

## Raw Diets

With recent news stories of contaminated dog and cat foods, many owners are looking for an alternative diet for their four legged family member. One of the trends includes commercial as well as home raw diets. Proponents for raw diets claim that dogs and cats naturally ate raw diets (whole animals) in the wild. Some claim that some enzymes within the raw food are eliminated when cooked. Recent veterinary and human medicine studies have looked at the effects of raw diets on both the pet and the family members.

Veterinary nutritionists contend that the current pet population dogs are better able to metabolize carbohydrates and are genetically different than wolves. Furthermore studies have shown that gastric acids can neutralize many of the “natural enzymes” found in raw foods and may not be bioavailable to the consumer even in the raw state.

The greatest concern with raw diets is the high bacteria load and its effects on both pet and human health. In one study of a greyhound facility that fed a raw diet, *Salmonella* was recovered from 88 of 133 (66%) samples taken of the food, environment, and dogs and from 57 of 61 (93%) fecal samples from the dogs.

This trend has raised concerns in both human and veterinary medicine and has prompted research by the FDA Center for Veterinary Medicine (CVM). The CVM has screened over 1,000 samples of pet food for bacteria that can cause food borne illness. The study showed that compared to other types of pet food tested, raw diet pet food was more likely to have disease causing bacteria.

The test was conducted over a 2 year period from October 2011 to July 2012. 196 samples of raw diet were purchased from commercial retailers and shipped directly to 6 laboratories. The samples were tested for *Salmonella* and *Listeria*. Of the 196 raw pet food samples analyzed, 15 were positive for *Salmonella* and 32 were positive for *L. monocytogenes* (see Table 1).

Table 1: Number and type of pet food samples that tested positive for *Salmonella* and *Listeria monocytogenes* (Years 1 & 2)

Type of Pet Food Sample	No. samples tested	No. positive for <i>Salmonella</i>	No. positive for <i>L. monocytogenes</i>
Raw pet food	196	15	32
Dry exotic pet food <sup>a</sup>	190	0	0
Jerky-type treats <sup>b</sup>	190	0	0
Semi-moist dog food <sup>c</sup>	120	0	0
Semi-moist cat food <sup>c</sup>	120	0	0
Dry dog food <sup>d</sup>	120	0	0
Dry cat food <sup>d</sup>	120	1	0

<sup>a</sup> Non-cat and non-dog food, such as dry pellets for hamsters, gerbils, rabbits, amphibians, and

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birds.

<sup>b</sup> Included chicken jerky and pig ear-type products.

<sup>c</sup> Typically packaged in pouches for retail sale, such as (1) pouched dog and cat food; and (2) food treats shaped like bacon, fish, pork chops, and burgers.

<sup>d</sup> Included pellet- or kibble-type food typically packaged in bags for retail sale.

*Note:* CVM did not collect or test canned and wet pet food samples in this study.

Based on this study the CVM concluded that owners who feed their pet a raw diet may have a higher risk of getting infected with *Salmonella* and *Listeria monocytogenes*.

### Salmonella:

Children under 5, pregnant woman, the elderly, and people with weakened immune systems (such as people with cancer or other diseases) are at higher risk for salmonellosis and may develop more severe symptoms. Symptoms include fever, bloody diarrhea, nausea, vomiting, and stomach pain. Animals can carry salmonella in their intestines and show no ill effects so your pet may appear to be NORMAL but still harbor this bacterium.

People become infected with *L. monocytogenes* by eating contaminated food or by handling contaminated food and then transferring the bacteria from their hands to their mouths. Babies can become infected in utero or at birth if the mother was exposed to *Listeria*. Pregnant women are about 20 times more likely to get listeriosis than other healthy adults. Pregnant women typically run a fever, feel fatigued and have muscles aches very similar flu like symptoms. Unfortunately listeriosis for the fetus and newborn can be severe causing miscarriage, stillbirth, premature birth, and life-threatening infection such as blood infection and pneumonia of the newborn.

