

FREE Upcoming CE

Are you curious about how the government responds to emergencies? What about how to receive assistance in an emergency such as a hurricane, wildfire, flooding or a bioterrorism attack?

If you answered “yes” to the above questions, this conference may be for you! Harris County Public Health & Environmental Services, Veterinary Public Health, TVMA and HCVMA are hosting “Animal Management for Veterinarians”. Conference topics will include an introduction to emergency management, local, regional, state and federal responsibilities, the joint information center and a tour of TranStar.

This free conference is tentatively scheduled for Sunday, June 8, 2014 from 9:00 am-1:00 pm and has been approved for 4.0 continuing education hours. You must register to attend in advance and seating is limited.

For more information, check out our current events calendar at countypets.com or hcpbes.org/vph.

Career Opportunity



HCPHES Veterinary Public Health is one of the largest animal shelters in Texas. We are currently seeking an exceptional, compassionate and enthusiastic veterinarian who thrives in a fast-paced environment. Experience in shelter medicine, pediatric spay/neuter and supervisory skills are preferred. We are an open admission shelter in Houston, Texas. For more details, please see the job description at <http://www.hcpbes.org/hr/jobs92004.htm>.

You may also contact our Director, Dr. Michael White at mwhite@hcpbes.org or 713-418-1806 for further information about this job posting. The Harris County shelter website is <http://www.hcpbes.org/vph/>.

Harris County Public Health & Environmental Services
 Veterinary Public Health
 612 Canino Rd
 Houston, Texas 77076

Harris County
HCPHES
 Public Health & Environmental Services
www.hcpbes.org
 Veterinary Public Health Division



Your Zoonosis Connection

Harris County
HCPHES
 Public Health & Environmental Services
www.hcpbes.org
 Veterinary Public Health Division

Volume 6, Issue 1
 January 2014

612 Canino Rd., Houston, Texas 77076
 Phone: 281-999-3191 Fax: 281-847-1911

Easter Hazards

Easter is around the corner and a time to celebrate with family, friends and our pets. There are a few precautions we need to recommend to our clients to make this Easter safe for our pets.



Easter lily (*Lilium longiflorum*), Tiger lily (*Lilium tigrinum*), and Asiatic lily (*Lilium asiatica*). Source of pictures: www.aspc.org

LILIES: There are 3 *Lilium* species that have been documented to cause toxicity in cats: Easter lilies; Tiger lilies and Asiatic hybrid lilies. The Easter lily is very popular to buy for families at Easter and the other lilies are common throughout the year for indoor or outdoor potted plants or for floral arrangements. Cats are picky eaters; however, they like to eat the leaves and flowers of *Lilium* plants.

- **Transmission:** Ingestion of 1-2 leaves, pollen or a whole flower can cause toxicity in cats.
- **Clinical signs:** consist of vomiting, lethargy, increased thirst and urination, difficult breathing, and death by end stage kidney failure.
- **Treatment:** Immediate decontamination with an emetic and activated charcoal. Aggressive IV fluids (cats may be hospitalized for at least 2 full days on IV fluids) and monitor: blood pressure, urine output, frequent blood work (assess kidney function).
- **Prognosis:** The mortality rate in cats can be as high as 50 – 100% which depends on when treatment was initiated. Treatment needs to be initiated before anuric renal failure, which occurs 18 – 24 hours after exposure to the plant. Prompt therapy is necessary for a favorable prognosis.

CHOCOLATE: Chocolate contains 2 types of methylxanthine: theobromine and caffeine. Milk chocolate contains 60mg/oz methylxanthine, dark chocolate about 150 mg/oz and baking chocolate about 450mg/oz. Dogs are the most common species affected by chocolate toxicity.

- **Transmission:** Ingestion of methylxanthines. Any dose above 40 – 45 mg/kg should be considered potentially life threatening. Please refer to this chocolate toxicity table for milk chocolate, semi-sweet chocolate and baking chocolate: http://www.vspn.org/library/misc/vspn_m01325.htm
- **Clinical signs:** Ranges based on the type of chocolate, amount ingested, size of animal and animal’s sensitivity to methylxanthines. GI upset (any amount) to mild signs such as hyperactivity, agitation and restlessness (20mg/kg) to cardiovascular effects: tachycardia, hypertension/hypotension and arrhythmias (40 mg/kg) to severe neurological signs like tremors and seizures (60 mg/kg). With excessive muscle stimulation patients may also get hyperthermia.

(Continued on page 3)

Inside this issue:

Leptospirosis	2
Continuing Education	3
Opportunities	4

Did you know?

- ◆ The mortality rate in cats who have ingested lilies can be as high as 50-100%.
- ◆ The CDC estimates that 100-200 cases of human leptospirosis are reported annually in the U.S.



Zoonosis Staff

Dipa Brahmhatt
 VMD, MPH, MS
 Zoonosis Veterinarian
 713-418-1801
dbrahmbhatt@hcpbes.org

Tiffany Guidry, BS
 Veterinary/Zoonosis
 Technician
 713-418-1828
tguidry@hcpbes.org

Websites:

www.hcpbes.org/vph
www.countypets.com

Zoonosis: any infectious disease that is transmissible from animals to humans.

“Rice-Field Fever”

Did you know that “rice-field fever” is one of many synonyms for leptospirosis? “Swine herder’s disease” and “swamp fever” are among others and reflect the source of infection. “Rice field fever” is caused by contact with contaminated water and is most commonly found in rice field workers.

Veterinary staff and owners must take preventative measures when treating animals infected with leptospirosis. As a health professional, you are the first line of defense in treating pets and educating your clients about zoonotic diseases. The insert provided can serve as a useful tool to educate your clients.

