

# A closer look at popular pet food myths and why they are just that



## EVIDENCE-BASED MEDICINE

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A crucial part of the work of veterinarians is educating clients about proper care of their pets. Unfortunately, much of this education necessarily focuses on challenging misinformation. Clients readily pick up myths and misconceptions from breeders, other pet owners, the internet, and, sadly, even some veterinarians promoting unscientific ideas about animal health.

One area in which such myths are abundant and widespread is nutrition.<sup>1</sup> Pet owners are highly motivated to find the 'right' food for their animal companions. This is one factor related to health they can control, so feeding acquires an almost magical status as something that can prevent all disease or destroy health if there is the slightest misstep in the choices made.

The reality, of course, is our pets are resilient and able to thrive on a variety of diets. In most cases, nutrition is only one of many variables interacting in complex and subtle ways to impact health. The perfect food for dogs and cats in general, much less for an individual animal, is unknown and probably doesn't exist, and the pressure to find this diet can easily lead to extreme and unhealthy choices.

Clients who start investigating feeding options for their pets beyond traditional canned and dry commercial diets quickly run across terrifying claims about the negative health effects of such diets. Proponents of alternative feeding practices routinely claim a host of devastating health problems can be traced to conventional diets, or to specific components of these. Here, I will touch on a few of the more common and pernicious beliefs about nutrition I hear from clients.

### Commercial pet foods are 'processed' or 'junk food'

The concept of 'processed' food is a slippery one. Obviously, anything not eaten raw and unwashed is

'processed' to some extent, so the term is broad enough to be nearly meaningless. And despite the negative implications usually attached to the phrase, some kinds of processing clearly improve the safety and nutritional value of foods (washing and cooking, in particular).

However, most people probably hear 'processed food' and think of snacks and convenience foods for humans, such as potato chips, packaged hot dogs, frozen chicken nuggets, and so on. There is some evidence such foods may increase health risks in humans,<sup>2</sup> and no one would claim a diet of convenience foods and snacks alone is healthy,<sup>3</sup> so it is reasonable to wonder how a packaged commercial diet could be good for our pets.

One key difference between human convenience foods and pet food is that the former are designed primarily to appeal to consumers. Taste, appearance, mouth feel, packaging, price, and most other characteristics of packaged foods for humans are aimed at getting people to buy them. Nutritional considerations are a negligible factor.

Pet foods, in contrast, are typically designed to be nutritionally complete. While they are also made to appeal to owners, their nutritional content is a key focus of formulation. Most diets have not undergone rigorous clinical trial testing, of course, however, extensive research evidence exists characterizing the nutritional needs of companion animals, and meeting these needs is a core requirement for a pet food from a reliable manufacturer.<sup>4,6</sup> Just because food comes in a can or a bag doesn't mean it is the same as a bag of potato chips or a can of Spam.

### Conventional diets aren't 'natural'

'Natural' is another word people use in reference to nutrition as if its definition and implications were clear when they really aren't. Something 'natural,' one would think, would be found in nature in its original and final form, requiring no processing or alteration by humans to be useful. The opposite, then, would be something that is artificially created and could not exist without human efforts. Yet, it turns out the boundary between natural and artificial is a blurry region with no clear dividing line.

If our pets are not eating whatever they can scrounge on their own in an environment devoid of humans, is their diet 'unnatural?' And is it 'natural' for a pug or Boston terrier to hunt and kill its own prey? If we kill a cow, the product of centuries of intensive artificial selection, and feed the raw meat to our dogs, is this 'natural?' Since our pets haven't been on their own in nature or subject to true natural selection for thousands of years, can we even define what is 'natural' for them?



Even if we think we can answer such questions clearly, the implication that 'natural' means 'healthy' is clearly false. Nothing could be more natural than *E. coli* or *Salmonella* and the diarrhea and vomiting they cause. Intestinal worms and other parasites are ubiquitous among animals in nature. Yet, these 'natural' things are obviously harmful and clearly less desirable than the 'artificial' means we use to manage them, such as antibiotics and cooking food.

Similarly, concerns about the health effects of 'artificial' ingredients are common, and often exploited in pet food marketing. I have written about the ban on 'artificial' ingredients widely touted by Petco as a move to improve pet health.<sup>7</sup> The available evidence suggests little risk to most of these ingredients, and there is certainly less evidence supporting the safety and efficacy of supposedly 'natural' alternatives.

Pet owners often automatically associate 'natural' and 'artificial' with health outcomes despite the lack of clear definitions for these terms and the absence of evidence supporting such associations. It may be useful for veterinarians to help clients see these distinctions are less clear and reliable than pet owners may believe.

