



Main Street Veterinary Services

2360 Main St., PO BOX 211
London ON N6P 1P9
www.mainstreetvetservices.ca
519-203-2000
info@mainstreetvetservices.ca

The Case For Whole Foods

By: DR. DOUG KNUEVEN DVM, CVA, CAC, CVCH

From IVC Issue: V311 Reprinted with permission from Dr. Doug Keueven, <http://drdougknueven.com>

How and why our understanding of pet nutrition is changing, and where it's leading us.



For decades, clinical nutrition was used supportively for common diseases, but in recent years our viewpoint has changed. “[Nutrition] has emerged as a cornerstone of treatment based on the principles of grade 1 evidence-based medicine,” report Drs. Kirk and Bartges in *Veterinary Clinics of North America: Small Animal Practice*. “No longer are nutrients simple building blocks, co-factors, or enzymes, but instead regulators of cellular metabolism, gene transcription, or translation.”¹

The “NEW NORMAL” misses the mark

While we all now agree on the importance of nutrition, there is debate over what constitutes the ideal diet for small animals, as the popularity of raw meat, fresh homemade raw or cooked, raw dehydrated, grain-free and other diets are on the rise. Since different individuals thrive on different diets we have an opportunity to help our clients find the optimal choice for their animals. Our first task is to help our clients choose foods by understanding the differences between food preparations.

The conventional view, presented to us in school and through clinics, is based on information and research provided by the pet food industry. It focuses on the nutrient content and perceived balance of canine and feline foods, and sees the actual ingredients as less important. Today’s pet diets contain ingredients such as starch and grain-based proteins, which dogs and cats were not meant to eat in abundance. The food is then processed at high temperatures and pressures, denaturing it to a form that our pets’ ancestors and their current wild counterparts have never experienced. Finally, minerals, amino acids and synthetic vitamins are added to attempt to balance the diet, at least to our current, incomplete level of understanding. This approach seems to be keeping many veterinarians from looking at fresh food diets.

Challenging flawed assumptions

An alternative view of pet nutrition looks for guidance to the sciences of comparative anatomy and evolution. For example, we are told dogs are omnivores, and in our society that is certainly true. But since our pets have no choice over what they eat, how can we be sure the diets we force on them are ideal? A 1979 study reviewed wildlife literature that seems to provide an answer.² “[A] good deal of disagreement exists within the veterinary profession about the proper diet for dogs...” The study inventoried the stomach contents of coyote, fox, wolf, bobcat, cougar and

lynx. Their justification for the comparison is that anatomically, the digestive tracts of these wild carnivores are similar to that of the domestic dog. The study concluded that "... the staple diet of carnivores living in a natural setting includes other animals, carrion, and occasionally fruits and grasses...carnivores IVC Winter 2012/13 63 in their natural environments consume diets high in animal protein, bulk, and roughage from indigestible parts of animal carcasses and low in carbohydrates, and caloric density." This nutrient profile does not match that of our current, conventional diets. The idea that we can formulate the ideal diet for pets from processed, inappropriate ingredients is based on flawed assumptions. Cooking at high heat and pressure processing reduces the potency of almost all nutrients, including L-carnitine³ and completely destroys others such as thiamine, folic acid, vitamin C, vitamin A, niacin, pantothenic acid.⁴ Can this nutrient depletion be easily remedied with synthetic vitamins? Are they identical to the vitamins, amino acids and nutrients in whole foods?

An incomplete understanding of nutrition

You don't have to look too far back in history to see demonstrations of our nutritional ignorance. In the early 1980s, cats were going blind and dying from dilated cardiomyopathy (DCM). Initially, the cause of the problem was considered idiopathic. No one thought cat food that was "complete and balanced" could be the cause. In 1987, it was discovered that DCM was caused by a taurine deficiency. Looking at the research of the day is enlightening. They found that canned cat foods (cooked) required extra taurine supplementation.⁵ "We have found that these same canned diets, if fed in an uncooked form, do not cause clinically significant taurine deficiency."⁶ This seems to indicate that cats were meant to eat raw food. "Taurine deficiency alone is not sufficient to cause myocardial failure or central retinal degeneration in all cats...most likely in our opinion, these conditions may be caused by taurine deficiency and other, currently unidentified, cofactor or cofactors."⁷ It appears our understanding of nutrition is incomplete. "When you look at the classic example of taurine deficiency, many [diets] were deficient. The cats that didn't become ill were those that were going outside and catching mice."⁸ It seems when we try to improve on nature, we often get it wrong. How many other current idiopathic diseases may be related to nutritional issues?

Nutrition is complicated

A truly balanced diet must consist of many more micronutrients than the 30 or so included in the AAFCO recommendations. Human nutrition experts are starting to realize the importance of whole, unprocessed foods. One article points out that there are 8,000 phytochemicals present in whole foods, and that there is a synergistic health-benefitting effect from the complex mixture of these compounds in whole foods.¹⁰ Another points out that it is not a single component but rather the interaction of complex mixtures of natural chemicals found in whole foods that help prevent and treat many chronic human diseases.¹¹ Animal-based as well as plant-based foods are functional because they provide biologically active nutrients besides vitamins and minerals that are not produced by human biological systems and that could be deemed equally essential for life.¹² Although the studies cited above are related to human nutrition, the basic tenets of whole food nutrition translate to all species.

- One recent study found that the consumption of any type of vegetable at least three times per week was associated with a 70% to 90% risk reduction in the development of transitional cell carcinoma in Scottish terriers.¹³ If adding some vegetables to the diet of Scotties can have this

effect, other breeds are also likely to benefit from whole food supplementation of processed diets.

