kilwinning Veterinary Services & Nancy A. Winning, V.M.D. in memory of "DELI DANCER"
Randi Semanoff and Family in memory of "SNORT"

Randi Semanoff and Family in memory of "TIMBERLYN & WHITE OUT" AKA "TIMMY"

The following made a gift in memory of "SPENCER," beloved horse of P. Jane Simone:

Donna M. Carlson
Patricia Hall
Joshua E. Liss
Elizabeth McNamara
Timothy Rupe
Mark Stuart
Helma N. Weeks
Andrea Withers

The following made a gift in memory of "TRAPPER," beloved horse of Anne Katein:

Denise Bounous
Paul Ciaccio
Martin Dyroff
Susan G. Emeigh Hart, V.M.D., Ph.D.
Lewis Kinter
Calvert Louden
Jeremy Mercuri
Jim Morelli
Coleen Murphy
Nancy & Stephan Murphy
Sandy O'Brien
Monicah Otieno
Karen Palermo
Deb Wescott

Some recently published papers

C. Weisse, K. Schwartz, R. Stronger, J. Monschein, J.A. Solomon. Transjugular coil embolization of an intrahepatic portosystemic shunt in a cat. *Journal of the American Veterinary Medical Association* 2002;221(9):1287-1291.

T.J. Britt, C. Weisse, E.S. Weber, Z. Matzkin, A. Klide. Pneumocystoplasty in a Ryukin Goldfish. *Journal of the American Veterinary Medical Association* 2002;221(5):690-693.

C. Weisse, E.S. Weber, Z. Matzkin, A. Klide. Surgical Removal of a Seminoma from a Black Sea Bass. *Journal of the American Veterinary Medical Association* 2002;221(2):280-283.

A. Zwingenberger, A. Parks and M. Downs. Lateral ear canal resection and segmental pinnal excision in a horse to remove a sarcoid. *Equine Veterinary Education* (2002) 14 (5) 230-233.