

Veterinary Connections



News about Animal Health, Food Safety, and One Health
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Is your pet constantly itching?

> Content contributed by CPT Torri Allen, DVM, FYGVE, Public Health Activity - Fort Bragg

Have you noticed hair loss around your pet's eyes? Constant licking of the paws? Ear infections with no improvement? If you answered yes to any of those questions, your pet might be showing signs of a condition called atopic dermatitis.

Atopic dermatitis is the result of a series of allergic reactions (hypersensitivity), and one of the most common causes of chronic (3 months or longer) skin inflammation and itching in dogs and cats. It is caused by a combination of genetic factors of your pet and their sensitivity to environmental allergens. They are often the same allergens that contribute to human allergic conditions such as hay fever and asthma.^{1,2}

Various substances can trigger atopic dermatitis and there can be a seasonal component to those triggers. Two of the most common sources of allergens are the environment and food. Examples of such allergens include: mold, pollen, house dust and protein from meat such as chicken, pork and beef.^{3,2}

A majority of dogs with atopic dermatitis develop signs before 3 years of age. Older dogs that develop signs have typically moved from a cold geographic area to a warmer one within the past 3 years. Some of the most commonly affected breeds are West Highland White Terrier, Labrador Retriever, Golden Retriever, Boxer, French Bulldog, German Shepherd, and Cocker Spaniels.¹



A majority of cats with atopic dermatitis develop signs between 6 months and 2 years of age. Cats diagnosed with small-airway disease (feline asthma, feline allergic bronchitis, and feline bronchial disease) are more likely to have skin reactions to allergens.¹

Signs to look for in your pet:

Canine

- Hair loss around the mouth, eyes, ears, and elbows
- Itchiness throughout the body (scratching, licking, biting, rubbing, and so forth)
- Chronic ear infections
- Redness of the inside of the eyelids or white part of the eye and excessive tearing
- Excessive licking that can lead to staining and discoloration of the fur

Feline

- Itchiness localized to the face and neck
- Nodular to linear raised lesions found in or around the mouth, face, thighs
- Chronic ear infections
- Redness of the inside of the eyelids or white part of the eye and excessive tearing

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- Self-mutilation (hair plucking/pulling and skin biting) of the abdomen, groin, sides, and back legs

Diagnosing atopic dermatitis requires a careful review with your veterinarian of your pet's history and clinical signs as well as excluding any of the other potential causes of itchiness in your pet. Owners can be proactive to help figure out what's going on by keeping notes on their pet and provide their veterinarian with the following information: How long has your pet been itchy? Where on their body do they seem to be the itchiest? On a scale of 1-10, how itchy is your pet and has any previous therapy helped relieve your pet's itchiness? 1 being not itchy and 10 being keeping you up at night from their itching behavior.

Chronic skin and ear infections can be difficult, frustrating, and costly to treat if the root cause of the problem is not identified. Recognizing the signs of atopic dermatitis due to an environmental or food allergy can lead to targeted therapy for your pet and improve their quality of life. For more information about treating atopic dermatitis please contact your local veterinarian.

Reference: 1. "SkinVet Clinic Veterinary Dermatologist." *SkinVet*, www.skinvetclinic.com/atopicdermatitis.html. 2. Marsella, Rosanna, and Anna De Benedetto. 2017. Atopic Dermatitis in Animals and People: An Update and Comparative Review. *Veterinary sciences* vol. 4,3 37., doi:10.3390/vetsci4030037 3. Miller, William H, et al. 2013. *Muller & Kirks Small Animal Dermatology*. 7th ed., Elsevier.



Rocky Mountain Spotted Fever

> Content contributed by CPT Leslie Brunner, DVM, FYGVE, Public Health Activity - Fort Campbell VS



Exploring the outdoors, enjoying the sunshine, and hiking a great new trail are wonderful opportunities to spend time with your loved ones (including four-legged Family members!). It allows us to exercise and take in the vast beauty of the world around us while giving our pets new places to sniff and explore. We often remember that bug spray is a critical packing item for any outdoors trip, but it is also important to think about your pup's exposure to ticks that can spread potentially dangerous diseases. One such disease, Rocky Mountain Spotted Fever (RMSF), can cause serious illness in us and our canine companions. Learning to recognize signs of disease is critical for seeking early medical treatment that help keep Families and pets healthier.

