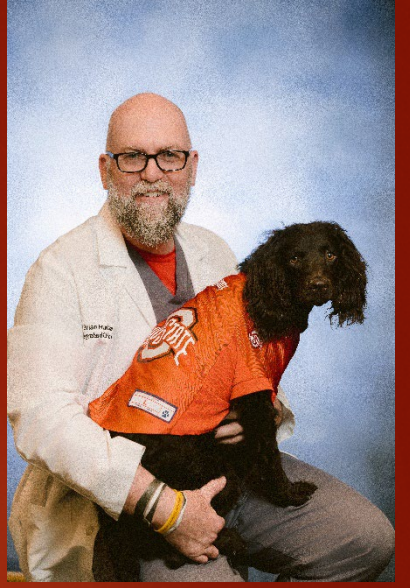
Too Fat, Too Skinny, or Just Right…You Be the Judge OR Fat Bottomed Dogs



BRIAN HUSBANDS, DVM, DIPLOMATE ACVIM (AND AWS LOVER!)

ASSOCIATE PROFESSOR, THE OHIO STATE UNIVERSITY

Blood Collection Campaign

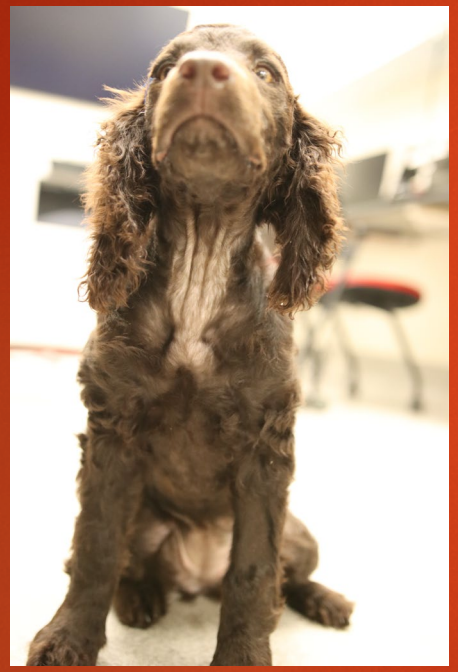
- **CHIC OFA**

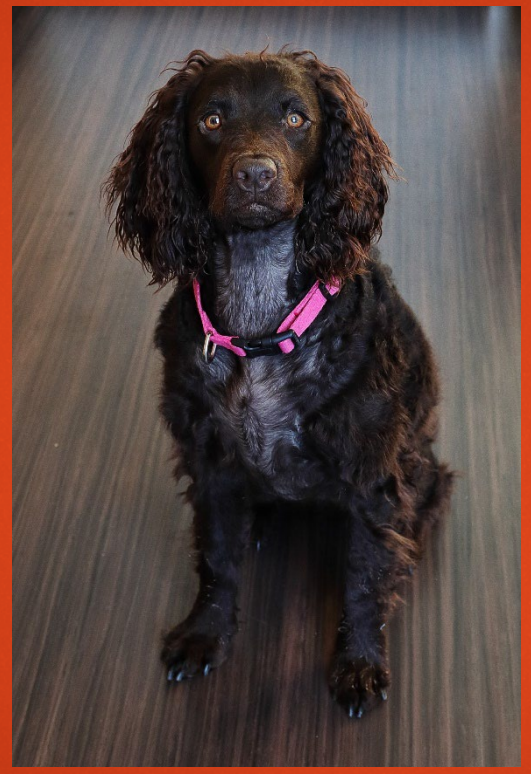
- Eddie Dziuk, Chief Operating Officer of the OFA:
  - "You have 145 samples banked which is outstanding for such a rare breed!"
  - 30 samples from </= 2009; **115 samples from 2017-2022**

THANKS TO ALL OF THOSE WHO HELPED!

Blood Collection Campaign

- ALOPECIA PROJECT

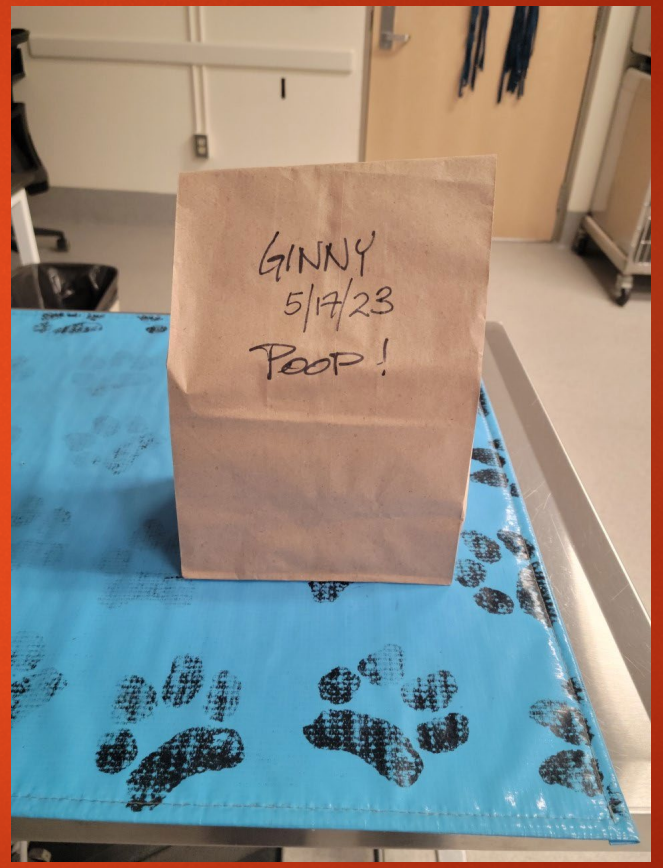




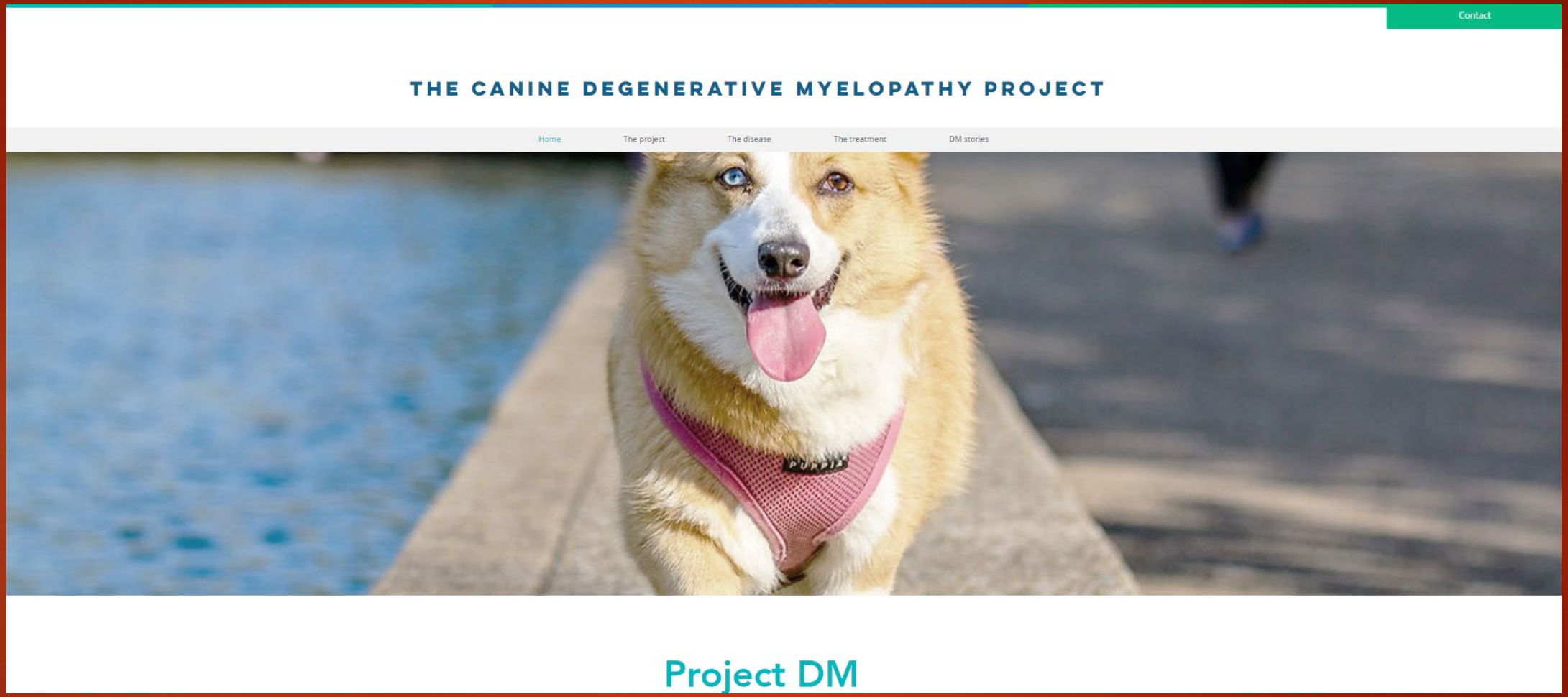
- We still need 2-3 affected dogs (we have 121 total)

