



The Raw Meat Controversy

There are few topics in the field of veterinary nutrition that invoke such strong opinions and arguments as the feeding of raw meat to dogs and cats. Many people appear to be solidly entrenched in their views - often either vehemently for or against this feeding practice. Unfortunately, much of the information on both sides is based on anecdotes, theoretical concerns and personal opinion. While objective information is increasing, this is still a field governed largely by passion and opinion.



Raw meat feeding became mainstream largely in response to publication of the books *Give Your Dog A Bone* and *The BARF Diet* by Dr. Ian Billinghurst. The latter book introduced the term “BARF” (“Biologically Appropriate Raw Food” or “Bones And Raw Food”), which has become a widely-used term. These books, which lack any scientific evidence, advocate the feeding of raw meat and bones to dogs based on the author’s belief that commercial pet food is contributing to serious health problems in pets. While anecdotal, these books and similar books published since then have no doubt contributed greatly to the rapid increase in the popularity of this feeding practice.



“Benefits” Of Feeding Raw Meat

Many proponents of raw meat diets have made very strong claims, including “Dogs fed cooked and processed food and no bones will always develop a weakened immune system and poor dental health.” Some have reported that raw diets are useful for the prevention or control of a wide range of disease conditions, including chronic digestive, allergic and metabolic diseases, bladder stones, feline lower urinary tract disease, intermittent vomiting and diarrhea, seborrhea sicca and recurrent ear infections. More specific claims of the “disappearance” of many dental problems, skin problems, ear infections, anal sac problems, arthritis, incontinence, keratoconjunctivitis sicca (“dry eye”), diabetes and reproductive problems, and improvement of behavioural problems have also been made. Another claim that has

been made is “As a general rule, any genetic fault that your pet may have inherited will have minimum chance of expression when the BARF diet is fed.” **None of these claims are based on reviewed scientific studies.** The only scientific evidence is a recent study that reported dogs fed raw meat have lower rates of non-intestinal infections (e.g. ear infections). There is also frequent discussion about the presumed negative effects of cooking food, including destruction of vitamins, enzymes, “anti-ageing factors”, reduced protein value and availability, and production of “foreign foods.” There is no scientific evidence that cooking food has a negative impact on the health of a pet that is being fed a properly balanced diet.

Although there is one study and a large number of anecdotal claims regarding potential positive health effects of feeding raw meat to pets in some situations, there are also serious concerns about the risks to pets and people from bacteria in raw meat, like *Salmonella*. Proponents of these diets tend to dismiss infectious disease concerns, with statements such as “*Salmonella* and *Campylobacter* are of absolutely no consequence to a healthy dog.” or “The FDA has stated that *Salmonella* is not harmful to dogs.” These statements are not true. Although these pathogens are more likely to cause illness in humans, both are also capable of causing disease in dogs and cats.

Problems With Feeding Raw Meat

There are three main concerns with respect to raw meat feeding:

- 1) **Infectious disease risks** (to pets and owners)
- 2) **Dietary nutritional imbalance** (in pets)
- 3) **Foreign bodies** (i.e. pets swallowing bones)

Of these, **infectious disease risks** have likely received the most attention and this is the area where more published research is currently available. As with any raw meat, there is the potential for contamination of raw meat-based pet foods with intestinal pathogens (enteropathogens). *Salmonella* spp. has gathered the greatest attention as a possible risk, however *Campylobacter*, *Clostridium difficile*, *C. perfringens*, *C. botulinum*, *E. coli*, *Yersinia enterocolitica*, *Listeria monocytogenes* and enterotoxigenic *Staphylococcus aureus* are also of concern. A variety of other bacterial and parasitic pathogens could also be relevant in certain situations.





Contamination of raw meat with bacteria is common, and expected. Studies of raw meat diets for dogs and cats have reported *Salmonella* contamination rates of up to 80%. *Clostridium difficile* can be found in 4-8% of diets. *Escherichia coli* O157:H7, a strain of *E. coli* which is very dangerous in people, has also been found in raw dog food. There are various studies reporting high rates of *Salmonella* shedding in pets fed raw meat. A recent study reported that 44% of dogs that ate raw meat diets contaminated with *Salmonella* shed the bacterium in their stool, some for up to 11 days. Another study reported that, compared to dogs fed cooked diets, dogs fed raw meat were 23 times as likely to shed *Salmonella* in their stool and 17 times as likely to shed ESBL *E. coli* (a highly drug-resistant type of *E. coli*).

Most dogs and cats that ingest *Salmonella* do not get sick. However, *Salmonella* can cause disease in dogs and cats, including fatal infections.

We strongly recommend that you do NOT feed your pets raw meat products, either as their whole diet or as a component of their diet. The infectious disease risk to animals and people alone far outweighs the evidence that feeding raw meat is beneficial to pets.