What is Rocky Mountain Spotted Fever?

RMSF is a tickborne disease caused by a bacterium, *Rickettsia rickettsii*, most commonly transmitted by the American dog tick, *Dermacentor variabilis*, in the United States but other ticks such as the Rocky Mountain wood tick, (*Dermacentor andersoni*), the brown dog tick (*Rhicephalus sanguineus*), and ticks of the genus *Amblyomma* are also vectors. Contrary to the condition's name, RMSF has been diagnosed in every state except Vermont and Alaska, with the highest infection rates in the southeastern United States.

How does my pet get Rocky Mountain Spotted Fever?

The bacterium is transmitted to dogs and people by an infected tick bite. Ticks become infected when feeding on infected small mammals and spread the bacterium to dogs and humans when they bite. The tick must be attached to the subject for at least 5 to 20 hours to transmit the bacterium.

How do I know if my pet has Rocky Mountain Spotted Fever?

R. rickettsii infects the cells that make up the blood vessels in dogs, resulting in bleeding problems and trouble clotting. Dogs present with

vague signs such as lethargy, enlarged lymph nodes, painful joints, vomiting, or diarrhea; most dogs also have a high fever. It often takes between 2 - 14 days after being bitten by an infected tick to show signs. In more severe cases, dogs may have small areas of hemorrhage on their gums or retina (petechiae). In advanced stages, the disease can result in severe bleeding in any organ, so signs may vary significantly based on the organ affected. The incidence of RMSF infection in cats is much lower, but infections can occur.

How can I prevent my pet from getting Rocky Mountain Spotted Fever?

RMSF is prevented by controlling ticks on your pet. Check animals frequently for ticks, and remove promptly if found. Removing a tick before it has been attached for more than 5 hours greatly reduces risk of infection. To find a tick on your animal, feel for lumps or bumps and look for areas that appear irritated. Ticks are drawn to moist areas on the body, so check under the collar, inside the ears, under the tail, inside the groin ("private") area, between the toes, elbows, in the "armpits", and even around the eyelids. Reduce exposure to wooded areas and wildlife to limit risk of tick bites. Contact your veterinarian for effective tick control products to use on your animal.

Can I get Rocky Mountain Spotted Fever from my pet?

RMSF is a zoonotic disease, meaning it can be transmitted between animals and humans. Humans can only become infected if they are bitten by an infected tick. RMSF is not spread by direct contact with infected animals. However, animals can carry the infected ticks and bring them into contact with humans.

If you suspect exposure to Rocky Mountain Spotted Fever or any other tickborne disease, seek medical treatment immediately for you or your pet.

Risks and Safety Tips When Using Raw Pet Food

> Content contributed by CPT Paulyne H. Bellen, DVM, MPH, Public Health Activity - Fort Bragg

Raw pet food is becoming popular despite the increased health risk to people and animals. Raw pet food is considered to be any animal meat, innards, eggs, or bone that has not been cooked using high heat, defined as 145 - 165 degrees Fahrenheit. Studies have shown that they carry more bacteria when compared to cooked dry kibble and wet canned, tub, or pouch pet food.^{1,2} Raw pet food has the highest number of recalled products since 2012 compared to cooked and smoked pet food due to bacteria contamination. **High heat is necessary for killing bacteria and maintaining shelf stability.** The most common bacteria found are *Salmonella* spp., *Escherichia coli*, *Listeria monocytogenes* and *Campylobacter* spp.² They cause diarrhea, stomach cramps, vomiting, weakness and fever in both animals and humans. Some people are at higher risk and can suffer more severe symptoms with longer duration that can lead to death.

