Veterinary Connections

News about Animal Health, Food Safety, and One Health
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Staying Fit and Healthy Alongside Your Pet!

> Content contributed by CPT Morgan R. Moyer, DVM, VC, FYGVE, Fort Campbell

Recently, our daily routines have been turned upside down by COVID-19. Instead of our normal trip to the gym, we've had to reimagine our workouts and get creative. We're learning to adapt to changes in food supply and more limited healthy food choices. We've taken on new and different responsibilities like homeschooling our kids and working from home. More than ever, taking care of our physical and mental health is a top priority. When we compromise our self-care, we may be negatively impacted by certain health issues.

The Center for Disease Control and Prevention reported that obesity affected around 42% of people in the United States from the years 2017 to 2018. Affected individuals are more at risk for other health conditions including heart disease, high blood pressure, stroke, type 2 diabetes, orthopedic disease, sleep apnea, depression, and multiple types of cancer. There are many factors that contribute to obesity, ranging from societal influences like marketing to personal choices like diet and exercise. Multifaceted causes make it difficult to implement solutions applicable to a wide range of people.

Humans are not the only group affected by obesity and the challenges of living a healthy lifestyle. Our pets are also at risk. According to the American Veterinary Medical Association, obesity in companion animals is increasing.

Around 59% of dogs and cats in the United States are considered obese. Obese pets are at an increased risk for additional health problems just as humans are. Some of these include respiratory disease, heart disease, type 2 diabetes, orthopedic disease and injury, skin disease, and certain types of cancer.

So, what can we do to promote a healthy lifestyle and lower these statistics? The good news is there are healthy changes you can make that benefit the health of both you and your pet!

Consult with your healthcare provider for guidance on what your daily energy intake should be, based on your lifestyle and activity level. Helpful resources, such as ChooseMyPlate from the U.S. Department of Agriculture, are available for information on selecting healthy foods.

Talk with your veterinarian about the food your dog or cat is currently eating. Ask your veterinarian to make sure this pet food provides all required nutrients but not too many calories. Limit the amount of high calorie treats and people food your pet receives. No more than 10% of your pet's daily calories should be from people food and treats. For a few ideas, see the list of low-calorie treat options for dogs and cats on page 2.

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Low Calorie Treats for Dogs

Treat	Amount	Estimated Calories
Apples	¼ Cup	18 kcal
Baby Carrots	1 Carrot	5 kcal
Blueberries	¼ Cup	18 kcal
Green Beans	¼ Cup	8 kcal
Low-fat, Plain, Greek Yogurt	1 Tbsp	12 kcal
Plain Cheerios	¼ cup	26 kcal

Low Calorie Treats for Cats

Treat	Amount	Estimated Calories
Boiled Shredded Chicken Breast	1 Tbsp	15 kcal
Light Canned Tuna (in water)	½ Ounce	16 kcal

Consult your healthcare provider to develop an exercise plan that is safe for you. There are many things you can do with your pet to get moving! Take your dog on a walk or run at a local, dog-friendly park. Participate in a dog-friendly race in your community. Get outside to play fetch with your dog. Consider signing up for a dog training class like beginner's agility. Add 5 minutes of play time to your cat's day by using a laser or tossing their favorite toy around. Feed your pet from a slow feeder toy so they must push the toy to get their food. Consult your veterinarian to confirm these activities are safe for your pet and assure your pet is up to date on parasite prevention.

When changing your pet's exercise routine, make sure to slowly increase the time, just like you would with yourself. If you have a couch-potato dog, do not expect them to be able to start jogging with you right away. With dogs, you can typically add 5 extra minutes of walking/jogging a day, depending on what they have been doing, to slowly work up their endurance. If you will be gone more than 40-45 minutes, make sure you bring water for them and yourself. As the summer gets hotter, chose your outdoor exercise times wisely. Pay attention to your dog's cues that they may be overheating, such as uncontrollable panting or slowing down.

Obesity is a widespread affliction in both humans and companion animals. Through teamwork with all members of the healthcare team, we can all implement healthy changes that will positively impact the lives of ourselves and our pets!

References: https://www.cdc.gov/obesity/data/adult.html, https://www.cdc.gov/obesity/adult/causes.html, https://www.avma.org/system/files/2020-02/Obesity-One-Health-Summary.pdf, https://www.choosemyplate.gov/eathealthy/WhatIsMyPlate, and https://fdc.nal.usda.gov/index.html

Equine Vaccines

> Content contributed by CPT Cameron Ross, DVM, VC, FYGVE Fort Campbell

Vaccines have been designed to protect your horse from dangerous and sometimes deadly diseases. It is important for horse owners to understand what vaccines are offered and right for your horse.

