



CANINE NUTRITION NEWSLETTER



COOKED VERSUS RAW - My PERSONAL & PROFESSIONAL OPINION

BY HILARY WATSON

I am frequently asked "where do you stand on feeding raw?"

The short answer is that I personally recommend feeding raw fruits and vegetables, but I recommend cooking meats. The long answer is that I'm not dogmatic in my thinking - I recognize that many people have great success feeding 100% raw. However I believe, based on my own personal experience, that you can achieve the same results by feeding a combination of raw and cooked foods and I believe this is a safer and healthier way to feed a dog. Let me elaborate.

I personally know many dog enthusiasts who feed 100% raw and who have wonderfully healthy dogs. Many of these people successfully compete at the highest level of very demanding dog sports such as schutzhund, herding, agility, and tracking. They swear by this method of feeding and point to their dogs' wins as proof of performance. I respect these owners enormously. I know they have gone to considerable lengths to educate themselves about nutrition. Their results speak for themselves.

The unfortunate truth however is that, as a nutritionist, I have also encountered many cases of dogs fed raw who did not fare so well. I have seen puppies who were in so much pain from joint disease that every movement was agony. I know dogs who died from impacted or perforated digestive tracts. I know dogs who lost weight as a result of prolonged episodes of diarrhea and vomiting. I know of one case of fatal

pancreatitis. In all these cases, the issues were not caused by feeding raw. They were caused by nutritional imbalances and/or inappropriate feeding practices associated with raw feeding. One of the most difficult challenges in feeding raw is achieving complete and balanced nutrition. That, of course, is the advantage of commercial pet foods - they are formulated, using food formulation software, to deliver 100% complete and balanced nutrition. It is virtually impossible to achieve 100% complete and balanced nutrition without using formulation software. I developed the recipes in my book using formulation software specifically so that owners can feed home-made recipes without any risks of nutritional deficiencies or imbalances. But back to the question of raw - if the problems I've identified above are not specifically due to feeding raw, why do I

recommend cooking meats? I know that many owners see huge improvements in their dogs when they change from commercial dog food to feeding raw. I don't dispute this - the difference in their dogs is obvious. What is less obvious is the mechanism underlying their dog's improvement. When you move from commercial dog food to feeding raw, you are changing two significant parameters. First, you are improving the quality of the ingredients you are feeding. Commercial pet foods contain pet grade ingredients (not fit for human consumption). Many are by-products of human food processing. People who feed raw generally feed human-grade ingredients. These ingredients are significantly better in quality than the ingredients used in commercial pet foods. Secondly, you change the processing. Commercial pet foods aren't just cooked, they are made using already processed

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**DIFFUSE OSTEOPENIA AND MYELOPATHY IN A PUPPY FED A DIET
COMPOSED OF AN ORGANIC PREMIX AND RAW GROUND BEEF**

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Clinical Relevance - In the dog of this report, vitamin D-dependent rickets type I and suspected nutritional secondary hyperparathyroidism developed following intake of a nutritionally incomplete and unbalanced diet. The raw meat-based, home-prepared diet fed to the dog was not feed-trial tested for any lifestage by the Association of American Feed Control Officials and its gross nutrient imbalance induced severe metabolic, orthopedic and neurologic abnormalities. Inadvertent malnutrition can be avoided through proper diet assessment and by matching nutrient profiles with patients' nutritional needs.

ingredients. Chicken meal, for example, is rendered chicken. Rendering is a high-temperature cooking process. Corn gluten is protein extracted from corn. Brewer's rice is the rice left over from the brewing industry. The ingredients used in commercial dog foods are processed before they are sold to the pet food company. Then they are cooked again in an extruder to make commercial dog food. When an owner changes from commercial food to raw food, the owner is changing two things: the quality of the ingredients they are feeding and the processing those ingredients are subjected to. Most owners attribute the improvements in their dogs to the processing differences, ie they see the improvements as being due to feeding raw. They often don't appreciate the improvements that come just from feeding human grade foods. They may not appreciate the huge difference between boiling human-grade meats and the intense processing that commercial pet foods go through. To put this a different way, most owners who are proponents of raw feeding, have never fed the same diet with the meat component cooked to see if they achieve the same results. I believe, from my own personal and professional experience, that the benefits of feeding raw can be achieved by feeding raw fruits and vegetables in combination with cooked meats. I further believe that cooking the meat component is not just safer for the dog, it is also safer for the owner and provides nutritional benefits to the dog.