Associated with the concern about 'natural' ingredients is the common belief organic foods are healthier than conventional meat and produce. There is no research comparing the health of pets fed organic and conventional foods, and there isn't likely to be in the future. Such studies are cumbersome and expensive, and it is easier and more profitable for pet food companies to simply cater to the positive associations most people have with the organic label rather than to generate research evidence that would not likely sway many consumers either way.

However, numerous scientific reviews have been published evaluating the nutritional content and the potential health effects of organic foods for humans. There is no convincing evidence these differences have any practical effect on the well-being of people eating these different foods.<sup>8-12</sup> Hopefully, specific veterinary evidence will be available in the future, but the data so far suggests there is no real advantage to organic foods in terms of health and nutrition.

Critics of conventional canned and dry pet foods will sometimes claim they are nutritionally poor because they contain by-products or 'filler.' Most clients don't know precisely what these terms mean, but they sound inherently second-rate. Animal by-products, however, are simply parts of food animals that humans don't normally eat. Some of these may be low in nutritional quality (*e.g.* chicken feet), but most are at least as nutritious as the parts we do like to eat (*e.g.* internal organs, brains), while some contribute specific nutrients that may be more important for our animal companions than for us (*e.g.* calcium from bone meal). These animal parts may be less esthetically appealing to us than skeletal muscle, but they can be excellent nutrient sources if properly processed and used as part of a well-formulated diet.

Most countries have specific rules against using obviously unhealthy by-products in pet foods, such as diseased animals or those killed by some method other than the normal slaughter process. Pet food regulation also requires all ingredients, including by-products, be free of infectious disease organisms.<sup>13,14</sup> This is why by-

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products are often not used raw, but are rendered (*i.e.* cooked at high temperature) and then added to foods as dry meals, since this process usually kills dangerous bacteria and parasites.

By-products are not inherently good or bad. Some are high-quality nutrient sources, others may be lower quality. But the misleading claim by-products are low-quality and unsafe in pet foods is simply another scare tactic designed to drive people toward alternative feeding practices.<sup>15-17</sup>

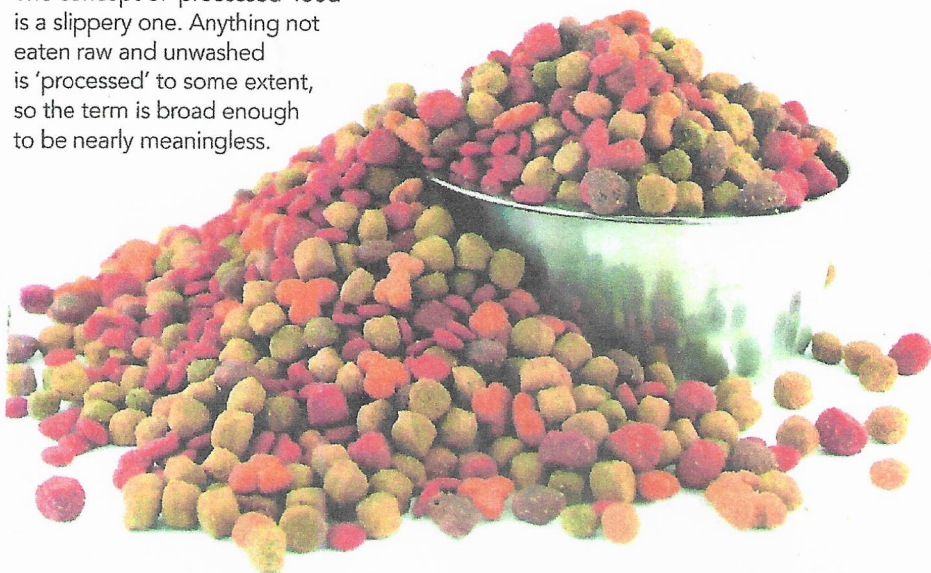
In my practice, clients are sometimes influenced by claims that avoiding genetically modified ingredients (GMOs) is safer for their pets. Often, this makes little sense since the 'non-GMO' label is frequently affixed to products for which there are no genetically modified versions in existence (*e.g.* most fruits and vegetables) or which even have no genes to modify (*e.g.* non-GMO salt!). There is little evidence to support fears about GMO ingredients, and a great deal of research suggesting those currently in use are safe.<sup>18-22</sup> The anxiety about these products is mostly ideological and based on misconceptions or poor understanding of the relevant science.

