



## ***VETERINARY NUTRITIONAL CONSULTATIONS, inc.***

1002 Capps Farm Rd

Hollister, NC 27844

Phone 252-257-1959

Fax 800.649.2043

Email: [PetDIETS@att.net](mailto:PetDIETS@att.net)

### **Feeding cooked or raw – be informed**

Diets made at home are not likely to be nutritionally complete or balanced for the dog unless properly formulated by a nutritionist. Animal nutrition is a sub-specialty of Veterinary Medicine sanctioned by the AVMA because additional training and skills are required to properly formulate a nutritionally complete and balanced diet. The nutritional profile of any diet depends on how the recipe was formulated, the nutrient content of the food ingredients used, and how the owner prepares the diet.

The nutrient requirements of dogs are well established and it has been several decades since any new nutrient has been recognized as essential to life. The term complete indicates the diet contains all of the nutrients known to prevent a deficiency and be essential for life. There are 40 essential nutrients for the dog. These 40 nutrients either cannot be synthesized at all by the dog or their rates of synthesis are not sufficient to meet total body demand. In addition, there is a small group of ‘conditionally’ essential nutrients meaning under certain conditions of disease or stress, a nutrient has been documented to be required in greater concentrations than under maintenance conditions of health. This documented “need” for a conditionally essential nutrient decreases when health returns - an example of such a nutrient is glutamine.

There are consequences from feeding an unbalanced diet long-term. It may take weeks, months or years to see a nutritional imbalance depending on which nutrient and the degree of imbalance. An imbalance may be one or more nutrient deficiencies or toxicities, or a combination. Even then it will most likely not be recognized as such. Nutrient imbalances affect a wide variety of body systems in reality and do not have clear specific presentations as one might be lead to believe based on the classic one nutrient research studies completed ~50 yrs ago. For example, anemia may be the result of a deficiency in one or several key vitamins or trace minerals or a combination thereof, or may not at all be related to nutrient intake but a hormonal imbalance.

A nutritional analysis of a homemade diet fed raw or cooked illustrates no significant differences in nutrient content. A review of the nutrient profile of raw vs. cooked meat on the USDA National Nutrient Database shows no significant differences in nutrient profile after accounting for water content changes. The database also makes no distinction in whether the food item was produced “organically”. In other words, feeding organically grown foods is a lifestyle issue and not a nutritional issue.

Unfortunately, there are no valid accurate tests of “nutritional status” for people or dogs. Although one can certainly buy urine, blood or hair analyses, these are neither accurate nor specific measures sufficient by which to balance a diet. Veterinarians may perform a few routine overall evaluations of red and white blood cells, serum proteins and electrolytes as part of an annual checkup. However, these tests are only very broad overall indications of nutritional status and not specific to the balance of any one or group of nutrients.

Homemade diets may also contain contaminants and food-borne microbes just as easily as if feeding a commercial pet food. Even a causal review of the FDA web site ([www.cfsan.fda.gov/](http://www.cfsan.fda.gov/)) at any time illustrates that our food supply (cooked or raw) although deemed the safest in the world is not 100% safe all the time. Homemade diets made using foods sold for human consumption are not safe from contamination. Feeding meats from a USDA inspected facility does not ensure against food poisoning as most of the microbes gain access to the meat during handling from the abattoir to grocery shelf. There are just simply no guarantees in life.

Of particular concern for veterinarians is the use of uncooked meat, organs and eggs in homemade pet food recipes. Meats used by pet owners, including those meats intended for human consumption, are contaminated with microorganisms associated with food poisoning, thus pose an increased health risk. This is also not a nutritional issue but one of zoonotic disease. Veterinarians, as opposed to an M.D., are the primary line of defense in minimizing the transmission of disease between animals and people.