High-risk groups include:

- Young (especially those younger than 5 years) children
- Older adults (65 years and older)
- Pregnant women
- Immune compromised (cancer, immune disease, diabetes, and so forth) individuals

Raw diets are sold as fresh frozen, freeze-dried, or dehydrated meals or treats for dogs and cats. The claimed benefits of feeding raw food diets have not been proven in any scientific study. They can also be nutritionally incomplete and imbalanced, which may seriously harm the health of pets. Pets might be infected and carry the bacteria in their mouths and feces without showing any signs of illness and might lead to contamination of the home environment.

Always follow safe food handling and good hygiene especially when feeding raw pet food.

- Choose lower risk pet foods that are cooked with high heat (145 – 165 degrees Fahrenheit)
- Use stainless steel bowls because they are easily disinfected with soap and hot water or in the dishwasher
- Replace ceramics and plastic bowls with scratches and cracks. Bacteria grow in these crevices and cannot be reached with disinfectants³
- Have a designated pet-feeding area separate from the kitchen or meal preparation area

People can get sick by:

- Handling raw pet food and contaminated pet beds, bowls, and toys
- Placing the pet food and pet bowl in eating and food prep areas (dining and kitchen)
- Eating contaminated food and water that has come in contact with pet food stored in the refrigerator or from contaminated surfaces and utensils

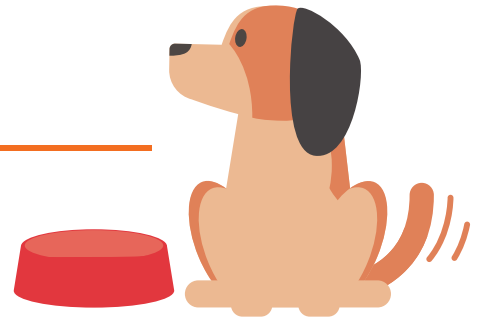
Our pets are important members of our Family. Always consult your veterinarian about their nutrition and keep their vaccinations and preventive medications up-to-date.

The American Veterinary Medical Association (AVMA), Food and Drug Administration (FDA) and Centers for Disease Control and Prevention (CDC) strongly discourage raw pet food because it contains significant health risks, especially when products are brought into the home and fed to pet dogs and cats.²

If you decide to feed your pet raw food

Wash your hands and surfaces thoroughly after handling raw pet food

CDC does not recommend feeding raw diets to pets, but if you do:



Wash your hands with soap and water right after handling any raw pet food.



Clean and disinfect all surfaces that the raw food touches, like countertops, microwaves, refrigerators and objects like knives, forks, and bowls.

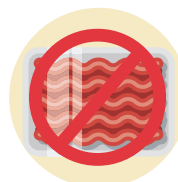
Safely store and handle raw pet food.



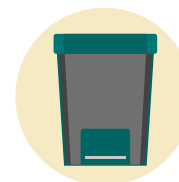
Freeze raw pet food until you are ready to use it.



Keep raw pet food away from other food in your refrigerator or freezer.



Don't thaw frozen raw pet foods on a counter top or in a sink.



Throw away any food your pet doesn't eat.

CDC. Pet Food Safety, <https://www.cdc.gov/healthypets/resources/pet-food-tips.pdf>

Reference: 1. Freeman LM, ML Chandler, BA Hamper, and LP Weeth. 2013. Current knowledge about the risks and benefits of raw meat-based diets for dogs and cats. *J Am Vet Med Assoc* 243(11):1549-1558. doi:10.2460/javma.243.11.1549. 2. Nemser SM, T Doran, M Grabenstein et al. 2014. Investigation of *Listeria*, *Salmonella*, and Toxigenic *Escherichia coli* in Various Pet Foods. *Foodborne Pathog Dis* 11(9):706-709. doi:10.1089/fpd.2014.1748. 3. De Cesare A, BW Sheldon, KS Smith, and LA JAYKU. 2003. Survival and Persistence of *Campylobacter* and *Salmonella* Species under Various Organic Loads on Food Contact Surfaces. *J Food Prot* 66(9):1587-1594. doi:10.4315/0362-028X-66.9.1587. 4. Stull JW and KB Stevenson. 2015. Zoonotic Disease Risks for Immunocompromised and Other High-risk Clients and Staff: Promoting Safe Pet Ownership and Contact. *Vet Clin North Am - Small Anim Pract* 45(2):377-392. doi:10.1016/j.cvsm.2014.11.007.