### **Grains and carbohydrates are damaging to pet health**

These ingredients are popular villains in alternative narratives about pet nutrition, and many clients have the idea that commercial diets generally contain 'too much sugar' or other carbohydrates that can cause disease. This is simply not consistent with the evidence.<sup>1,23</sup>



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Unlike humans, dogs and cats don't require carbohydrates. However, they can utilize this class of macronutrient perfectly well.<sup>17,24-28</sup> Some non-digestible carbohydrates can have also beneficial effects on the microbiome, which can influence weight, stool consistency, and other aspects of health.<sup>29</sup> There is no reliable scientific evidence supporting claims that dietary carbohydrates cause cancer in pets or lower carbs will prevent or help treat cancer. And while carbohydrates are often seen as particularly dangerous to cats, research has demonstrated this species can effectively utilize carbohydrates in commercial cat food and that they are not a significant risk factor for diabetes or other diseases.<sup>17,25,30</sup>

Anxiety about carbohydrates in pet food has led to the predominance of 'grain-free' diets. Apart from the lack of evidence such diets actually have health benefits, there is now growing concern they may actually increase the risk of dilated cardiomyopathy (DCM) in some dogs.<sup>31-33</sup> This illustrates the potential for dietary fads not backed by research evidence to have unanticipated risks.

### Dead pets in pet food

Though I hear this concern less often than others, it has been circulating on the internet for many years, and it is one of the most persistent and horrifying claims pet

owners are likely to hear about conventional pet food. Promoters of this story take a few facts and weave them into an unlikely, but shocking, narrative.

Most countries have pretty strict regulations about the ingredients that can go into commercial pet foods, and these broad rules implicitly or explicitly cover the use of euthanized animals as a food ingredient. However, most of the laws and regulations that would prohibit using euthanized pets in pet food don't actually mention the practice by name. The law doesn't explicitly prohibit adding dead pets to pet food because there's little evidence this is actually happening. Instead, the laws prohibit unsanitary and unsafe ingredients, potentially dangerous chemicals such as euthanasia drugs, and other general types of ingredients that would naturally include euthanized dogs and cats. Critics of commercial pet foods tend to claim that because the practice isn't named in the regulations, it must actually be happening, which is not a particularly convincing argument.

Apart from rules prohibiting it, this practice is also unlikely for more pragmatic reasons. Food animals, such as cattle, pigs, sheep, and poultry, are the most common and economical source of animal ingredients for pet foods. These species are mostly raised in large operations intended to produce food for humans. Apart from being an ethically terrible and unhealthy ingredient for pet foods, euthanized dogs and cats, presumably harvested from animal shelters or picked up by the roadside, would be an unreliable and expensive raw material compared to the ingredients produced by the food animal industry. And, of course, any company caught using dead pets in their pet food would be destroyed by public outrage and likely run out of business. What motivation these companies might have, then, for using such an ingredient is hard to fathom.

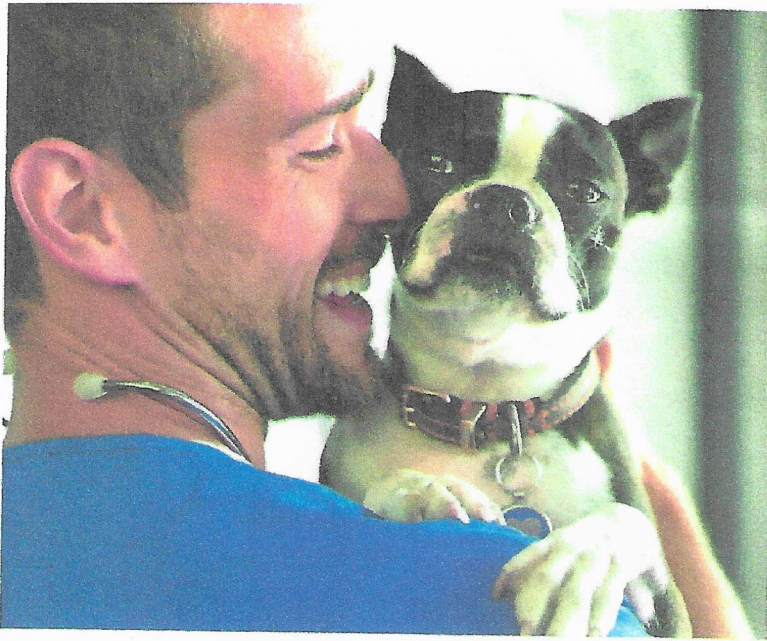
There have been several attempts to investigate commercial pet foods and look for evidence of dog or cat DNA. The U.S. Food and Drug Administration (FDA), for example, found no dog or cat DNA in pet foods it tested in 2002.<sup>14</sup> While this can't definitively prove this practice never happens, it is yet another piece of evidence against it.

