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News about Animal Health, Food Safety, and One Health
Army Public Health Center

2019

SUMMER EDITION

Approved for public release,
distribution unlimited.

Pets and Parked Cars Don't Mix



> Content contributed by Joseph G. Williamson, VMD, MPH, DACVPM, Veterinary Services and Public Health Sanitation directorate, Army Public Health Center

Parked cars are potential deathtraps for pets, even when they are left alone for "just a minute" while the owner runs an errand. Every year, pets suffer and die when owners leave them in parked cars during the warmer months. Most people do not realize how quickly it can become unbearably hot in a parked car on a balmy day. On a 78° F day, the temperature inside a parked car can soar to between 95° and 100° F in less than 15 minutes. On a 90° F day, the interior temperature can reach well over 120° F in less than 15 minutes. It takes only minutes for a pet left in a vehicle on a warm day to feel the effects; the result can be heatstroke, suffocation, and death.

This can happen even on a day that doesn't seem hot to you. Unfortunately, cracking the windows will make little difference. Leaving the windows cracked only decreases the internal car temperature by 5-10° at best. If the windows are rolled down enough to provide more air flow, the pet can easily escape the vehicle and become lost or hit by a car.

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An important point to remember is that our pets do not sweat like we do. They cool themselves by panting and sweating through their paws. If the air they breathe is warmer than their body temperature, they can't cool themselves effectively and are likely to overheat, collapse, suffer brain damage, and possibly die of heatstroke. Just 15 minutes can be enough for your pet's core body temperature to rise from a normal 101.5° F to deadly levels that may damage the brain and other vital systems, often leaving your pet comatose, dehydrated, and at risk of permanent impairment or death.

You may think about leaving a pet in the car with the air conditioning running. People often do this, thinking their pet will be safe. However, there are cases year after year of pets dying after the car air-conditioning (AC) shuts down and begins to blow just hot air. When the engine gets too hot, the air system's compressor can shut off. Many cars, including newer models with computerized functions, are prone to the same problem.

Hot cars aren't the only danger to your pets on warm days. Did you know that on a mild 86° F day, the asphalt temperature can easily exceed

135° F? While it may not be hot enough to fry an egg, it is certainly hot enough to burn your pet's sensitive foot pads! Hot sidewalks, pavement, and parking lots not only burn paws, but they also reflect heat onto your pet's body, increasing their risk of heat injury. Always test the pavement with your hand before you head out. If it is too hot to touch, then it is too hot to walk your pet. A good tip is to schedule your walks early in the morning or later in the evenings when the temperatures are cooler.

Remember to carry plenty of water for yourself and your pet. They need to stay hydrated, too! On longer walks, be sure to take frequent breaks in shady spots, and turn around to head home before they get too tired or hot.

If you notice your pet exhibiting any of the following signs, immediately move them to a cool location and seek veterinary care:

- Excessive uncontrolled panting
- Increased salivation, especially thick, sticky saliva
- Bright red tongue
- Increased heart rate

Warm Weather Brings the Risk of Exposure to Leptospirosis

> Content contributed by CPT Anna Jiang, DVM, First Year Graduate Veterinary Education (FYGVE), Public Health Activity Fort Belvoir, VA

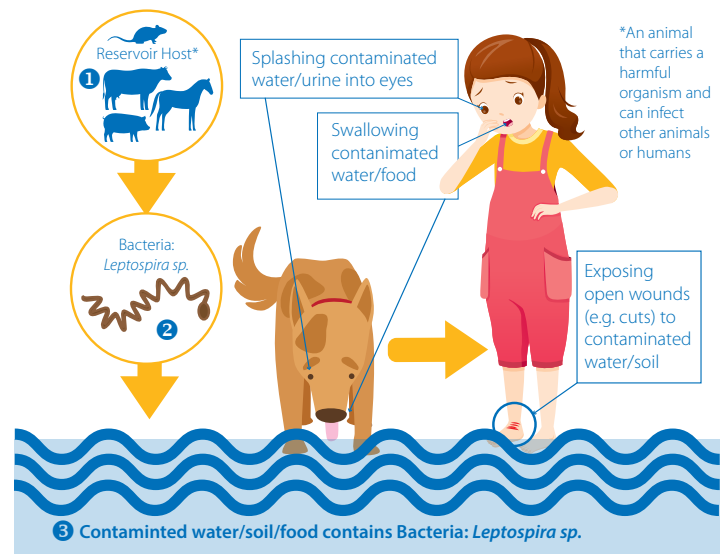
Summer weather invites all members of the family (2-legged and 4-legged) to enjoy the warmth and sunshine outdoors! We share a love of different outdoor activities with our pets. Exercise and time outside improves your physical and mental health, as well as your pets but can present some unseen risks to know about. Among those risks is Leptospirosis, a disease caused by long, spiral-shaped bacteria called *Leptospira* that can infect both pets and humans. Understanding the disease and prevention can keep you and your pet safe while enjoying the warm summer days!