THANKS TO ALL OF THOSE WHO HELPED SO FAR!

Microbiome Project



Degenerative Myelopathy



The Trial

- Three aims:
  - evaluate the safety of oral riluzole use in dogs
  - conduct a multi-site clinical trial evaluating the efficacy of riluzole treatment
  - show the utility of a recently discovered biomarker to track clinical progression of DM in dogs.
  - This research is the first step toward the long-term goal of studying multiple DM treatment options simultaneously at several institutions in the United States.
- They have started enrolling cases!

https://www.caninedm.org/find-a-study

THE CANINE DEGENERATIVE MYELOPATHY PROJECT

Home | The project | The disease | The treatment | DM stories

The AVMA Animal Health Studies Database (AAHSD)

The quickest way to search for DM clinical trials that are currently enrolling patients in the United States is to search the AAHSD hosted by the American Veterinary Medical Association. Additionally, you can click on the icons below to visit the clinical trials websites for several universities currently working on projects aimed at developing new ways to treat DM.

AVMA Animal Health Studies Database

College of Veterinary Medicine — Comparative Neurology Program

The Ohio State University Veterinary Medical Center

NC State Veterinary Hospital

Animal Health

Tufts Cummings School

What is Riluzole?

- Glutamate inhibitor

- The means through which riluzole influences neurodegeneration in ALS are not fully elucidated. The chief mechanism appears to be via reduction of glutamate levels at the synaptic cleft.
- The drug may also exert neuroprotective actions through other processes, including inhibition of glutamate release and non-competitive post-synaptic inhibition of NMDA and AMPA receptors.

- Used to treat ALS in humans

Original Article

Thieme

Pharmacokinetics of Riluzole in Beagle Dogs

Authors

Ana P. L. Perdigão[1], Natalicia de Jesus Antunes[1], Lucas T. Juni[2], Noedi L. de Freitas[1, 3], Julio Rojas-Moscoso[3], Silvia V. M. Corrêa[4], Ronaldo C. da Costa[3], Ronilson A. Moreno[1], Gustavo D. Mendes[6, 7], Gilberto De Nucci[1, 2, 3]

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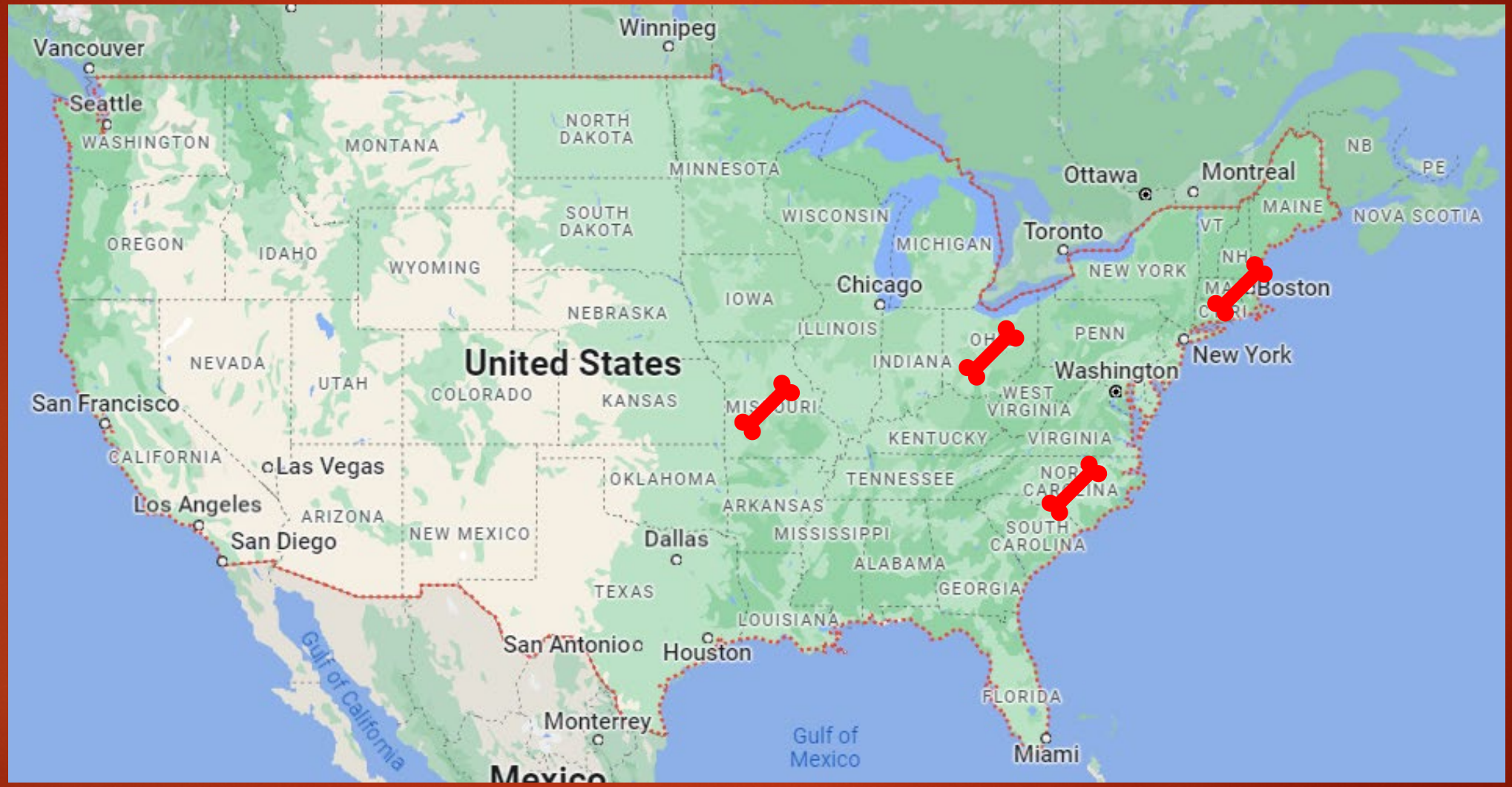
5 The Ohio State University, Columbus, OH, USA
6 Faculty of Medicine, São Leopoldo Mandic (SLMANDIC), Campinas, SP, Brazil
7 Department of Pharmacology, Faculty of Medicine, Metropolitan University of Santos, Santos, SP, Brazil

Sites for the trial

OSU
NCSU
Univ of Missouri
Tufts Univ



Led by Dr. Joan Coates and her team at University of Missouri

Fat Bottom Dogs – You Be the Judge

- The EPIDEMIC of Pet Obesity

Why Do We Care?

- The impact of being overweight ot obese is “heavy” on overall health and longevity
  - In ALL species

What factors influence a cat or dog's weight?