Raw Diet Safety: If you choose to feed raw pet food to your pet, here are some tips to prevent infection:

- Thoroughly wash your hands with soap and water (for at least 20 seconds) after handling raw pet food, and after touching surfaces or objects that have come in contact with the raw food.
- Thoroughly clean and disinfect all surfaces and objects that come in contact with raw pet food. First wash with hot soapy water and then follow with a disinfectant. You can also run items through the dishwasher after each use to clean and disinfect them.
- The FDA recommends disinfecting pet bowls and preparation material with a solution of 1 tablespoon bleach to 1 quart (4 cups) water is an effective disinfectant. For a larger supply of the disinfectant solution, add ¼ cup bleach to 1 gallon (16 cups) water.
- Freeze raw meat and poultry products until you are ready to use them, and thaw them in your refrigerator or microwave, not on your countertop or in your sink.

- Carefully handle raw and frozen meat and poultry products. Don't rinse raw meat, poultry, fish, and seafood. Bacteria in the raw juices can splash and spread to other food and surfaces.
- Keep raw food separate from other food.
- Immediately cover and refrigerate what your pet doesn't eat, or throw the leftovers out safely.
- Don't kiss your pet around its mouth, and don't let your pet lick your face, children's hands and faces, pregnant or elderly people's hands and faces. This is especially important after your pet has just finished eating raw food.
- Thoroughly wash your hands after touching or being licked by your pet. If your pet gives you a "kiss," be sure to also wash your face.

[http://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm373757.htm#The\\_Pet\\_Food\\_Study?utm\\_source=](http://www.fda.gov/AnimalVeterinary/ResourcesforYou/AnimalHealthLiteracy/ucm373757.htm#The_Pet_Food_Study?utm_source=)

- Goulet V, King LA, Vaillant V, et al. What is the incubation period for listeriosis? *BMC Infect Dis* 2013;13:11-17.
- Hoelzer K, Pouillot R, Dennis S. Animal models of listeriosis: a comparative review of the current state of the art and lessons learned. *Vet Res* 2012;43:18-44.
- Jackson KA, Iwamoto M, Swerdlow D. Pregnancy-associated listeriosis. *Epidemiol Infect* 2010;138:1503-1509.
- Jacobson L. Listeriosis. *Pediatr Rev* 2008;29:410-411.
- Lääkkö T, Båverud V, Danielsson-Tham, M-L, et al. Canine tonsillitis associated with *Listeria monocytogenes*. *Vet Rec* 2004;154:732.
- Mylonakis E, Paliou M, Hohmann EL, et al. Listeriosis during pregnancy: a case series and review of 222 cases. *Medicine (Baltimore)* 2002;81:260-269.
- Pao S, Ettinger MR. Comparison of the microbial quality of ground beef and ground beef patties from Internet and local retail markets. *J Food Prot* 2009;72:1722-1726.
- Poulsen KP, Czuprynski, CJ. Pathogenesis of listeriosis during pregnancy. *Anim Health Res Rev* 2013;14:30-39.
- Poulsen KP, Faith NG, Steinberg H, et al. Bacterial load and inflammation in fetal tissues is not dependent on IL-17a or IL-22 in 10-14 day pregnant mice infected with *Listeria monocytogenes*. *Microb Pathog* 2013;56:47-52.
- Schroeder H, van Rensburg, IB. Generalised *Listeria monocytogenes* infection in a dog. *J S Afr Vet Assoc* 1993;64:133-136.
- Wiczorek K, Dmowska K, Osek J. Characterization and antimicrobial resistance of *Listeria monocytogenes* isolated from retail beef meat in Poland. *Foodborne Pathog Dis* 2012;9:681-685.
  
- Morely, Paul, Rachel A. Strohmyer, Jeanetta D. Tahnkson et al. Evaluation of the association between feeding raw meat and *Salmonella enterica* infections at a

Greyhound breeding facility Journal of AVMA May 15, 2006, Vol. 228, No. 10, Pages 1524-1532