Where is it found?

Leptospirosis occurs worldwide but is more common in tropical or subtropical climates and survives best in alkaline soil and environments. In the United States, approximately 100–150 leptospirosis cases are reported annually. Puerto Rico reports the majority of leptospirosis cases, followed by Hawaii. The bacteria that cause leptospirosis are spread through the urine of infected animals (rodents, dogs, livestock, pigs, horses, and wildlife such as raccoons, skunks, or deer). The bacteria can survive for weeks to months in water and cool, wet soil where an infected animal has urinated.

How does my pet get leptospirosis?

Pets are most likely to become infected by drinking water that contains the bacteria, or swimming or walking through water where they are at risk for swallowing the contaminated water. Pets can also be exposed to this bacteria in boarding facilities if there is an infected animal present. Pets that are infected but do not show symptoms can still shed the bacteria and infect other animals or people in the household. Leptospirosis is considered a zoonotic disease so it can be passed from animals to humans and vice versa.



How do I know if my pet has leptospirosis?

The symptoms of leptospirosis in animals vary and can be nonspecific. Sometimes pets do not show any symptoms while others can have severe disease that requires hospitalization. Left untreated, the most commonly affected organs are the kidneys, liver, and lungs. Pets showing unusual symptoms should be taken to a veterinarian for testing and treatment.

Common clinical signs in dogs include:

- Fever
- Vomiting
- Abdominal pain
- Diarrhea
- Refusal to eat
- Excessive drinking and urination
- Bleeding under the skin or from the mouth, nose or anus
- Severe weakness and depression
- Joint or muscle pain causing stiffness

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Warm Weather Brings the Risk of Exposure to Leptospirosis

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How can I prevent my pet from getting leptospirosis?

The best prevention against leptospirosis is vaccination. Dogs at risk for the disease should be vaccinated. Your veterinarian can help determine if your pet is at risk. Common risks to consider are:

- Lifestyle (outdoors with exposure to wildlife, livestock and bodies of water)
- Geographic location (temperate areas with lots of moisture and alkaline soil, such as Colorado)
- Frequent stays at kennel or boarding facilities and doggie day care

Other things you can do for prevention include controlling rodents in the pet's environment and removing standing water your pet may have access to around your home.





Can I get Leptospirosis from my pet?

Leptospirosis is one of the most common diseases that can be transmitted between animals and humans (a zoonotic disease). Humans can become infected through contact with urine from an infected animal. Owners should contact their physician immediately if they believe they have been exposed.

Toxic Garden Plants

> Content contributed by CPT Sarah Waibel, DVM, MPH, First Year Graduate Veterinary Education (FYGVE), Public Health Activity Fort Belvoir, VA

Summer is full of beautiful flowers and lush green foliage. Although gorgeous and a great Instagram pic, some plants can be extremely toxic to our pets. The table below illustrates a few examples. If you ever see your pet consuming an unknown or known toxic plant contact your local veterinarian, an emergency veterinary clinic, or the American Society for the Prevention of Cruelty to Animals (ASPCA) Animal Poison Control Center's Hotline at (888) 426-4435 immediately. The Hotline is open 24/7, 365 days/year and does charge a fee to help determine whether your pet is in danger or not (<https://www.aspc.org/pet-care/animal-poison-control>).