- **Diet:** How much and what you feed - most important factor affecting your pet's weight.
- **Exercise:** Lack of physical activity can lead to weight gain and obesity.
- **Genetics** Individual pets may have different metabolic rates, food drives, or physiological alterations that place them more at risk for obesity. There are several identified genetic mutations associated with obesity and weight gain in humans and animals.
- **Spay/Neuter Status** Pets that are spayed or neutered may experience hormonal changes that affect metabolism, and many may become less active, altering their caloric needs.
- **Age** Nutritional and dietary requirements change as the pet ages, along with nutrient digestion and catabolism, which can affect weight.
- **Medical Conditions** Certain medical conditions (hypothyroidism, hyperadrenocorticism, etc.) can cause weight changes in pets, such as diabetes and hypothyroidism in dogs.
- **Medications** Certain drugs, including corticosteroids, can cause a pet to gain weight.

From the Association for Pet Obesity Prevention

How much should your dog weigh?

- Very hard question to answer for an individual dog or a breed as a group.
- Lean muscle vs fat
- I know how much I should weigh based on…

Dog Breed - Healthy Weight Ranges (breed-specific weight ranges)

These ranges may be used as a starting point for further investigation. These reported ranges are not intended for individual pet recommendations.

Dog Breed	Female Weight (pounds)	Female Weight (kilograms)	Male Weight (pounds)	Male Weight (kilograms)	Height (inches)	Height (centimeter)
Siberian Husky	35-50 lb	15.9-22.7 kg	45-60 lb	20.4-27.2 kg	20-24 in	51-61 cm
Silky Terrier	8-10 lb	3.6-4.5 kg	9-11 lb	4.1-5 kg	9-10 in	22-26 cm
Skye Terrier	35-45 lb	15.9-20.4 kg	35-45 lb	15.9-20.4 kg	9-10 in	22-26 cm
Sloughi	30-50 lb	13.6-22.7 kg	30-50 lb	13.6-22.7 kg	24-29 in	61-74 cm
Soft Coated Wheaten Terrier	30-35 lb	13.6-15.9 kg	35-40 lb	15.9-18.1 kg	17-19 in	43-48 cm
Spaniel American Water	25-40 lb	11.3-18.1 kg	30-45 lb	13.6-20.4 kg	15-18 in	38-46 cm
Spaniel Boykin	25-35 lb	11.3-15.9 kg	30-40 lb	13.6-18.1 kg	14-18 in	36-46 cm
Spaniel Clumber	55-70 lb	25-31.8 kg	70-85 lb	27.2-38.6 kg	17-20 in	43-51 cm
Spaniel English Cocker	26-32 lb	11.8-14.5 kg	28-34 lb	12.7-15.4 kg	15-17 in	38-43 cm
Spaniel Field	35-50 lb	15.9-22.7 kg	35-50 lb	15.9-22.7 kg	17-18 in	43-46 cm
Spaniel Irish Water	45-58 lb	20.4-26.3 kg	55-68 lb	25-30.8 kg	21-24 in	51.61 cm
Spaniel Sussex	35-45 lb	15.9-20.4 kg	35-45 lb	15.9-20.4 kg	13-15 in	33-38 cm

https://www.petobesityprevention.org/ideal-weight-ranges

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https://www.petobesityprevention.org/ideal-weight-ranges

Veterinarians Often Neglect

- Why is this?
  - Obesity is often documented, but not discussed (not the primary focus of the visit).
  - Perception of being "mean"
  - Not enough time?
  - Discussing this wouldn't change anything?
  - The pet isn't fat, they are just "big-boned" or "happy this way".
- We are not providing the best care we can if we aren't discussing this with you!
  - The intent of this seminar is to empower you, the pet owner, the importance of obesity and how to tell whether your dog is overweight.

animals

MDPI

Opinion

The Responsibility of Veterinarians to Address Companion Animal Obesity

Barry S. Kipperman [1,*] and Alexander J. German [2,3]

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2. Institute of Ageing & Chronic Disease, University of Liverpool, Neston CH60 5SZ, UK; ajgerman@liverpool.ac.uk
3. Institute of Veterinary Science, University of Liverpool, Neston CH60 5SZ, UK

* Correspondence: kippermanb@missouri.edu; Tel.: +1-925-785-9156

Received: 9 July 2018; Accepted: 18 August 2018; Published: 21 August 2018

check for updates

Simple Summary: Obesity is a disease of rapidly increasing prevalence in dogs and cats, with significant and often lifelong implications for animal welfare. Veterinarians are expected and mandated to protect animal health and welfare, and provide informed consent. We provide an overview of the causes, risk factors, and consequences of pet obesity; evidence regarding veterinarian compliance in diagnosing and discussing obesity in small animal practice; and outline recommendations to prevent and address overweight and obesity in companion animals. We argue that small-animal veterinarians are not meeting their ethical and professional obligation to speak up about obesity, which is a One-Health problem.

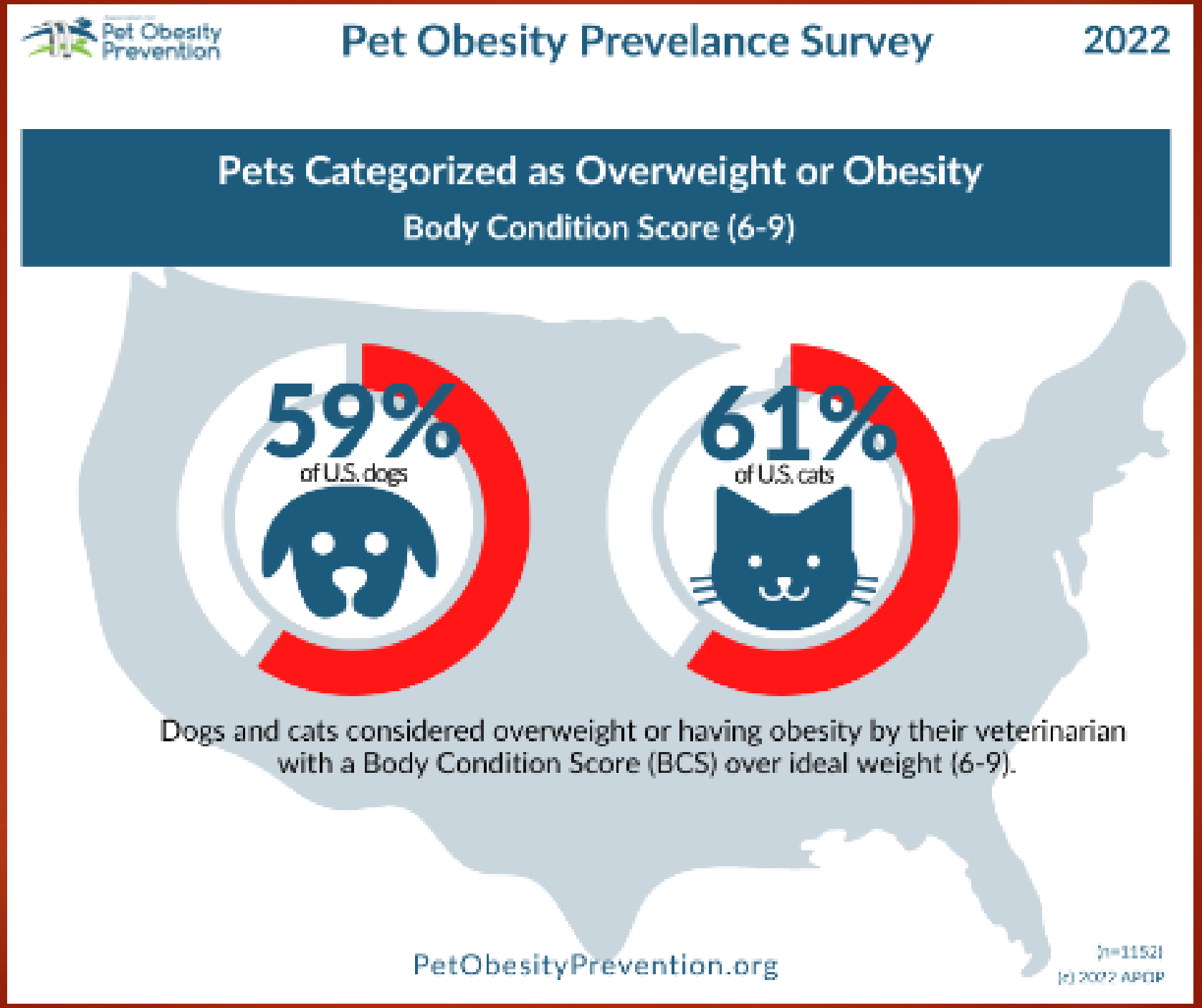
Abstract: Obesity is a modern-day epidemic in both people and companion animals. A summary of the current research on the causes, risk factors, consequences, and implications of overweight and obesity, and the compliance of small-animal practitioners in recognizing and addressing pet obesity, is provided. Ethical and animal welfare concerns are raised regarding these findings. We argue that a patient advocacy posture compels the veterinary profession to confront this issue more reliably. Evidence is presented to support obesity as a One-Health problem, and discrete and practical recommendations for preventing and addressing companion animal obesity are proposed. The One-Health perspective encourages coordinated action by veterinary healthcare professionals in order to address overweight and obesity in companion animals as a public health concern.

