

Does Your Dog Live for Feeding Time? This Might Be Why

Some dogs appear insatiable — they can gorge themselves on food and treats and be right there for the next meal. What to do if this describes your dog, and what researchers found when they looked closely at the breed most notorious for a healthy appetite and expanding waistline.

Reviewed by Dr. Becker

STORY AT-A-GLANCE

- Obese Labrador retrievers were more likely to have a deletion in a gene known as POMC than lean Labs; the missing part of the POMC gene may help switch off feelings of hunger after a dog has eaten
- The gene variant is seen more often in Labrador retrievers selected to become assistance dogs, possibly because the dogs' increased food motivation makes them easier to train using treats
- It's estimated that more than one-fifth of Labrador retrievers carry the "obesity gene"
- A nutritionally balanced fresh-food diet and appropriate exercise can help your dog maintain a healthy weight even if he's genetically predisposed to weight gain
- Daily exercise, at least 20 minutes but preferably 60 minutes, is equally important

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A highly processed, grain-based diet and lack of regular physical activity present the perfect storm to make virtually any dog overweight or obese. Yet, certain breeds seem to be somewhat resistant to weight gain while others are prone to it.

In the case of Labrador retrievers, which in 2016 was named America's most popular dog for the 25th consecutive year,¹ such dogs tend to be overweight more often than not. They also have a keen interest in food, even more so than your average pooch.

It turns out there might be an underlying reason for their food-motivated behavior and tendency toward obesity: an underlying genetic variation.

Researchers Uncover First Canine 'Obesity Gene' in Labs

Researchers from the University of Cambridge tested a group of Labrador retrievers for three genes related to obesity in mice and humans. The obese Labradors were more likely to have a variation in a gene known as POMC. Specifically, a portion of the DNA at the end of the gene was missing.

They noted, "The deletion disrupts the β -MSH and β -endorphin coding sequences," which are associated with body weight and food motivation. It's thought the missing part of the POMC gene may help switch off feelings of hunger after a dog has eaten.

After analyzing DNA from 38 other **dog breeds**, the gene variant was only found in one other: flat-coat retrievers, which are closely related to Labradors.

It's also seen more often in Labrador retrievers selected to become assistance dogs. This could be because the dogs' increased food motivation makes them easier to train using treats. Not all Labradors carry the genetic variation; it's estimated that more than one-fifth do, however.

Dogs with one copy of the genetic variant were about 4 pounds (lb) heavier on average than dogs without, while those with two copies weighed close to 8.5 lb more, on average.

Obesity Gene May Have Benefitted Labradors' Ancestors

Labradors and flat-coat retrievers came from a common ancestor, the now-extinct St. John's water dog. These working dogs were used by fishermen in Newfoundland to retrieve nets from the cold water.

Having a genetic variant that encouraged increased calorie consumption could have significantly benefitted these dogs. Study co-author Eleanor Raffan, Ph.D., from the University of Cambridge, told the Guardian:²

"In that context, when you are doing really hard work and having to burn a lot of calories to stay warm, snaffling any food in sight might have been a really good idea."

It's possible, according to the researchers, that the food-motivated dogs may have been easier to train and therefore favored by their owners, allowing the gene to get passed down generation after generation.³

Genetic Factors Are Only One Part of the Picture

While it seems likely that some Labrador retrievers may be hard-wired to gorge themselves on food and treats if given the opportunity, genetic factors are not the sole driving force behind a dog's weight.

Even in the case of the newfound obesity gene, not all Labradors have it, nor are all Labradors that do overweight. Raffan continued in the Guardian:⁴

"Within our cohort we have overweight dogs without the mutation, we have very food motivated dogs without the mutation and equally we have dogs with the mutation who are lean because their owners keep them very well managed."

That latter sentiment is key, as ultimately it's up to you, the owner, to help your dog manage her weight. Even though Labrador retrievers have the highest rate of obesity and are more food-obsessed than many other breeds, this doesn't mean your dog is destined to become the next obesity statistic.

