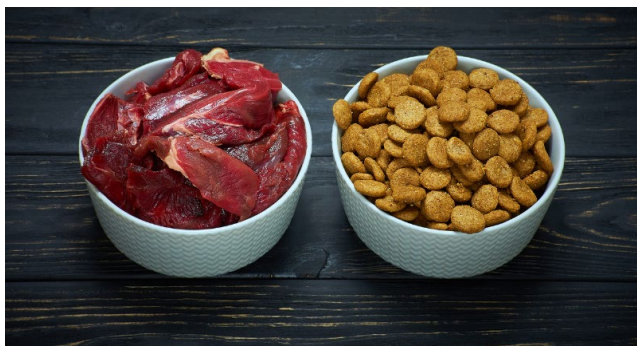


The raw controversy

The feeding of raw meat-based diets (RMBD) to pets has been gaining popularity over the past few decades due to various reasons including broader societal trends toward consumption of more natural minimally processed foods, as well as the perception that these diets can improve pet skin/coat health, gastrointestinal health, oral health, and disease immunity. Pet owners may also turn to RMBDs due to concern about perceived negative effects of the cooking process on the nutritional quality of pet food, including destruction of vitamins, enzymes, anti-ageing factors, and reduced protein value and availability. Despite many pet owner and company claims and anecdotal reports, **there is little to no rigorous scientific data to support the alleged health benefits of feeding RMBDs compared to a properly balanced cooked commercial or homemade diet.** However, feeding RMBD and/or raw treats such as bones, rawhides and pig ears does carry clear risks to both pets and their owners, particularly infectious disease risks.



Popular imagery of kibble versus raw meat based diets for pets does not indicate the added infectious disease risks or risk of nutritional imbalances if the diet is not properly formulated.

Types of RMBDs

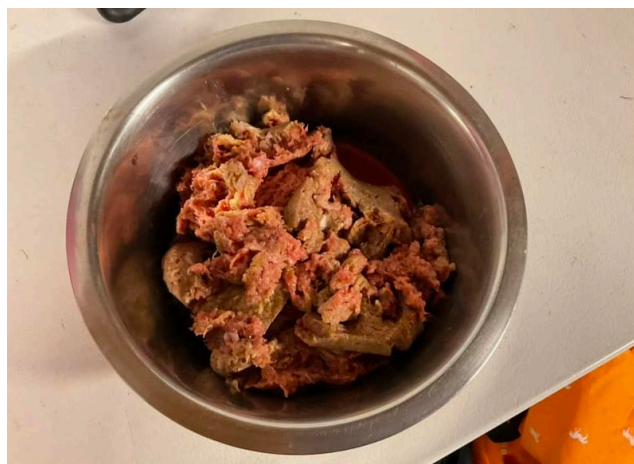
RMBDs can be prepared at home, or purchased as commercial products that use any of the following preparation / preservation methods:

- freezing
- freeze-drying
- dehydration
- high pressure pasteurization (HPP)

Of these methods, only HPP significantly decreases (but does not eliminate) harmful bacteria in the food.

Gently cooked commercial products are a potential alternative for owners who wish to feed a minimally processed diet. These diets are generally cooked at a relatively low temperature but high enough and long enough to eliminate most pathogens that are a food safety concern, and are therefore safer from an infectious disease standpoint. Verify with the product manufacturer that they follow the [recommended minimum cooking temperatures for meats for human consumption](#).

With any pet diet, even commercial RMBDs, unless a veterinary nutritionist has been appropriately consulted, the formulation may be nutritionally inadequate for the intended pet.



Feeding raw meat based diets can pose health risks to pets as well as to pet owners who handle the food, and who have contact with the pet's feces and environment. (Photo credit: Jane Milner)

Risks of feeding RMBDs and raw treats:

- 1) Infectious disease exposure (pets and owners)
- 2) Dietary/nutritional imbalances
- 3) Foreign body ingestion (e.g. swallowing bones)

Infectious disease risks associated with RMBDs and raw treats have been shown in a number of published peer-reviewed studies. Contamination of raw meat with bacteria is common (and expected); some of

these bacteria can be harmful to both people and animals but are normally eliminated by proper cooking. *Salmonella* and *Escherichia coli* are likely the greatest risks with most RMBDs and raw treats, however *Campylobacter*, *Clostridioides difficile*, *Clostridium perfringens*, *Clostridium botulinum*, *Yersinia enterocolitica*, *Listeria monocytogenes* and enterotoxigenic *Staphylococcus aureus* are also of concern. A variety of other bacterial and parasitic pathogens may also be relevant in different situations.