There is growing evidence to validate this health risk in the veterinary literature. Raw meat diets prepared by pet owners fed to their dogs have been documented to contain pathogenic organisms in at least 6 scientific papers. Dogs fed contaminated raw meat diets have been documented to be

a source of infection to people and other household pets. Dogs fed homemade raw meat diets have been documented to shed viable organisms in their feces the same as those isolated from the raw meat diets fed to them in at least 5 scientific papers. Human infections of food borne pathogenic organisms may occur when handling contaminated meat and egg products as well as products intended for pets (bones, pig ears and treats). Individuals who clean the litter box of small dogs or pick up their stool should consider the feces contaminated with viable microbes that can make them ill even if the dog appears healthy.

Not all microbes cause disease. There are several hundred sub-species of Salmonella for example. Some we live with harmlessly but other sub-species can cause kill us. Extra precautions should be taken when persons (or other pets) in the household are immune suppressed with HIV, Felv or FIV\* infections, or undergoing chemotherapy or are using anti-inflammatory medications. Additional caution should be emphasized when there are young children in the household as fecal-oral and pet food-oral contamination is possible.

Veterinarians are trained in zoonotic diseases and have a responsibility to inform the pet owner who wants to feed a raw meat or egg diet of the potential health dangers. Food safety practices when handling the food, feeding dish and feces should be emphasized and the need for consistent personal hygiene, primarily hand washing, should be reinforced. To date there is no independently, unbiased documented evidence that feeding raw has a nutritional advantage over feeding cooked meat, therefore given the potential health risk, the FDA advocates against feeding raw meat, poultry or seafood to pets. Feeding raw vegetables also carries a risk of food borne illness. The recent salmonella tainted tomatoes hospitalized 224 people and spinach contaminated with E. coli that sickened 204 people in 2006 are good examples. Washing or blanching raw vegetables before feeding is also advised for household pets.

One option for pet owners making a raw meat homemade diet would be to feed whole (not ground) cuts after cooking the meat surface and feed rare. Most of the food poisoning organisms are on the surface of the meat and searing the surface significantly reduces that bacterial load while preserving any perceived advantages to feeding raw meat in the middle rare portion. The risk of intramuscular parasites exists. For example, deviant bovine worm migration to the brain of

---

\*Human immunodeficiency virus (HIV); Feline leukemia virus (Felv); Feline immunodeficiency virus (FIV).

a dog fed raw beef has been reported. So the take home message is to make sure your homemade diet is nutritionally balanced, cook or wash the food ingredients and, if feeding raw, weigh the risk and take additional precautions.

#### References:

Chengappa MM, Staats J, Oberst RD, et al. Prevalence of Salmonella in raw meat used in diets of racing greyhounds. *J. Vet. Diagn. Invest.* 1993;5:372-377.

Sato Y, Mori T, Koyama T, Nagase H. Salmonella virchow infection in an infant transmitted by household dogs. *J Vet Med Sci.* 2000;62(7):767-769.

Cantor GH, Nelson S, Vanek JA, et al. Salmonella shedding in racing sled dogs. *J Diagnostic Invest* 1997;9:447-448.

Joffe DJ, Schlesinger DP. Preliminary assessment of the risk of Salmonella infection in dogs fed raw chicken diets. *Can Vet J* 2002;43[6]:441-442.

Lejeune JT, Hancock DD. Public health concerns associated with feeding raw meat diets to dogs. *J Am Vet Med Assoc* 2001;219[9]:1222-1225.

Gutman L, Ottesen E, Quan T, et al. An inter-familial out break of Yersinia enterocolitica enteritis. *NE J Med* 1973;288:1372-1377.

Fredriksson-Ahomaa M, Korte T, Korkeala H. Transmission of Yersinia enterocolitica 4/O:3 to pets via contaminated pork. *Lett Appl Microbiol* 2001;32[6]:375-378.

Stiver SL, Frazier KS, Mauel MJ, Styer EL. Septicemic Salmonellosis in two cats fed a raw-meat diet. *JAAHA* 2003;39[6]:538-542.