Today, equine vaccines are commonly divided into two categories: core vaccines and at-risk vaccines. Core vaccines can be described as having a high degree of safety and efficacy and are justified for vaccination of most horses every year. The at-risk vaccine category may or may not be recommended by your veterinarian. They will conduct a risk assessment for your horse based on your horse's medical history, age, pregnancy/lactation, travel history and travel plans, occupation, geographic location, living arrangement, and type and frequency of contact with other horses. More information on this can be found on the American Association of Equine Practitioners (AAEP) Website.

At least one disease in the core vaccine list and several diseases in the at risk vaccine list are considered zoonotic. This means they can be transmitted from an infected animal to people. They can also be spread from an infected animal to another animal. Vaccination protects not only your horse, but also you and other people and horses who come in contact with your horse.

Core Vaccines target the following diseases:

Rabies is a viral disease that is transmitted via saliva of infected animals. Once animals develop the disease, it is fatal.

Tetanus is a caused by a bacterium that enters the body typically via contaminated puncture wounds and/or lacerations. It causes a rigid paralytic disease with a high risk of death if not treated early.

Eastern and Western Equine Encephalomyelitis is a viral disease that causes brain and spinal cord inflammation. Biting insects, including mosquitos, transmit the virus. If left untreated, there is a high risk of death.

West Nile Virus is a virus transmitted by mosquitos. Clinical signs can range from subclinical to stumbling, depression, weakness, paralysis, and potentially can result in death.

At-Risk Vaccines target the following diseases:

- Equine Herpes Virus
- Strangles
- Anthrax
- Potomac Horse Fever
- Equine Influenza
- Botulism
- Leptospirosis
- Rotavirus
- Equine Viral Arteritis

The importance of a preventative vaccine protocol cannot be underestimated. The best place to start is by consulting your veterinarian. Core vaccines should be considered for all horses, and you should work with your veterinarian to develop an appropriate customized program for additional vaccines based on the risks assessed for your horse. With a successful vaccination program, you provide the optimal quality of life for your horse, play a part in public health for humans, and contribute to the safety of the equine community as a whole.

References: https://aaep.org/, https://aaep.org/horse-owners, and https://aaep.org/guidelines/vaccination-guidelines

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Tularemia

> Content contributed by CPT Leslie Brunker, DVM, VC, FYGVE, Fort Campbell

We all know that our pets can get themselves into trouble while outside, whether in the backyard or enjoying the great outdoors with us. They can come into close contact with or catch all sorts of wild animals before you even know where they've gone. These encounters are not pleasant but also have the potential to expose you and your pet to a dangerous bacterial pathogen called *Francisella tularensis* (Tularemia). This bacteria can infect certain prey wildlife and ultimately your pet as well. What's more, you can become infected with the same pathogen as your pet is or when you spend time outdoors and forget your bug spray. Those pesky mosquitos and ticks can carry *F. tularensis* from infected animals to you. Learning to recognize signs of the disease is critical for seeking early medical treatment to help keep families and pets healthier.

What is Tularemia?

Tularemia is a disease caused by a bacterium, *Francisella tularensis*, spread by the bite of an infected blood-sucking insect, consuming tissues or body fluids of infected animals, or consuming contaminated water. The bacterium most often attacks the liver but can also affect the lymphatic system. Tularemia is found throughout the Northern Hemisphere and has been diagnosed in every state except for Hawaii; the highest infection rates are in the south central and western United States during the late spring and summer.

How does my pet get Tularemia?

The most common source of infection for people and herbivores is from the bite of an infected tick; carnivorous domestic animals, such as cats and dogs, become infected by consuming infected prey (rabbits, muskrats, hare, and rodents). Ticks become infected when feeding on infected small mammals and spread the bacterium to dogs and humans when they bite.

How do I know if my pet has Tularemia?

F. tularensis infects the cells that make up the lymphatics system. Some dogs experience short periods of reduced appetite, fever, and lethargy, though most cases in dogs are self-limiting. Though the incidence of disease is extremely low, it manifests more severely in cats, resulting in coughing, diarrhea, increased urination, abscesses, as well as enlarged lymph nodes, liver, or spleen. Contact your veterinarian if you are concerned your animal might be ill due to Tularemia, or is showing signs of any illness. It is important for your veterinarian to know if your pet has had recent interactions or exposure to live or dead wildlife just before becoming ill.

How do I prevent Tularemia in my pet?

Tularemia is prevented by controlling ticks on your pet and by limiting your pet's access to rabbits, hares, and rodents with methods such as proper leash control. Check animals frequently for ticks, and remove promptly if found. 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. Contact your veterinarian for effective tick control products to use on your animal.