Keywords: ethics; obesity; communication; advocacy; one health

Feature

ONE HEALTH

Canine and feline obesity: a One Health perspective


Pet Obesity Prevention
Pet Obesity Prevelance Survey
2022
Pets Categorized as Overweight or Obesity
Body Condition Score (6-9)
59%
of U.S. dogs
61%
of U.S. cats
Dogs and cats considered overweight or having obesity by their veterinarian with a Body Condition Score (BCS) over ideal weight (6-9).
PetObesityPrevention.org
n=11521
(c) 2022 APOP

APOP

veterinary sciences

MDPI

Article

Dog Owners' Perceptions of Canine Body Composition and Effect of Standardized Education for Dog Owners on Body Condition Assessment of Their Own Dogs

Sanna Gille †, Hanna Fischer †, Sanna Lindåse, Linda Palmqvist, Julia Lärka, Sara Wolf, Johanna Penell and Josefin Söder *

- 564 dogs (assessed by pet owners and veterinarians using photos)
- Normal weight dogs were underestimated by pet owners in ~3/4 of the cases
- Overweight dogs were underestimated by pet owners in ~1/2 of the cases

- After receiving standardized education, pet owners were as accurate in assessing body condition as veterinarians.

WSAVA
Global Nutrition Committee

Body Condition Score

UNDER IDEAL

1. Ribs, lumbar vertebrae, pelvic bones and all bony prominences evident from a distance. No discernible body fat. Obvious loss of muscle mass.
2. Ribs, lumbar vertebrae and pelvic bones easily visible. No palpable fat. Some evidence of other bony prominences. Minimal loss of muscle mass.
3. Ribs easily palpated and may be visible with no palpable fat. Tops of lumbar vertebrae visible. Pelvic bones becoming prominent. Obvious waist and abdominal tuck.

IDEAL

4. Ribs easily palpable, with minimal fat covering. Waist easily noted, viewed from above. Abdominal tuck evident.
5. Ribs palpable without excess fat covering. Waist observed behind ribs when viewed from above. Abdomen tucked up when viewed from side.

OVER IDEAL

6. Ribs palpable with slight excess fat covering. Waist is discernible viewed from above but is not prominent. Abdominal tuck apparent.
7. Ribs palpable with difficulty; heavy fat cover. Noticeable fat deposits over lumbar area and base of tail. Waist absent or barely visible. Abdominal tuck may be present.
8. Ribs not palpable under very heavy fat cover, or palpable only with significant pressure. Heavy fat deposits over lumbar area and base of tail. Waist absent. No abdominal tuck. Obvious abdominal distention may be present.
9. Massive fat deposits over thorax, spine and base of tail. Waist and abdominal tuck absent. Fat deposits on neck and limbs. Obvious abdominal distention.

German A, et al. Comparison of a bioimpedance monitor with dual-energy x-ray absorptiometry for noninvasive estimation of percentage body fat in dogs. *AJVR* 2010;71:393-398.
Jeusette I, et al. Effect of breed on body composition and comparison between various methods to estimate body composition in dogs. *Res Vet Sci* 2010;88:227-232.
Kealy RD, et al. Effects of diet restriction on life span and age-related changes in dogs. *JAVMA* 2002;220:1315-1320.

Assessing Body Condition

- https://www.youtube.com/watch?v=tf_-rwxqHYU

8:34 5G 56%

AWS Ch...

Martha Sbarbori
Jul 9 at 9:33 AM ·

It's so easy for the little scavengers to get overweight. They will live a longer and healthier life if they are not obese.

Kristen McKenna
Jul 7 at 6:55 PM ·

Prevent Pet Obesity: The Hand Trick

Want to know if your pet is a healthy weight? Feel their ribs and compare them to different parts of your hand to determine if your pet is too thin, too heavy, or just right.

AMC SINCE 1910 | Animal Medical Center
Usdan Institute for Animal Health Education

amcny

6 14 comments

Like Comment Send Share

Prevent Pet Obesity: The Hand Trick

Want to know if your pet is a healthy weight? Feel their ribs and compare them to different parts of your hand to determine if your pet is too thin, too heavy, or just right.

AMC SINCE 1910 | Animal Medical Center
Usdan Institute for Animal Health Education

