

Dogs: The Omnivore-Carnivore Question

by Dr. Jeannie Thomason & Dr. Kim Bloomer

Dogs, from the smallest Chihuahua to the largest Mastiff, are carnivores. The assumption that dogs are omnivores remains to be proven, but dogs being carnivores is evidentially supported.

Dogs, like wolves, are opportunistic and will eat just about anything given half a chance. Otherwise in the wild, when prey is scarce to non-existent, they would die of starvation. However, this doesn't make them omnivores.

What makes the dog a carnivore?

Beginning with the skull, the shape of the dog's head (**Image 1**) may not resemble exactly the head of a wolf (**Image 2**) but, all canids have the same simple hinge jaw that works in a scissoring manner rather than the rotational fashion of an herbivore – such as a horse or cow.

Carnivores do not chew their food and their saliva doesn't play an active role in the initial stages of digestive function. Instead, it serves to lubricate the food for transport to the stomach.

The teeth

Look in your dog's mouth. "Those huge impressive teeth (or tiny needle sharp teeth) are designed for grabbing, ripping, tearing, shredding, and shearing meat" (Feldhamer, G.A. 1999. *Mammology: Adaptation, Diversity, and Ecology*. McGraw-Hill. pg 258).

Omnivores possess chisel-like front teeth that are useful for cutting plant stems. In contrast, the carnivore's (dogs) front teeth are sharp and adapted to puncturing, slashing and clinging. The most useful teeth for this purpose are the canine teeth or fangs, but the incisors also serve as a clamp. Behind the canine teeth are rows of premolars and molars, which are also called "flesh teeth" as they are useful for tearing and shearing meat. These teeth are also used for cutting through tendons and small bones, and for crushing larger bones. The canine tongue is long and supple for lapping blood and licking meat off bones.

The carnivore's molars are uniquely designed. They are not large flat molars for grinding plant matter. Instead, they are pointed and situated in a scissors bite (along with the rest of their teeth) that powerfully disposes of meat, bone, and hide.

Carnivores are equipped with a peculiar set of teeth that includes carnassial teeth: the fourth upper premolar and first lower molar. Contrast this with your own teeth or the teeth of a pig (**Image 3**). A pig is a true omnivore, as are we. We have nice, large, flat molars that can grind up veggies. Black bears, while having impressive canine teeth, also have large flat molars to assist in grinding up plant matter. Dogs/ carnivores lack these kinds of molars. Why? Because they are not designed to eat plant matter.

"Teeth are highly specialized and are structured specifically for the diet the animal eats, and the difference between a bear's teeth and a dog's teeth (both species are in Order Carnivora) demonstrates how this can be."

"Dogs are equipped with powerful jaw muscles and neck muscles that assist in pulling down prey and chewing meat, bone, and hide. Their jaws hinge open widely, allowing them to gulp large chunks of meat and bone. Their skulls are heavy, and are shaped to prevent lateral movement of the lower jaw when captured prey struggles (the mandibular fossa is deep and C-shaped); this shape permits only an up-and-down crushing motion, whereas herbivores and omnivores have flatter mandibular fossa that allows for the lateral motion necessary to grind plant matter".

"Canids, felids, and mustelids subsist mainly on freshly killed prey. These families show correspondingly greater development in 'tooth and claw'; they also have greater carnassial development and cursorial locomotion." (Feldhamer, G.A. 1999. *Mammology: Adaptation, Diversity, and Ecology*. McGraw-Hill. pgs 258-260).



Image 1, Carnivore Skull, Domestic Dog. Notice that ALL the teeth are sharp and pointed - not flat for grinding.

The digestive system

Unlike the long digestive tract of the omnivore or herbivore, the dog's intestinal tract is short and suited for rapid digestion of raw meat and bones. This aids in rapid digestion of raw meat. Their simple monogastric stomach is a storage organ capable of holding large amounts of nutrient dense meat and fat. The other function of the stomach is to secrete concentrated solutions of hydrochloric acid, which create the highly acidic environment necessary for initiating digestion of protein in meat and bones as well as destroying pathogenic bacteria that may be ingested.

"Dogs have a highly elastic stomach designed to hold large quantities of meat, bone, organs, and hide. Their stomachs are simple, with an undeveloped caecum." (Feldhamer, G.A. 1999, Mammology: Adaptation, Diversity, and Ecology. McGraw-Hill. pg 260).

The dog's carnivore gut is extremely efficient at digesting protein and fat, as long as there is little or no carbohydrate (grain-starch) present. Experiments that have measured the amounts of various nutrients eaten compared with the amounts passed in canine feces have shown that a healthy animal loses no more than four percent of its fat intake and only a trace of protein. The digestive efficiency of raw meat is 95% and takes place in 2 to 3 hours. The relatively short foregut and a short, smooth, unsacculated colon is designed as such for raw meat and bones to pass through quickly.

Grains and plant matter need time to sit and ferment. This requires a longer, sacculated colon, larger and longer small intestines, and the presence of a caecum – as in humans. Dogs have none of these, making grains and plant matter virtually indigestible to them. Dogs have a shorter foregut and hindgut consistent with carnivorous animals. This explains why plant matter comes out of their bodies the same way it went in; there was no place in the intestinal tract or the gut transit time for it to be broken down and digested. Feeding vegetables and grains to a carnivorous animal is a questionable practice at best and it explains why feeding dogs in this manner may contribute to the increase in dis-ease.

Dogs/ carnivores do not produce the necessary enzyme, amylase, to deal with the starch, cellulose, and carbohydrates in plant matter since they are carnivorous animals designed to eat meat and bone. Feeding dogs as though they were omnivores taxes the pancreas and places extra strain on it, as it must work harder to digest the starchy, carbohydrate and plant matter.

Dogs lack the friendly bacteria that break down cellulose. As a result, most of the nutrients contained in plant matter - even pre-processed plant matter - are unavailable to dogs. If a dog can only digest 30% or less of its grain-based food, then it will only be receiving 30% or less of the vitamins and minerals it needs.

By nature's design, dogs are carnivores, and all dietary decisions must conform to this fact if they are to result in proper, appropriate, nutrition. This is not something we can change to suit our own likes, needs and beliefs. In order to respect animals, we need to honor their true nature. ♡♡

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Editor's note: Although most caregivers agree that raw diets are best for their dogs and cats, opinions differ as to whether straight meat or "meat plus" is best for their animals. In the next issue, we will present more information on feeding raw meat diets, so stay tuned!



Image 2, Carnivore Skull, Grey Wolf



Image 3, Omnivore Skull, Pig. Notice the flat back molars. The front teeth, while straighter and narrower, are not sharp and pointy like the carnivore teeth.