Plant	Where will I find it?	How much is toxic and what can happen without any treatment?	What signs will I see?	How fast will I see signs after my pet consumes or chews the plant?
Lilies <i>(Lilium spp. and Hemerocallis spp.)</i> 	Lilies are perennials that grow outside but may also be kept inside as seasonal houseplants.	The entire plant is toxic to cats . Eating or chewing any part of the plant is dangerous and will cause kidney problems and likely death if treatment is not received immediately.	Vomiting, drooling, not eating, and depression	0-3 Hours
			Increased thirst and urination that worsens to no urination	12-14 hours then 24-48 hours
			Weakness and lack of energy	48-72 hours
			Death	3-7 days
Amanita spp. mushrooms "Death Cap" 	Death Cap or Death Angel mushrooms can be found growing in a variety of locations worldwide.	A single mushroom can be toxic to the liver and deadly to pets.	Nausea, vomiting, bloody diarrhea	6-24 Hours
			May see a period of false recovery before signs of liver, kidney, and other organ failure.	36-48 Hours
Sago Palms 	Sago palms are often used as landscaping in the southern U.S. or as a house plant in cooler climates.	The entire plant is toxic and can lead to liver failure, but the most dangerous part is the seeds.	Vomiting, diarrhea, weakness, seizures, and liver failure (swollen abdomen, yellow skin and eyes, bleeding)	12-24 hours
Philodendron 	Philodendron is a genus that includes a variety of common houseplants.	All parts of the plant contain calcium oxalate crystals that cause the symptoms.	Drooling, unusual vocalization, headshaking, and possible swelling of the tongue	Seconds to minutes



Lettuce and E. coli

> Content contributed by CW5 Christopher Heryford, Food Safety Officer, Veterinary Services and Public Health Sanitation Directorate, Army Public Health Center

Many people believe meat and poultry products cause the highest number of food-borne illnesses. But did you know that actually fresh fruits and vegetables are the leading cause of food-borne illnesses?¹ You might have seen this firsthand in the most recent romaine lettuce food-borne illness outbreak linked to E. coli O157:H7 between October and December 2019 when 62 people in 16 states became infected! This recent event and past outbreaks may be linked to contaminated manure or irrigation water from nearby livestock.

Leafy greens, like lettuce, can be contaminated during the growing process. Surface contamination can occur when unwanted bacteria comes in direct contact with the plant. Interestingly, plants can also pull unwanted bacteria inside the leaves themselves! Much like humans, plants have a respiratory system in which they breathe. Plant leaves contain thousands of microscopic openings used for breathing (transpiration). In some instances unwanted bacteria, like E. coli, can attach to the leaves and enter the small openings and set up camp directly under the plant skin.² Another avenue for contamination is through the root system. Roots absorb water and nutrients to feed the plant. If the soil is contaminated, the root system could transport unwanted bacteria to edible portions of a plant.²

You can't tell by looking at your leafy greens if they are contaminated. There are a few actions you should take to minimize your risk.

Be aware of federal food recalls. You can subscribe to automatically receive food recall alerts through FoodSafety.gov at <https://www.foodsafety.gov/recalls/index.html> and the FDA website at <https://www.fda.gov/Safety/Recalls/default.htm>

Always wash your produce in drinkable water to remove soil and other contaminants before use. It is good practice to break up lettuce heads and remove the core/hearts before washing. If produce have rough exterior surfaces such as cantaloupes, potatoes, or carrots, a vegetable brush will help get into the crevices to remove dirt.

References:

1. The American Council on Science and Health: <https://www.acsh.org/news/2015/03/11/foodborne-illness-likely-come-fruits-vegetables-knew>
2. Solomon, E. B., Yaron, S., & Matthews, K. R. (2002). Transmission of Escherichia coli O157:H7 from Contaminated Manure and Irrigation Water to Lettuce Plant Tissue and its Subsequent Internalization. Applied and Environmental Microbiology, 397-400.

Veterinary Connections



Goal of publication:

- Veterinary Connections is a quarterly publication written by Army Veterinary Service personnel and published by the Army Public Health Center to inform and educate Service members, beneficiaries, and retirees about Animal Health, Food Safety, and One Health.
- One Health refers to the intersection and overlap between animals, humans, and the environment.
- Army Veterinary Service personnel serve around the world supporting the Department of Defense as proponents for Animal Health and Food Protection.

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