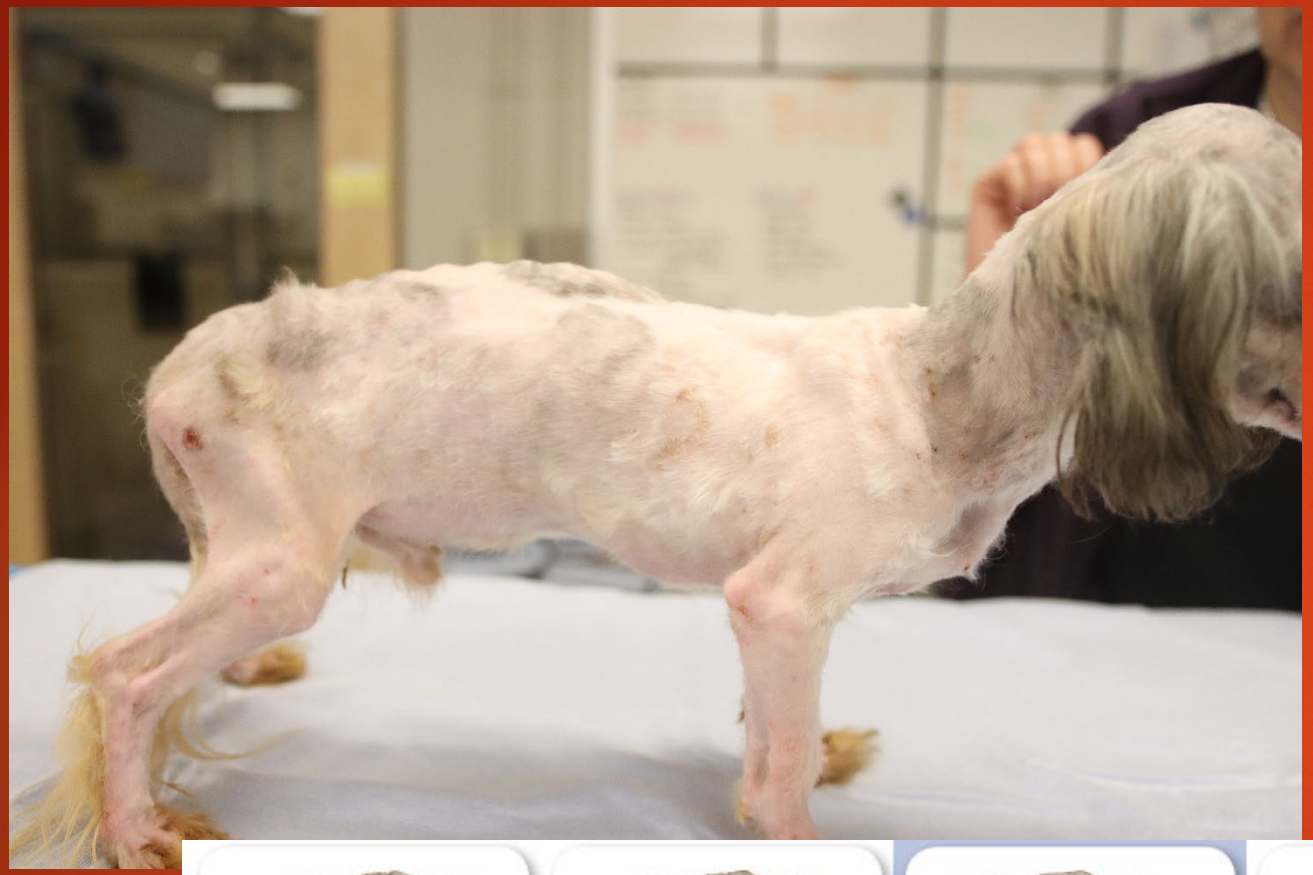
amcny

Finnegan - seizures

Rowan 5y Male (intact) G Shep

Rowan 5y Male (intact) G Shep

Older Male Mixed Breed - stray



Scarlett, 7y Female (spayed)

These examples were probably pretty easy for most

- What about our dogs?

Rio 5y Male (intact) AWS

Rio 5y Male (intact) AWS

Factors influencing the development of obesity

- **Diet** How much and what you feed your pet is the most factor affecting your pet's weight.
- **Exercise** Lack of physical activity can lead to weight gain and obesity.
- **Genetics** Individual pets may have different metabolic rates, food drives, or physiological alterations that place them more at risk for obesity. There are several identified genetic mutations associated with obesity and weight gain in humans and animals.
- **Spay/Neuter Status** Pets that are spayed or neutered may experience hormonal changes that affect metabolism, and many may become less active, altering their caloric needs.
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- **Medical Conditions** Certain medical conditions (hypothyroidism, hyperadrenocorticism, etc.) can cause weight changes in pets, such as diabetes and hypothyroidism in dogs.
- **Medications** Certain drugs, including corticosteroids (prednisone), can cause a pet to gain weight.

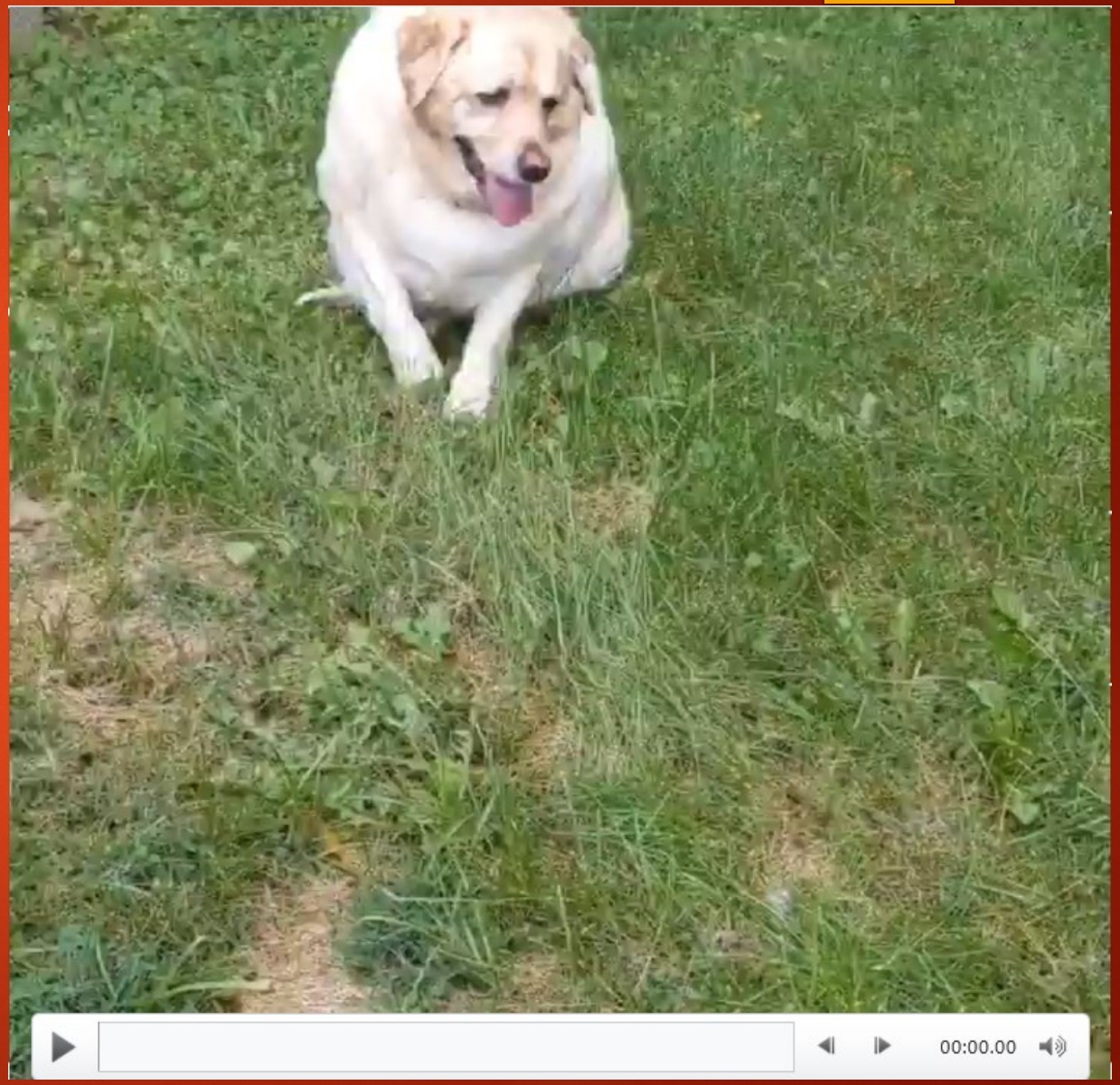
Why do we care if our pet is "a little" overweight?

- A few pounds above your dog's ideal weight can put it at risk of developing some serious medical conditions. Unfortunately, when a dog is diagnosed as overweight or with obesity, it is no longer a question of "if" your dog will develop a condition secondary to the excess weight but "how many and how soon!"
- **Studies show that excess unhealthy adipose tissue can cause debilitating conditions and disease and reduce a pet's life expectancy by an average of two years.**
  - Osteoarthritis or other orthopedic diseases
  - Luxating patella (knee dislocation) due to cartilage damage
  - Type 2 diabetes (metabolic and endocrine disorders)
  - Respiratory and Heart disease
  - High blood pressure
  - Kidney disease
  - Chronic inflammation
  - Some forms of cancer
  - Reproductive problems (lower conception rates, smaller litters, higher risk of dystocia)
  - Overweight and obese dogs are expected to live shorter lives than their healthy-weight counterparts.
- Easy to overlook; less interaction from an obese pet is often seen as normal "laziness"