Studies of RMBDs for dogs and cats have reported *Salmonella* in up to 80% of diets, and *C. difficile* in 4-8% of diets. *Escherichia coli* O157:H7 (a strain of *E. coli* which is particularly dangerous in people) has also been found in RMBDs. Although the risk of pets getting sick from ingesting these bacteria is lower than in people, infections in dogs and cats do occur, particularly with *Salmonella*, and can be fatal. In 2019, an outbreak of *Mycobacterium bovis* infections was detected in 130 cats in the UK, all of which had consumed a specific brand of commercial raw venison pet food. This bacterium can also infect humans, causing signs identical to tuberculosis.



Although the risk of pets getting sick from ingesting bacteria in raw meat based diets is lower than in people, infections in dogs and cats do occur, particularly with *Salmonella*, and can be fatal.

Pets can also pass the bacteria from their food in their stool, which increases the risk of exposure of people and other pets that share the same environment as the pet. One study found 50% of dogs eating RMBDs shed *Salmonella* in their stool, some for up to 11 days after consuming the diet. Another study showed healthy dogs on RMBDs were more likely to shed *E. coli* that were resistant to multiple different antibiotics; resistant bacteria like these can cause infections in both animals and people that are very

difficult to treat because they don't respond to most antibiotics.

Public health concerns with RMBDs

Pet owners can be exposed to harmful bacteria in RMBDs and raw treats by three main routes:

- Directly through handling the raw food / treats
- Indirectly through handling of feces from their pet
- Indirectly through contact with surfaces or items contaminated by food or feces (including their pet's mouth!)



Raw animal-based treats such as rawhides and dried pig ears can also be contaminated with pathogens like *Salmonella* that can infect pets and people.

Selected human disease outbreaks associated with RMBDs

Many bacteria found in RMBDs and raw treats can cause illness in people, ranging from mild to severe. Mild to moderate cases of gastrointestinal illness (e.g. diarrhea, vomiting) frequently resolve on their own and go unreported, especially when they only affect a small number of people (e.g. within a household). Larger outbreaks or those causing more serious illness are less frequent, but easier to detect. Here are a few examples:

- Between 2020-2023, 40 cases of extensively drug-resistant (XDR) *Salmonella* were detected across 6 provinces in Canada. Children under 5 accounted for 43% of cases, and 13 people were hospitalized. There were no human deaths, but deaths in dogs and calves were reported. The main risk factors for infection in people were exposure to raw pet food or dogs fed raw food, and contact with cattle (calves).

- Between March-May 2020, 5 cases of *E. coli* O157 illness were detected across 3 provinces in Canada. Two individuals were hospitalized, but no deaths were reported. Individuals who became ill were between 3 and 43 years of age, and they all reported exposure to a particular brand of frozen raw pet food, which was identified as the likely source of the outbreak. A very similar outbreak was reported in England in 2018, affecting 4 people, one of whom died from the *E. coli* O157 infection.
- Following the 2019 UK outbreak of *M. bovis* in cats fed commercial raw venison pet food, four pet owners and one veterinarian were found to have high likelihood of latent tuberculosis infection. While it was not possible to conclusively demonstrate that they were infected through contact with the pet food or infected cats, the possibility could not be ruled out.
- Regularly wash and sanitize containers, bowls, utensils and surfaces that come in contact with raw food. Remember that cleaning items in the dishwasher does not reliably remove all bacterial contaminants, so pet dishes must always be kept separate from those used by people.
- Store and handle raw food away from human food areas as much as possible. If food must be thawed in the fridge, keep it in a tightly sealed container on the bottom shelf, and discard any leftover food within 48 hours of thawing.
- Clean up pet feces promptly and safely, both at home and in public; then wash your hands.
- Be especially careful not to let pets fed RMBDs or raw treats lick anyone's face or broken skin.