Tips and Tricks for Getting Your Cat to the Veterinarian!

> Content contributed by CPT Sarah Waibel, DVM, MPH, Camp Walker, Team IV OIC 106th MDVSS USAG Daegu, Republic of Korea

Our cats dread the day when the cat carrier magically appears. Your loveable kitty cat that refuses to leave your lap has instantly disappeared. Your appointment is in 1 hour and you cannot find her. It's 10 minutes until your appointment, and finally you are able to get her into the carrier. You are both stressed, and your cat has left defensive scratches all over your hands and arms. You call the veterinarian and plead with them to keep your appointment. Your cat continues to be distressed and cries the entire way to the veterinarian. Once you arrive, you realize she has soiled her carrier.

We all know and dread this experience, including your cat. Here are some simple tips and tricks to make the journey to the veterinary clinic as smooth as possible. That way your kitty cat can have access to the healthcare she deserves.

TIPS:

(1) Leave the carrier out somewhere your cat can interact with it. For detachable carriers, start with the bottom half of the carrier, and then progress to the entire carrier.

- Put your cat's favorite toys around and in the carrier
- Play with your cat around the carrier
- Place a towel with your scent or spray calming pheromones in the carrier (example, Feliway®)
- Place treats, or feed your cat in or near the carrier
- Teaching a cat to voluntarily load in their carrier will also reduce stress and increase positive association with the carrier

(2) Do not feed your cat before going to the veterinarian (prior to the appointment, you may want to ask your veterinarian if restricting food is advisable).

- You can offer calming supplements prior to her visit
- Bring your cat's favorite treats to the veterinarian with you

If your cat is hungry, she will be more receptive to the treats given at the veterinarian! Food always tastes better when you are hungry!

(3) Vehicle Preparation

- Ensure your vehicle is warmed up or cooled off depending on the season
- Quiet, familiar, calm music, or silence
- Try to drive smoothly (avoiding sudden stops or fast turns)
- Keep your cat in the carrier (**DO NOT LET YOUR CAT ROAM LOOSE IN YOUR CAR**)
- Place the carrier on the floor, or ensure it is secured with straps so it does not jostle
- Cover the carrier with a blanket or towel if your cat likes to hide
- Spray the floorboards or bedding material with a feline pheromone product to promote relaxation

Cats very rarely leave the home. They spend most of their lives in one building, so any sort of change is very scary to them. Give them confidence and comfort by trying to keep the trip as calm as possible.

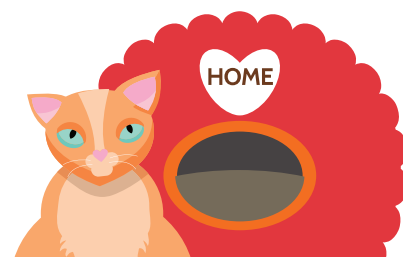
(4) At the Clinic

- If possible try to sit as far away from dogs as possible
- Place your cat's carrier on a secure elevated surface rather than the ground; cats like to perch when nervous
- Keep the blanket or towel over the carrier

(5) Don't forget about the return home

- Ensure your cat has a safe place to hide to decompress or recover
- If you have other pets, ask your veterinarian about steps to mitigate reintroductions

If none of these tips and tricks are enough to calm your cat, talk to your veterinarian about prescribing medication known to reduce fear and anxiety, which can ultimately make the visit significantly easier for you, the veterinarian, and your pet!





Consuming Fresh Produce: What's the Big Deal?

> Content contributed by MAJ Danielle Tulloss, DVM, DIMA – Arizona Branch Veterinary Services, Public Health Activity - Fort Hood

What is *Cyclospora cayetanensis*?