Can I get Tularemia from my pet?

Tularemia is a zoonotic disease, meaning it can be transmitted between animals and humans. Humans most commonly become infected if they are bitten by an infected blood-sucking insect or arachnid. Rarely, humans may be infected by ingesting an infected wild animal, consuming an infected water source, or inadvertently ingesting bodily fluids from an infected pet. Additionally, the Centers for Disease Control and Prevention labels *F. tularensis* as a potential agent of bioterrorism as humans can become infected by inhaling a very small number aerosolized bacteria. Contact your healthcare provider if you are concerned you have been exposed to a zoonotic disease or have any other health concerns.

Food Safety After a Disaster

> Content contributed by CPT Aidan Wolfe, DVM, VC, 438th MDVSS, Fort Carson

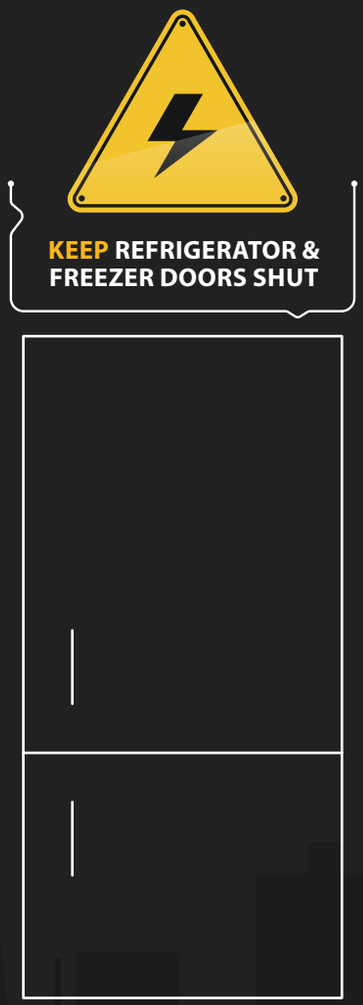
Natural disasters, including hurricanes, tornadoes, floods, and blizzards, often result in power outages and leave families wondering if their food stored in the refrigerator or freezer is safe to consume. Power outages can render perishable foods unsafe for consumption due to spoilage and bacterial growth. Before a power outage, verify that your freezer and refrigerator are operating properly and maintaining temperatures at or below 0^0 F and 40^0F respectively. Appliance thermometers placed in your refrigerator and freezer before disaster strikes can help you make this determination.

During a power outage, keep refrigerator and freezer doors tightly shut to retain cool temperatures. If the door remains shut, a full freezer will generally hold a cool temperature for 48 hours. A half-full freezer will maintain cool temperatures for 24 hours. After a power outage, an appliance thermometer can be used to determine if freezer items are safe to eat. If the temperature in the freezer reads 40^0 F or less, the food items are generally considered okay to consume and can be refrozen. If your freezer does not contain a thermometer, inspect each package of food to determine safety. Check to see if the items contain ice crystals or have an internal temperature below 40^0F. If so, these items should be safe to refreeze and eat. During a power outage, if the refrigerator door remains shut, cool temperatures below 40^0 F should be sustained for approximately 4 hours. Refrigerated food is generally safe to consume as long as the outage duration was less than 4 hours.

What food items should be thrown away?

The Centers for Disease Control and Prevention recommends discarding any perishable food items that were exposed to temperatures above 40* F for 2 hours or above 90*F for 1 hour in addition to any food items in a freezer or refrigerator that exceeds the respective temperature limits for those appliances during a power outage as above. Items which are easily spoiled and should be discarded include: meat, seafood, soft cheeses, milk, opened refrigerated baby formula, eggs, and cut produce. Any food that appears moldy or has an unusual odor, color, or texture should be thrown out. Also discard any containers that spurt liquid or foam when opened or any canned items that are bulging or damaged. Visual appearance of the food items is insufficient to use to determine safety of food products. Never taste a questionable food item to determine if you can keep it. Always throw away any foods that may have contacted flood or waste water.

After a power outage, if you consume any perishable products which were deemed safe to eat, ensure each item is cooked to the correct minimum internal temperature (per https://www.foodsafety.gov/food-safety-charts/safe-minimum-cooking-temperature). This will ensure any foodborne bacteria that may be present will be destroyed. Determining the safety of perishable food following a power outage can be difficult—when in doubt, always throw it out!



References: Foodsafety.gov: https://www.foodsafety.gov/keep-food-safe/food-safety-in-disaster-or-emergency and The Centers for Disease Control and Prevention: https://www.cdc.gov/disasters/foodwater/facts.html

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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