What to Feed a Dog Prone to Weight Gain

If you own a Labrador retriever, don't panic. The best food for your dog is actually the same as the food recommended to other dog breeds: a nutritionally balanced fresh-food diet, preferably homemade.

If your dog were a wild dog, she would catch and consume whole prey as well as scavenge carrion (dead animals).

Her diet would be supplemented with berries, grass, seeds, nuts, poop and a variety of other plants, which could comprise up to 30 percent of her overall diet, depending on lots of factors (weather, health, food scarcity, location, etc.).

You can mimic this diet by creating homemade dog food, just be sure you use healthy, nutritionally appropriate recipes. If your dog needs to lose weight, don't just cut down his portions and add in some bulk, like green beans. This may fill her up, but it won't give her the complex nutrition she needs to be nourished.

One of the worst foods to feed a dog prone to weight gain is grain-heavy kibble. Dogs that need to lose weight should be fed a grain-free, fresh-food diet (and this means no potato, corn, rice, soy or tapioca, either).

Once you switch to healthier food, you'll need to carefully measure out an appropriate portion and be sure to account for any healthy treats, like berries, that you feed her.

Daily exercise, at least 20 minutes but preferably 60 minutes, is equally important and, of course, you'll need to learn to resist your dog's charms when she's begging for a piece of your pizza.

Even Dogs Genetically Prone to Weight Gain Can Maintain a Healthy Weight

The bottom line is that while your dog may be genetically predisposed to weight gain, lifestyle can often overcome genetic tendencies.

If your dog is a Labrador retriever with the noted genetic variant, however, healthy diet and exercise may be even more important than they are for the average dog, at least in terms of maintaining a healthy weight.

Remember even within the realm of fresh-food diets there's a wide variety of calorie and fat contents between diets. Choosing a low-fat fresh-food diet and feeding the amount needed to reach your dog's ideal body weight is very important.

If you've tried changing your dog's food to a nutrient-dense, low-calorie, fresh, and species-appropriate diet and getting adequate exercise and your dog still isn't losing weight, you might want to consider Time Restricted Feeding (TRF), also called intermittent fasting, or feeding one meal a day or two smaller meals within a six- to eight-hour period.

Preliminary research suggests a dog's metabolism can be jumpstarted by regularly altering caloric content, feeding frequency and volume of food.

Time-Restricted Feeding Success Story

Dogs and their common ancestor, *Canis lupus*, have thrived over thousands of years by adapting to their environment, including metabolic work-arounds for scarce food supplies and harsh environmental conditions. Most carnivores, including dogs, are evolutionarily adapted for periods of starvation.

Research shows these **temporary physiologic stressors** actually provide the body with opportunities for enhanced immune function. The problem is, in the last 100 years humans have removed all opportunities for this to occur in pets. We feed them more than they metabolically need, on a schedule, twice daily, no matter what.

Then we offer them "snacks" (treats) throughout the day, a far stretch from dogs having to work to catch their dinner — and sometimes not be lucky enough to actually catch meals daily (much less two or three times a day).

This extreme deviation from a dog's natural history has negatively affected their immune-metabolic health in ways we're just beginning to understand.

TRF has proven to be a very successful health tool for many mammals. For dogs, this means allowing a dog's GI tract to rest in between meals for 16 to 24 hours (feeding one large meal a day, or two smaller meals six to eight hours apart).

Restricting caloric intake to just part of the day also more closely follows a dog's natural history. Metabolically, dogs aren't designed to graze all day. What we're learning is that changing not only what we feed dogs, but how we feed dogs can substantially alter their immuno-metabolic health.

If you have an overweight dog, ask your holistic vet about how to begin implementing TRF to improve your dog's metabolic wellbeing. Feeding dogs a well-timed, balanced, and fresh-food diet may make all the difference in achieving their weight loss goals.

Sources and References

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[Science Daily, May 3, 2016](#)

[BBC News, May 3, 2016](#)

¹ [AKC, June 25, 2020](#)

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