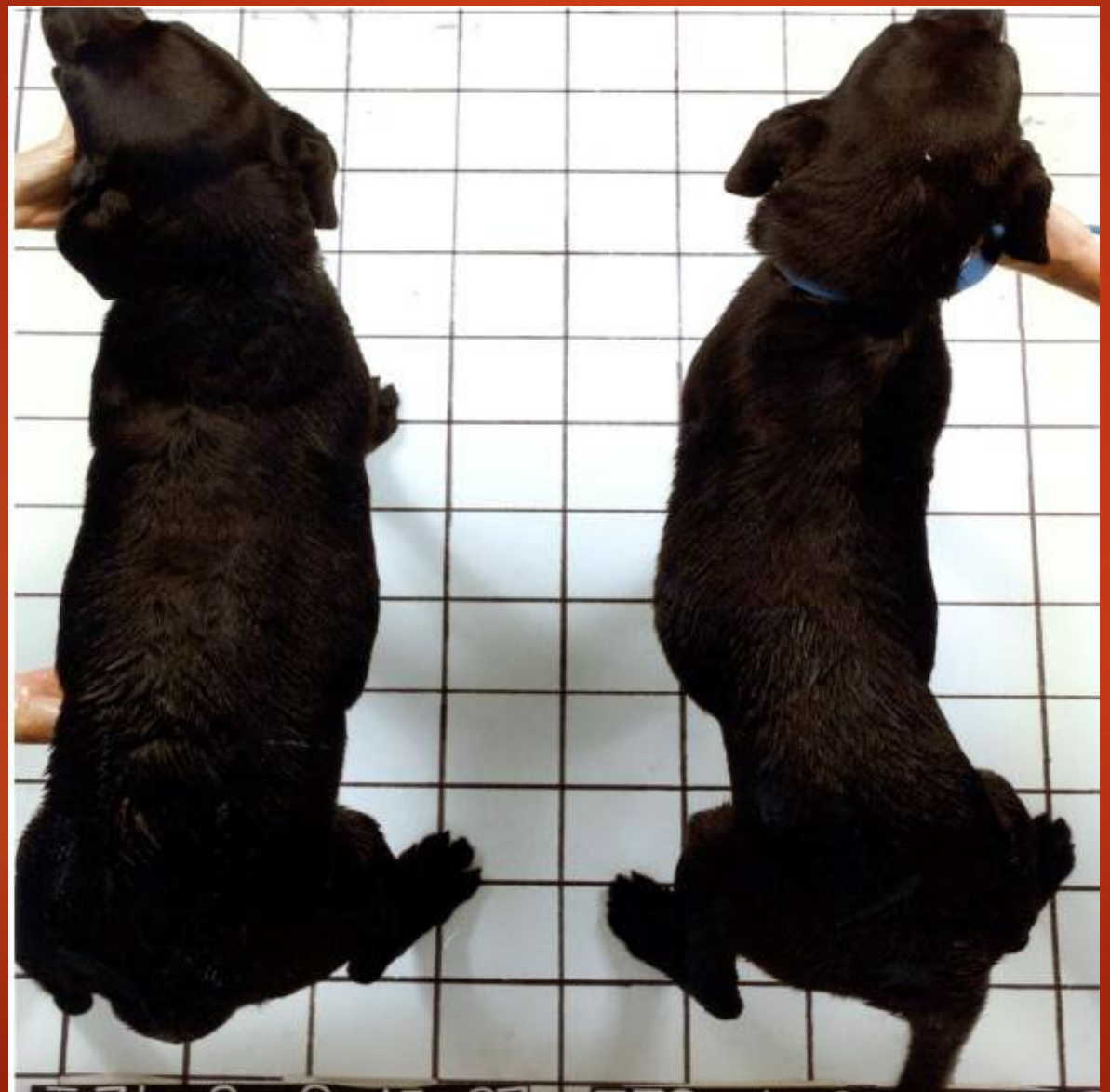
Assoc Prev Obesity in Pets

Molly – 9yr old F/S lab

- Previously owned by an elderly woman
- Loved Molly to pieces
- Minimal exercise
- Free fed
- Shared meals with Molly
- Treats 3-7 times per day



Purina Life Span Study

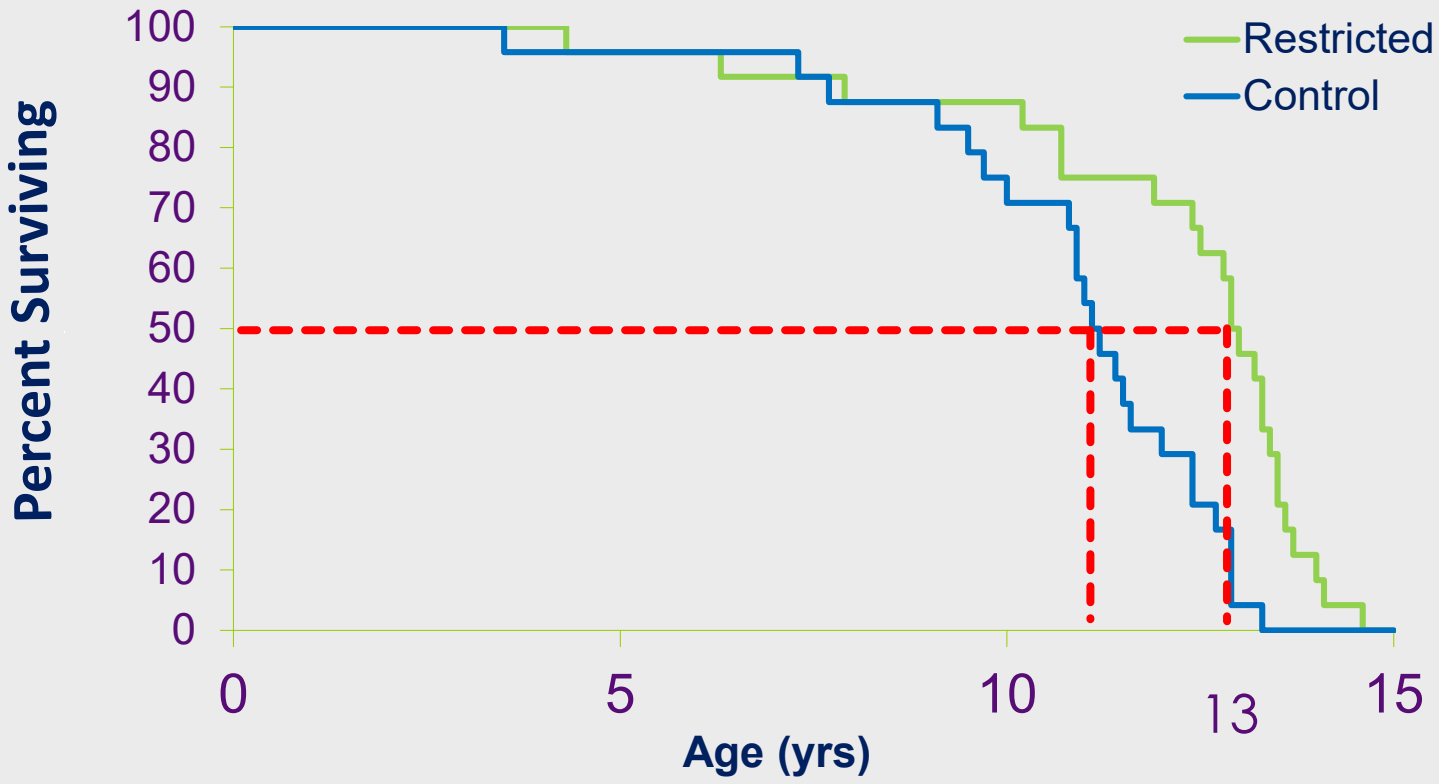


Arthritis (OA) in Multiple Joints
(8 years of age)

Arthritis	Lean-fed	Control-fed
Hip and Shoulder	10%	68%
More than 2 joints	10%	77%