Raw meat based diets should never be fed to pets that are at higher risk of serious infections, or that live with high risk people, like very young, elderly, or immunocompromised individuals.

Feeding pets raw meat products, either as their whole diet or as a component of their diet, is not recommended. The infectious disease risks to animals and people alone far outweigh the perceived yet unproven benefits of feeding raw diets to pets. **Both the Public Health Agency of Canada (PHAC) and the US Centers for Disease Control and Prevention (CDC) do not recommend feeding RMBDs and raw treats to pets.**

Reducing the risks of raw

Despite these risks, some pet owners may still choose to feed RMBD and raw treats; if this is the case, pay special attention to the following to help reduce the risks to people and pets:

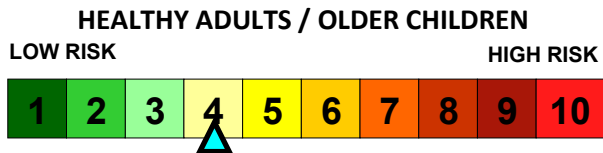
- Buy from a reputable source. Meat products that are not inspected and not safe for human consumption are not safe for your pet either.
- Consider feeding a diet that has been high pressure pasteurized to lower the amount of bacteria it may contain.
- Pay close attention to hand hygiene when handling the pet food, pet feces, and any surfaces or items in contact with them.
- live in a household with a young child (less than 5 years of age), pregnant or elderly individual, or an individual with a weakened immune system.
- are or live in a household with another pet that is very old or that has a weakened immune system.
- visit hospitals, nursing homes or similar facilities.
- are very young; puppies and kittens are more likely to develop serious infections or complications, and are also more susceptible to the effects of nutritional imbalances.

Pets that should never be fed raw

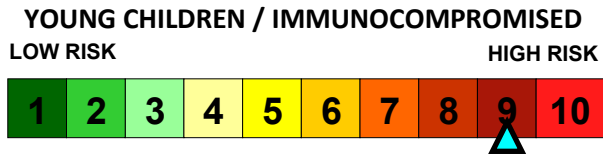
RMBDs or raw treats should never be fed to pets that have contact with individuals (human or animal) who are at higher-than-average risk of significant illness if they are exposed to bacterial pathogens likely to be found in these products. They should therefore never be fed to pets that:

What is the risk?

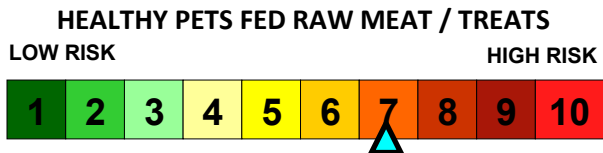
The disease risk to a member of the general population from RMBDs and raw treats for pets depends on several factors, particularly how an individual handles raw meat and associated hygiene practices. The same risk applies to handling the stool of animals fed these diets and treats. In general, the disease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



Groups at higher risk of developing serious infection and complications from pathogens that can be found in raw meat and the stool of animals 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:



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 health 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:



Additional information:

Feeding Raw? Reduce the Risk! Increasing safety when feeding raw. Canadian Academy of Veterinary Nutrition.

<https://cpb-ca-c1.wpmucdn.com/sites.uoguelph.ca/dist/6/84/files/2021/10/CAVN-Raw-Meat-Products-Final.pdf>

Raw Food Q&A: Why is raw food so popular? Canadian Academy of Veterinary Dermatology, Canadian Academy of Veterinary Nutrition, 2022. https://www.cavd.ca/images/CAVD_CAVN_Raw_Food_QA.pdf

Worms and Germs Blog: Promoting Safe Pet Ownership. Tag: Raw Meat. 2008-2024. <https://www.wormsandgermsblog.com/tags/raw-meat/>

OAHN podcast series: Considerations for and managing risk with raw food diets. Dr. Scott Weese, Dr. Adronie Verbrugghe. 2017. <https://oahn.podbean.com/?s=raw>

Other images sourced through www.canva.com

For complete references, visit www.oahn.ca/resources/raw-diets-infosheet/