Let's address the issue of food safety. Human dietitians recommend that humans consume several servings of fresh raw fruit and vegetables every day, but they never recommend that humans consume raw meats. Yes, we eat sushi on occasion, but eating raw

fish is not without risks. There is a reason we cook meats before we eat them. The US Center for Disease Control and Prevention reports more than 76 million cases of food poisoning in humans in the US every year, with 325,000 hospitalizations and 5,000 deaths (Mead et al. 1999). Those 76 million people thought they were eating cooked meats. These numbers would be exponentially higher if humans routinely ate raw meats. There are three published papers which examined the risk of bacterial contamination in dogs fed raw meat diets:

1) Joffe and Schlesinger (2002) assessed the presence of Salmonella in the food and stools of dogs fed homemade raw chicken diets, as compared to dogs fed commercial pet foods. This study found that 80% of the homemade raw foods contained Salmonella and 30% of the dogs fed these raw foods had stools that contained Salmonella, while 0% of the commercial diets contained Salmonella and 0% of the dogs fed commercial diets had Salmonella in their stools.

2) Chengappa et al (1993) examined the prevalence of Salmonella in raw meat fed to racing greyhounds. In this study, Salmonella was isolated from 50 out of 112 samples of the raw meat diet.

3) Stone et al. (1993) used DNA probe analysis to correlate Salmonella serovars recovered from greyhound feces with their raw meat diet. This study found 70 of 106 samples to be positive for Salmonella and demonstrated that bacteria present in the food were also present in the dogs' feces. Raw meat advocates will correctly point out that there are no studies that demonstrate that consumption of food-borne pathogens resulted in illness in dogs fed raw meat diets. It

is true that healthy dogs generally tolerate bacterially-contaminated foods much better than do humans. However, that does not mean that feeding raw meats is without risk. There are, for example, published reports of bacterially-contaminated raw meats causing gastroenteritis and death in zoo animals (Schiller et al.1989; Shaw et al.1984) and there are also reports of humans becoming ill as a result of exposure to bacteria transmitted to them from their pets (Sato et al. 2000; Morse et al.1976.). The US Food and Drug Administration made its position on raw pet foods very clear when it issued an industry guidance paper in 2004. This report stated: "the FDA does not believe raw meat foods for animals are consistent with the goal of protecting the public from significant health risks, particularly when such foods are brought into the home and used to feed domestic pets." (US FDA, 2004) In other words, the FDA is primarily concerned about the safety of humans who are feeding raw foods to their pets, rather than the safety of the pets consuming the raw foods. Owners need to be aware that when they feed raw meats to their dog, they may expose everyone who comes in contact with their dog to harmful pathogens. Zoonoses are a real and growing concern, especially with the increased incidence of antibiotic-resistant bacterial strains.

As a nutritionist, I go one step further. Cooking meats not only makes them safer for people and pets, it also makes them more nutritious. The following paragraph is taken from my recipe book (page 39-40):

The second advantage of cooking meats relates to their nutritional value. There are several anti-nutritional factors in raw meats that are rendered inactive by cooking. Trypsin is a digestive enzyme

produced by a dog's pancreas and secreted into the small intestines to help digest proteins. Certain raw foods contain trypsin inhibitors which inactivate this digestive enzyme. Many types of raw fish, including whitefish, cod, herring, carp, pike, flounder and others, contain an enzyme called thiaminase which destroys thiamin (vitamin B1). Heating destroys thiaminase. Biotin is a B-complex vitamin produced by the microbes in the dog's digestive tract. Avidin, a glycoprotein in raw egg whites, irreversibly binds to biotin, preventing its absorption into the dog's body. Cooked avidin is not able to bind to biotin. Cooking inactivates anti-nutritional factors in foods and increases their nutritional value. Cooking (especially with water or steam) contributes to food digestion in much the same way that acid in the stomach does. By opening up the coiled and folded structures of proteins, cooking allows digestive enzymes easier access to their interiors, facilitating digestion.

Some people say that feeding raw is closer to nature and mimics the way wolves in the wild eat. Aside from the obvious differences between animals killing live prey and owners serving raw meats, I respectfully respond: I want my dogs to live better than wolves in the wilds. As humans, we learn, evolve, and embrace inventions that enhance our health, improve our quality of life, and extend our longevity. We adopt central heating to lower our risk of death due to exposure. We take advantage of advances in medicine. We adopt agricultural practices that reduce the risk of starvation that our hunter-gatherer ancestors faced daily. And we cook our meats to lower the risks of food-borne illness. Wolves in the wilds do not typically live as long as domesticated dogs do. Our dogs live longer because we, as owners, take advantage of advances in medicine,

nutrition, and husbandry that enhance our dogs' health and extend their longevity.

Let me conclude by returning to what I said at the outset. I am not dogmatic about this. I have a great deal of respect for owners who understand the risks of feeding raw and take the necessary steps to properly manage those risks. I've seen their dogs. I've watched them perform. I respect their choice and admire their results. However, I've seen no evidence that the same results can't be achieved by feeding a mixture of raw and cooked foods. In fact, I've personally seen evidence that the same results can be achieved by feeding complete and balanced recipes based on human food ingredients that include raw fruits and vegetables and cooked meats. I personally recommend cooking meats because cooking improves the meat's digestibility, inactivates anti-nutritional factors, and kills harmful bacteria.

Owners who wish to feed 100% raw can get a list of the complete and balanced recipes in my book which can be served 100% raw by going to: completeandbalanced.com/raw.html

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