Kealy et al. JAVMA vol 217 2000

Survival By Treatment Group

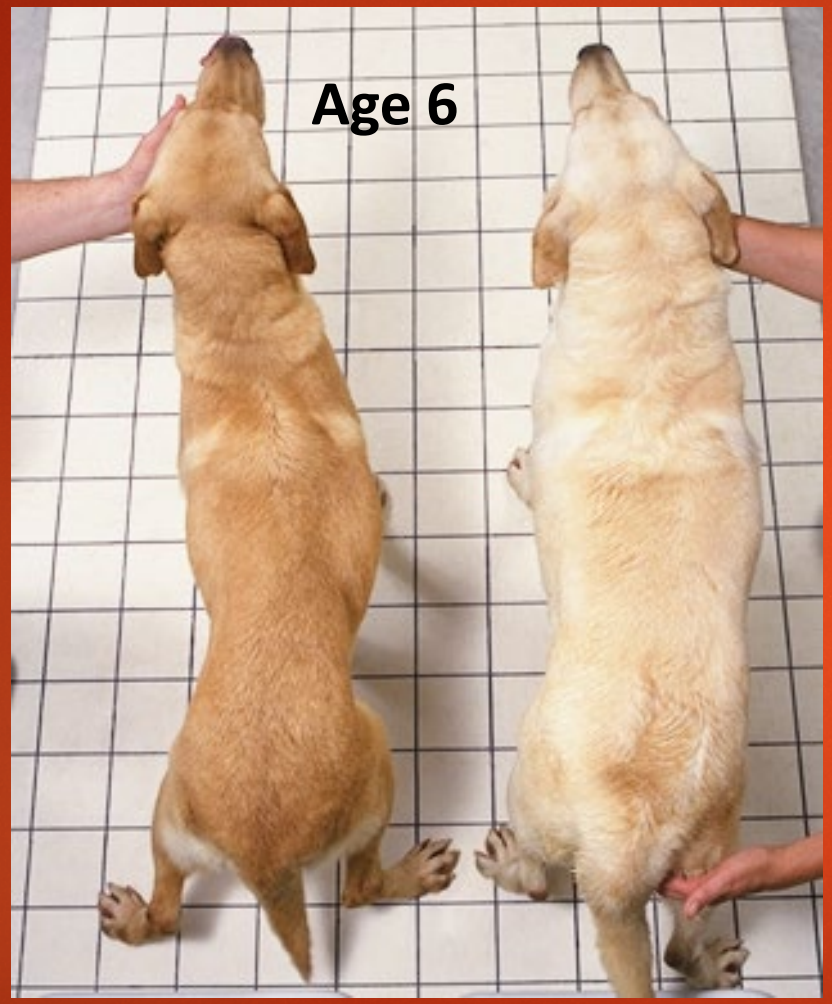


p < .001

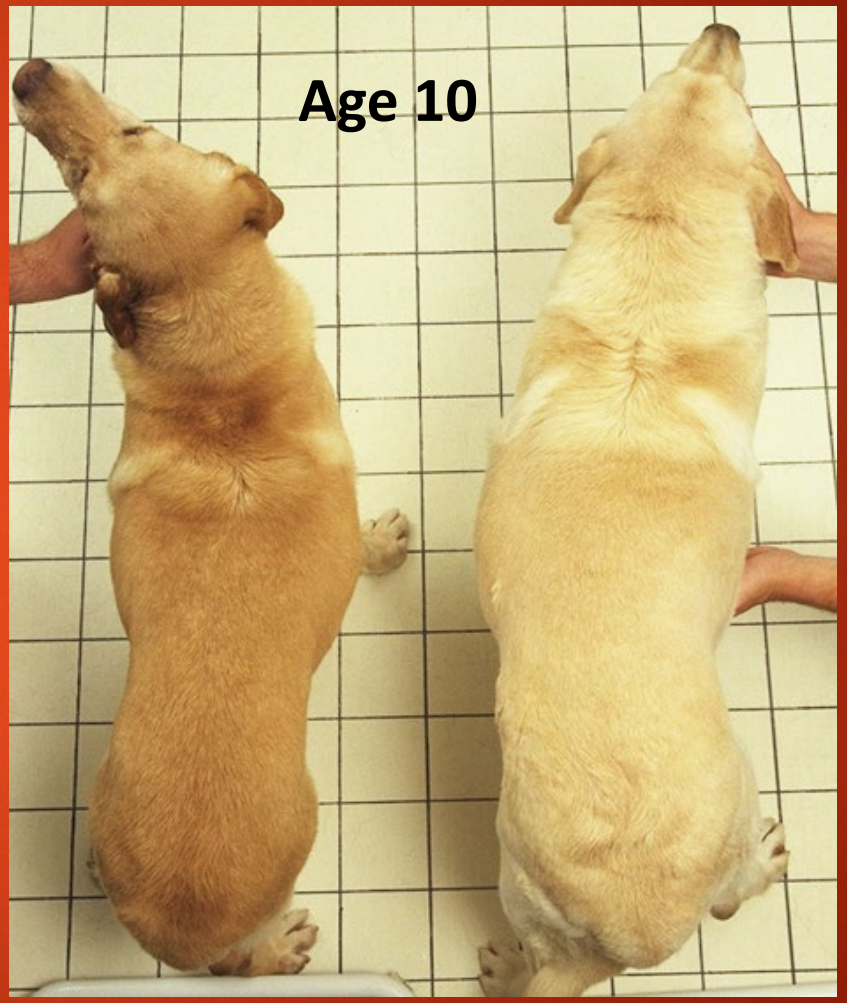
Median life span: 11.2 years vs. 13.0 years

Kealy et al. JAVMA 2002

Restricted-fed Control-fed



Restricted-fed Control-fed



BCS 4.6 BCS 6.7

% BF 16.8% % BF 29.9%

Purina Life span study. Used with permission from Nestle Purina

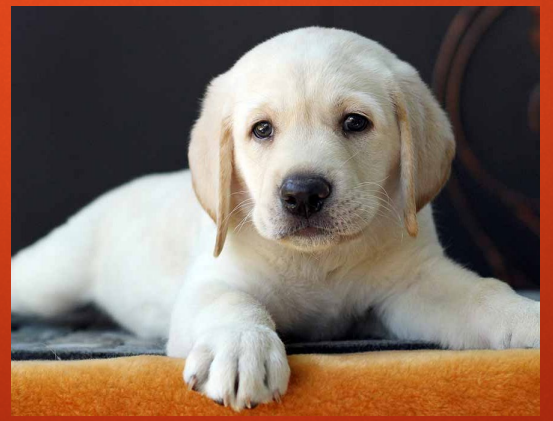
Take away points from this study

For optimal health and long life

- Keep our pets at their health weight and body condition
- Delay onset and reduce progression of arthritis and pain
- Delay many other chronic diseases (~ 2 years)
- Prolong life (~ 2 years)
- As little 15% overweight

“an ounce of prevention…”

- Easier to prevent unhealthy gain than to treat it
- Significant health benefits from maintaining a lean body weight
- Target by known risk factors



Choose the “right” food and feed it “right”

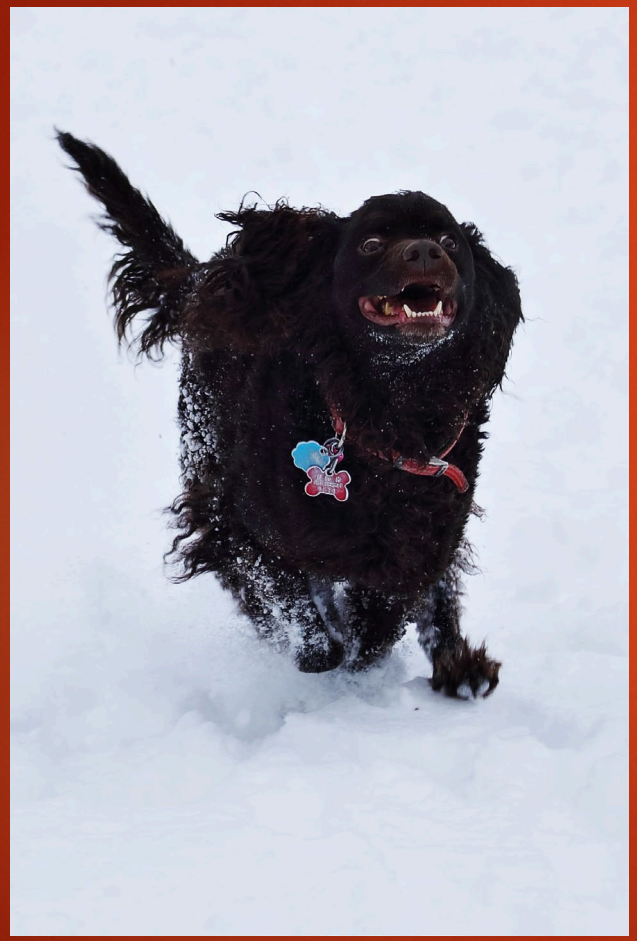
- So many food options!
  - Balanced and complete diet
- Recommendations for feeding
  - Label Recommendations
- Every individual dog’s needs differ

LIfestyle

Today

Lifestyle

Lifestyle



Lola

Ginny

Treats are a big problem in our house

- No less than 5 kinds of treats in my house
- Some healthier than others

My dog has no self-control!