- Another study compared the cognitive ability of older dogs on different diets. The control group was fed a processed senior diet. The test group's food was enriched with vitamins E and C, mitochondrial co-factors (L-carnitine and DL-alpha-lipoic acid), and a mixture of fruits and vegetables. The dogs receiving the enriched diet performed significantly better than controls.

Whole food raw diets are beneficial

From my research and clinical experience, I have concluded that many pets benefit from being fed raw, evolution-based diets, since dogs and cats evolved over millions of years eating such diets. Simply looking at a pet's teeth indicates they are carnivores in every sense of the word. If they had evolved significantly from their wild roots, and now required processed foods, their teeth and jaws would reflect that change. There are many ways to provide a whole foods diet.

1. The "Bones and Raw Food" (BARF) movement has been gaining in popularity over the past 15 years. This philosophy provides "meaty bones" (raw chicken necks and backs) as part of the diet as well as shredded vegetables and organs. The bones help maintain the calcium-to-phosphorus ratio and keep the teeth clean. We have been taught that bones are dangerous for pets to eat and that certainly is the case for cooked bones. However, small raw bones like chicken necks and backs are much safer. Having said that, it is not impossible for raw bones to be a choking hazard, as are sticks, stones and toys.

2. Another whole food option is using a commercial supplement to balance a diet made with meat from the grocery store, health food store or local farm. These commercial mixes contain calcium and other essential nutrients that can be mixed with meat (and vegetables) to create a balanced diet. This alternative allows the pet owner to control the meat source, and eliminates the need for bones. One concern often cited with the above two methods is the possible contamination of the food with pathogenic bacteria and/or parasites. Raw meat products for human or animal consumption are loaded with pathogenic bacteria that are killed when the meat is cooked. Serving these meats raw would appear to pose a danger to pets and their human companions. In my opinion, this danger is overblown. In one recent study, 33% of dry dog food samples and 8% of canned dog food samples tested positive for non-type specific E. coli, and 4% of canned food samples tested positive for cryptosporidium.¹⁵ Another report found up to 36% of healthy dogs and up to 18 % of healthy cats shed salmonella in their stool.¹⁶ Decades of feeding raw meat diets shows fewer problems than commercial foods with their frequent recalls.

Encouragement for clients

My preferred method of providing pets with raw diets is to refer clients to one of the many premade raw foods commercially available. Research into the companies is needed to find one whose formulation expertise and nutrient philosophy matches yours. For example some have higher vegetable percentages than others. Another consideration is the method the company uses to mitigate pathogens. Many have turned to high-pressure pasteurization, which makes one wonder how raw the food really is. I do not believe there is any one diet type ideal for every patient and every client. I am also pragmatic and realize that not all my clients are willing or able to provide the nutrition I think is best. Some real food is better than none at all, so I always

encourage my clients to at least enhance their animals' diet with raw or lightly cooked meats and vegetables, or whole food supplements. I am always impressed by the amazing health benefits of whole foods.

References

- 1 Kirk CA, Bartges JW. "Dietary management and nutrition, preface". *Veterinary Clinics of North America Small Animal Practice*, 2006; 36(6):xi-xii.
- 2 Landry SM, Van Kruiningen HJ. "Food Habits of Feral Carnivores: A Review of Stomach Content Analysis". *J Am An Hosp Assn*, 1979; Vol 15:775-782.
- 3 Phillips T. "L-carnitine, Evidence indicates it may accelerate weight loss and increase lean body mass". *Pet Food Industry*, May 2002; 24.
- 4 Schroeder HA. "Losses of vitamins and trace minerals resulting from processing and preservation of foods". *Am J Clin Nut*, 1971; 24(5):562-573.
- 5 Hayes KC. "Taurine Status in Cats Fed Canned and Dry Diets". *Alpo Viewpoints in Veterinary Medicine*, 1995.
- 6 Pion PD, Kittleson MD, Thomas WP, Skiles MI, Rogers QR. "Clinical findings in cats with dilated cardiomyopathy and relationship of findings to taurine deficiency". *J Am Vet Med Assoc*, 1992; 201(2):267-274.
- 7 IBID.
- 8 Smith CA. "Changes and Challenges in Feline Nutrition". *J Am Vet Med Assoc*, 1993;203(10):1395-1400.
- 9 Iams Partners for Health, Ground breaking study links diet and learning, Aug. 2004, Vol 2, No. 8 p.1-3.
- 10 Liu HR. "Health benefits of fruit and vegetables are from additive and synergistic combinations of Phytochemicals". *Am J Clin Nut*, 2003; 78(3):517S-520S.
- 11 Lila, MA. "From beans to berries and beyond: teamwork between plant chemicals for protection of optimal human health". *Ann N Y Acad Sci*, 2007; 1114:372-80.
- 12 Jacobs DR Jr, Tapsell LC. "Food, not nutrients, is the fundamental unit in nutrition". *Nutr Rev*, 2007; 65(10):439-50.
- 13 Raghavan M, et al. "Evaluation of the effect of dietary vegetable consumption on reducing risk of transitional cell carcinoma of the urinary bladder in Scottish Terriers". *J Am Vet Med Assoc*, 2005;227: 94-100.
- 14 Milgram NW, Head E, Zicker SC, et al. "Learning ability in aged beagle dogs is preserved by behavioral enrichment and dietary fortification: a two-year longitudinal study". *Neurobiol Aging*, 2005; 26:77-90.
- 15 Strohmeier, Racheal A., DVM et al. "Evaluation of bacterial and protozoal contamination of commercially available raw meat diets for dogs", *JAVMA*, 2006, 228: 537-542.
- 16 Sanchez, S, Hofacre, CL, Lee, MD, Maurer, JJ Doyle, MP. "Animal Sources of Salmonellosis in Humans". *JAVMA*, 2002, 221:492-497.