Cyclospora cayetanensis is a protozoan pathogen, or parasite, that causes gastrointestinal illness in humans following ingestion of contaminated water and fresh produce and fruit. Since routine washing of fresh produce/fruit nor the treatment of water is not likely to eliminate the pathogen, prevention of the disease is challenging. However, people should still wash all their fruits and vegetables prior to preparing their food and use good hygiene when eating and preparing food for themselves and others to reduce their risk of cyclosporiasis and other foodborne pathogens. Past outbreaks have included raspberries, snow peas, cilantro, and mesclun lettuce, for example.

How is *Cyclospora cayetanensis* passed to humans?

Cyclospora is passed to humans after they ingest food contaminated with the parasite eggs, usually from produce such as lettuce, and fruits such as strawberries and raspberries. Humans pass the immature, non-infective parasite eggs in their feces, which then contaminates water and produce. The parasite requires 1-2 weeks in warm and humid conditions to mature and become infective. Ingestion of the food or water contaminated with infective eggs can result in infection of another person.

Where is *cyclospora cayetanensis* found?

Cyclospora is found primarily in South American countries, such as Peru and Guatemala, but also in Southeast Asia. People in the United States get sick from this disease from imported fruits and produce. Children, travelers, and those with compromised immune systems are most at risk for this infection. Nearly 2,500 cases were reported in the United States in 2019; 10% of which were attributed to fresh basil imported from Mexico. This basil sickened over 240 people and hospitalized 6. The origin of the rest of the cases could not be determined nor linked to an outbreak.

What are the symptoms of *Cyclospora cayetanensis*, and how quickly do they appear?

The illness in people is usually short and self-limiting. Typical signs start within 7 days of infection and include fever and malaise and then progress to watery diarrhea, cramping, vomiting, and decreased appetite. The illness can progress to chronic diarrhea in some individuals, more frequently in those with compromised

immune systems. Diagnosis is based on identifying parasite eggs on microscopic examination of fecal material and symptoms. Your doctor may prescribe an antibiotic if signs persist.

Why should I care?

Cyclospora cayetanensis is considered an emerging pathogen, meaning its importance to our health is increasing. It is difficult to manage in outbreaks as many people do not seek care for diarrheal illness, physicians are not skilled in diagnosing this condition, and tests available to identify specific strains of the parasite are not available.

How can I reduce my risk?

Consumers are encouraged to avoid consuming produce and water that may be contaminated by human waste, particularly when traveling to countries where the parasite is common. Basic steps should be followed to reduce your risk:

- Travelers may want to consume bottled water only, as routine disinfection will not kill this parasite
- Wash your hands. Wash hands with water and soap prior to preparing foods, particularly fruits and vegetables. Prevent cross-contamination by washing utensils, counter tops, and cutting boards in between raw meat, poultry, and seafood products and preparing produce.
- Prepare foods safely. Prior to preparing foods, wash your produce under running water. Fruits and vegetables with a firm skin should be scrubbed with a produce brush.
- Safe food storage. Keep prepared produce refrigerated, and separated from raw meat, seafood, and poultry.

Cyclosporiasis is a potentially serious parasitic disease that is increasingly being diagnosed in the United States. It is difficult to prevent by nature of its resistance to common disinfectants and lack of readily available tests to identify and stop outbreaks when they first occur. Therefore, practicing solid food safety habits is the only way to reduce your risk.

References: Almeria, Sonia, Cinar Hediye, Dubey Jitender. 2019. *Cyclospora cayetanensis* and Cyclosporiasis: An Update. *J Microorganisms* 7(317); doi: 10.3390/microorganisms7090317. Sánchez-Vega, José, et al. 2014. *Case Reports; Cyclospora cayetanensis*: This Emerging Protozoan Pathogen in Mexico. *American Journal of Tropical Medicine* 90(20), pp 351-353; doi: 10.4269/ajtmh.12-0782 Cyclosporiasis. Accessed 20 November 2019. <http://www.cdc.gov/parasites/cyclosporiasis>.

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