Frosty Paws

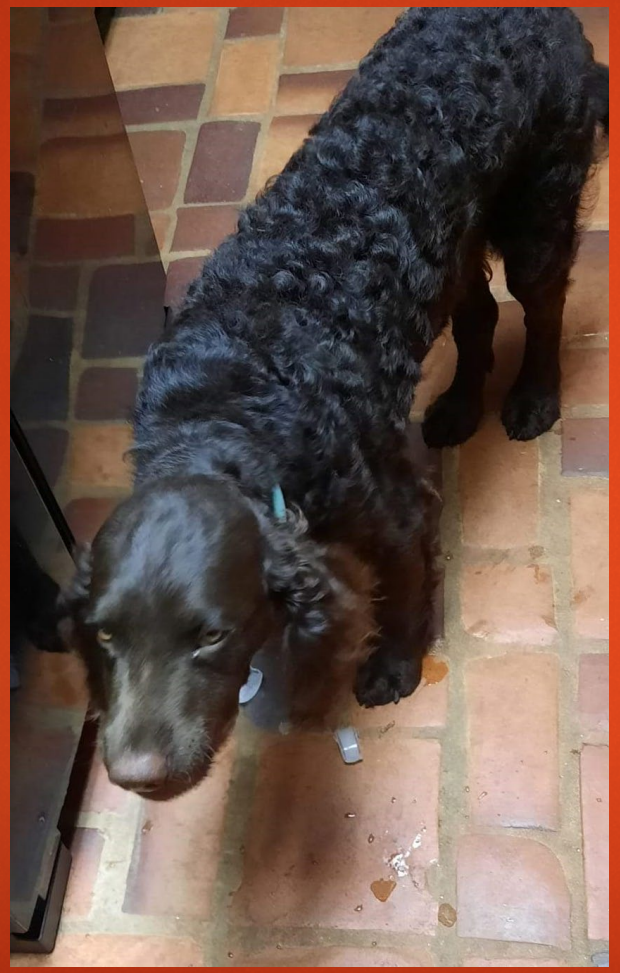
- 128 kcals/calories/cup (**~20% of Ginny's daily calorie intake**)

Healthy Snacks – lower calorie & heathier

- Carrots: 4 kcal (<1% Ginny)
- Other veggies/fruit
  - No grapes, raisins, or onions
- Popcorn
- Ice Cubes

- For other treats, consider decreasing part of their meal.

Healthy Snacks



Obesity Prevention is key

Second choice: early intervention

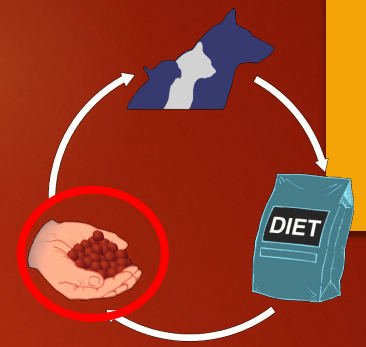
Treats are so much more than food
Do things with your dog.








Working for Food



Stimulation

Weight Loss Plans

- Work with your veterinarian
- Often, simple changes (decreasing each meal by ~15% does the trick)
- Takes time to see results
- Recommendations will be influenced by the lifestyle of the dog

Studies - Microbiome and Obesity

- Harnessing the Power of Microbes to Fight Obesity: A First Look at the Canine SLIM Study Dr. Jenessa Winston, The Ohio State University

Molly – 1 year later

Courtesy of Arielle Markley, DVM, Diplomate ACVSMR

Take Aways

- **Obesity Prevention is worth it's weight in gold!**
  - **Health problems, breeding success, and longevity in dogs ARE influenced by obesity**
- **Assess your dog frequently (every few months) using the boy condition scoring system (compared to your hand)**
- **If you are not seeing the results your hoping for, consult your veterinarian**
  - **Some medications and health conditions can contribute to obesity/lack of success**

pattyscreations.com

Resources

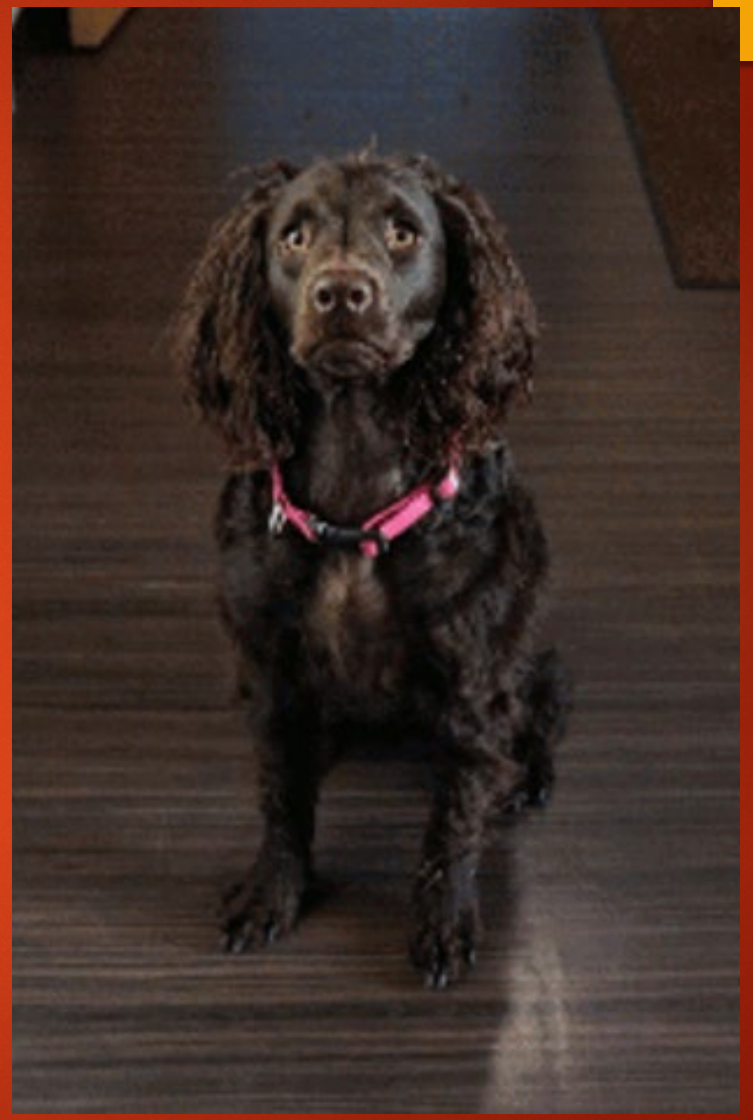
- https://www.petobesityprevention.org/

Resources

- https://wsava.org/wp-content/uploads/2021/04/WSAVA-Global-Nutrition-Toolkit-English.pdf

Resources

- Body Condition Score Chart – canine



Thank you to the AWS Club, the Health & Genetics Committee, and the Membership!

Questions?