Public Health Concerns

There are significant concerns about public health risks associated with the feeding of raw meat or raw animal-derived treats. These focus on bacterial infections that could be acquired from handling food, contamination of cooking or other household surfaces, or contact with the pet's stool. The main concern involves *Salmonella*, although other bacteria such as *Campylobacter*, *E. coli*, *Staphylococcus aureus* and *Listeria monocytogenes* may also pose a risk. Outbreaks of salmonellosis in people have been caused by ***Salmonella*-contaminated dog treats** such as pig ears. Infections caused by handling raw meat diets have not been reported, however that does not mean they do

not occur. It is unclear whether contact with raw pet food is even considered in investigations of salmonellosis, and most cases probably occur as sporadic infections, not outbreaks which tend to get much more attention.

Pets That Should Never Be Fed Raw Meat

It is reasonable to recommend that raw meat or treats **never** be fed to pets that have contact with individuals (human or animal) who are at higher-than-average risk of significant illness if they are exposed to the pathogens which can be found in raw meat. More specifically, raw meat should never be fed:

- ▶ to pets that live in a household with an infant, elderly individual or person with a weakened immune system.
- ▶ to pets that visit hospitals, nursing homes or similar facilities.
- ▶ to pets that live in a household with another pet that is very old or that has a weakened immune system.
- ▶ to puppies and kittens, because young animals may be more likely to develop infections, and are more susceptible to the effects of nutritional imbalances.

Reducing The Risks

We recommend that you do NOT feed raw meat to pets. However, if you choose to feed raw meat, taking the following precautions will help **reduce** (but will not eliminate) the risks to your pet and your family.

- Raw meat should be purchased from reputable suppliers. Do not feed condemned meat or any meat that is unfit for human consumption (see picture right).
 - ▶ **If you wouldn't eat it, don't feed it to your pet!**
- Any raw meat that is not used immediately should be **kept frozen**.
- Frozen meat should be thawed in a refrigerator on the bottom shelf, ideally in a sealed container. There should be no contact of raw meat with any other food items.
- Thawed meat should be used within 48 hours.



Photo credit: P. Morley



- **Prevent contamination of kitchen surfaces** when handling raw meat. If the meat is prepared in the kitchen, implements such as cutting boards and knives should be designated for use with raw meat only. All items in contact with raw meat should be thoroughly washed immediately after use.
- **Wash your hands** thoroughly with soap and water, or use an alcohol hand sanitizer after contact with raw meat, or items that have been in contact with raw meat (e.g. kitchen utensils, food bowls).



- Uneaten raw meat should not be left in food bowls, because harmful bacteria can grow quickly in the meat at room temperature. Any food not promptly eaten by your pet should be discarded.
- **Food bowls and water bowls should be disinfected regularly.** Scrub bowls with soap and water, then apply a disinfectant and allow the bowls to sit for 10-15 minutes. Rinse the bowls again thoroughly before using them again.
 - ▶ This will reduce but not necessarily eliminate bacteria like *Salmonella*.
- Stainless steel food and water bowls may be preferable since their surfaces are more resistant to damage. Damaged surfaces are more difficult to disinfect.
- Food and water bowls of pets fed raw meat should be considered contaminated, and contact with them should be restricted. **Young children should never have contact with a food or water bowl of a pet fed raw meat.**
- As always, care should be taken when handling stool or areas contaminated by stool from any pet, especially if it is fed raw meat.
- If your pet develops diarrhea, consult your veterinarian and ensure that he/she knows that you feed your pet raw meat. Despite statements made by some raw food proponents, **diarrhea is never "normal" in animals fed raw meat.**



Disease Risk

The disease risk to a member of the general population from handling raw meat depends on several factors, particularly how an individual handles raw meat and associated hygiene practices. The same risk applies to handling the stool of animals fed raw meat. In general, the disease risk from feeding raw meat to pets is likely:

HEALTHY ADULTS / OLDER CHILDREN



Groups at higher risk of developing serious infection and complications from pathogens that can be found in raw meat and the stool of animals that are fed raw meat include immunocompromised individuals (e.g. HIV/AIDS, transplant and cancer patients), infants and young children less than five years of age, and the elderly. For members of these groups, the disease risk from feeding raw meat to pets is:

YOUNG CHILDREN / IMMUNOCOMPROMISED PERSONS



Pets that have contact with members of these high-risk groups (i.e. part of pet visitation/therapy programs, or in the household) should never be fed raw meat.



Carriage Risk

The disease risk to a healthy pet that is fed raw meat is likely relatively low. The pathogens found in raw meat can make animals sick, but in many cases the animal simply carries the bacteria in the intestine for a time, and passes them in their stool, without ever becoming ill. However, the presence of the pathogens in the stool poses a zoonotic risk to the animal's owners and other people. The **risk of a pet fed raw meat becoming a transient carrier of a significant zoonotic pathogen** is:

HEALTHY PETS FED RAW MEAT



Additional Information – Safe Handling of Raw Meat

- http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm#consumersprotect
- <http://www.fightbac.org>