A real and serious issue related to this claim is that pentobarbital does sometimes turn up as a contaminant in pet foods. In most of these instances, the amount has been too low to be considered a hazard, but there have been rare cases in which dogs have been sickened and even killed by pentobarbital in canned foods. Investigations into the source of this contamination have typically traced it to the accidental inclusion of euthanized cattle or horses in rendering products intended as pet food ingredients. No evidence has yet been found showing euthanized dogs and cats have been the source of pentobarbital contamination of pet foods. The fact this cannot be definitively proven to have never happened feeds the continuation of the belief that it has.

### Veterinarians are not reliable sources of information about nutrition

One of the most frustrating myths is veterinarians can't be trusted to guide pet owners in making feeding choices. Proponents of alternative diets often claim we get little or no education on the subject or that all we know is pet





One of the most frustrating myths is veterinarians can't be trusted to guide pet owners in making feeding choices due to lack of nutrition education and the influence of makers of the pet food stocked by a clinic.

Most veterinarians do have at least a semester course on nutrition, and a lot more information on the subject is scattered throughout other courses in veterinary school. The idea we know nothing about the subject is simply ridiculous. However, it is fair to acknowledge that most veterinarians are not 'experts' in nutrition, if by this one means they have extensive specialized training in the subject. Board-certified veterinary nutritionists, however, do have extensive training and a legitimate claim to being experts in this area—they are clear in also rejecting the myths and misconceptions those of us on the frontlines have to contend with.

As for the question regarding the role of the pet food industry in veterinary nutrition education, there is some truth to the claim much of that education is sponsored by companies who make pet foods. Obviously, most veterinary nutritionists put their training to work researching and evaluating food for veterinary species, so the money and expertise in this area tends to concentrate in industry. It is not entirely unreasonable to ask the question whether or not this influences the information veterinarians get about nutrition. It quite likely does.

This is not the same thing as saying veterinarians are all lackeys or dupes of industry and unable to think critically for themselves. I am generally as skeptical and critical of pharmaceutical companies and pet food companies as I am of herb and supplement manufacturers and producers of alternative diets. All of them presumably have a genuine belief in their products and interest in the welfare of the animals they serve, but also a high risk of bias in their perspectives.

One should always be aware of potential biases in any source of information; however, this does not mean ignoring the available scientific evidence in favour of opinion, theory, or personal experience. Yet, those most critical of mainstream nutrition or promoting unconventional practices nearly always base their claims on just these foundations, replacing imperfect science with even less reliable evidence. Reading a book or website written by a proponent of alternative medicine and nutrition or feeding one's own pets or patients an unconventional diet does not make one an expert on nutrition or a more reliable source of information than veterinary nutritionists or even general practice veterinarians.

### Alternative diets are healthier

Of course, many of the false claims pet owners hear about conventional diets are intended to drive them toward supposedly healthier alternatives. However, the evidence doesn't yet suggest any of these alternatives really have the advantages claimed by proponents. I have

written in detail about raw diets, and it is clear these have significant risks and no proven benefits.<sup>34</sup> There is also no reason to believe grain free diets are beneficial, and some evidence for serious risks.<sup>31,32,3</sup> Ketogenic diets are another human nutrition fad that has been exported to veterinary patients, but there is no real evidence yet to support claims of health benefits.<sup>36</sup>

Fresh and homemade diets are often seen by owners as healthier alternatives to packaged pet foods, based on extrapolation from dietary recommendations for humans. While it is possible fresh diets could have advantages over conventional prepared foods, this remains to be demonstrated. There is, however, evidence homemade diets are often nutritionally unbalanced or incomplete,<sup>37-42</sup> and clients who wish to prepare these should have regular guidance from veterinary nutritionists and not rely on recipes from published or online sources.

There are undoubtedly many more myths and misconceptions about nutrition that lead our clients to making questionable feeding choices. While we cannot always easily undermine such beliefs or immunize our clients against them, understanding the misinformation they are exposed to and the actual science regarding these issues is necessary to fulfilling our responsibility in informing and educating pet owners. If you have any specific beliefs about nutrition or other areas of pet health that you regularly encounter and would like to see investigated, I would love to hear about them. Hopefully together we can diminish to some degree the total amount of misinformation in the world! 🐾

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### References

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