Leptospirosis

Leptospirosis is a bacterial disease that affects both animals and humans in tropical or temperate climates. While leptospirosis is not a reportable disease, the CDC (Centers for Disease Control & Prevention) estimates that 100-200 cases of human leptospirosis are reported annually in the U.S. The disease is caused by the genus *Leptospira* and has many serovars.

Geographic Distribution

Leptospirosis can be found worldwide, but is more prevalent in tropical and temperate climates. Leptospirosis thrives in our area due to the heat and high humidity. *L. canicola*, *grippityphosa*, *hardjo*, *icterohaemorrhagiae* and *pomona* are the most common serovars in the U.S.

Transmission

It is shed in the urine of infected animals and can survive for months in the environment. As shown in Figure 1, rodents, wildlife, livestock and dogs can serve as a reservoir host for leptospirosis. Animals and humans become infected by contact with contaminated urine, water or soil. The bacteria enters the body through ingestion, inhalation or abrasions. Although rare in cats, leptospirosis can affect all mammals.

Infection in Humans

In humans, the incubation period ranges from 2 days to 4 weeks. The disease can last from a few days to 3 weeks or longer. Infections vary from asymptomatic to severe.

In humans, leptospirosis is usually biphasic. The acute phase begins abruptly and lasts approximately a week. During this phase, people have “flu-like” symptoms and can experience abdominal pain, diarrhea, jaundice and a rash. The second phase, called the immune phase, can

last 30 days or longer, but does not develop in all patients. Nonspecific symptoms seen in the first stage may recur. The patient is ill again, develops anti-*Leptospira* antibodies and excretes the organisms in their urine. If left untreated, meningitis, kidney and/or liver damage can occur.

Infection in Dogs

In dogs, the incubation period varies from 3 to 20 days and clinical signs may include fever, vomiting, abdominal pain, anorexia, diarrhea, lethargy, severe muscle pain and jaundice. Signs vary in severity and some animals may be asymptomatic. Laboratory findings usually show elevated blood urea nitrogen (BUN) and creatinine levels, thrombocytopenia and high glucose levels in the urine. Early in the infection, there is a potential for false negative test results. Antibody titers begin to rise 5 days after exposure and peak at 21 days. A vaccination for dogs is available for the *canicola*, *grippityphosa*, *icterohaemorrhagiae* and *pomona* serovars.

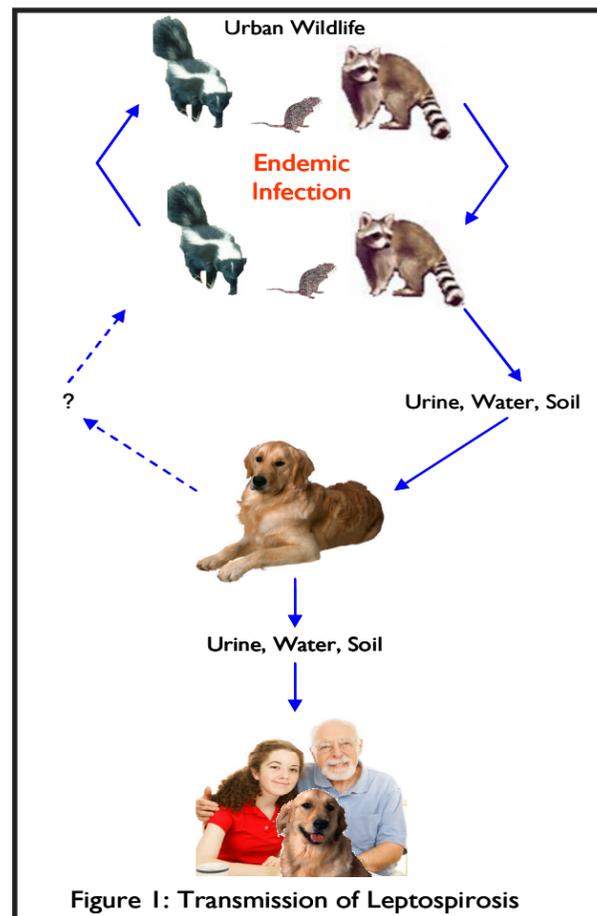


Figure 1: Transmission of Leptospirosis

Prevention

To protect yourself from leptospirosis and other zoonotic diseases when handling animals:

- ◆ Wear protective clothing, such as gloves and boots.
- ◆ Wash your hands after handling any animal or surface that may be infected.
- ◆ Clean all surfaces that may be contaminated by using an antibacterial cleaning solution or 1 part bleach to 10 parts water.
- ◆ Do not hose cages of infected animals, as the bacteria can become aerosolized.

- ◆ Be cautious when handling routine urinalysis specimens.
- ◆ Inform your doctor of your occupation. Make sure your doctor always considers zoonotic agents when treating you.

For questions regarding leptospirosis or other zoonotic agents, contact the HCPHES Veterinary Public Health Zoonosis section.

Zoonotic disease fact sheets are available at <http://www.hcphe.org/vph/Publications/index.html>.

(Easter Hazards - Continued from page 1)

- **Treatment:** Stabilize with fluids (twice maintenance), beta blockers to reduce the tachycardia and diazepam or methocarbamol to control agitation and tremors before decontamination. Emesis or gastric lavage, administering activated charcoal (repeated doses), monitor patient frequently and assess cardiac function with continuous electrocardiogram (ECG) monitoring. Also place a urinary catheter and monitor urine output. Clinical signs can last from 24 to 72 hours.

Compound	Theobromine (mg/oz)	Caffeine (mg/oz)
White chocolate	0.25	0.85
Milk chocolate	58	6
Dark, sweet chocolate	130	20
Semi-sweet chocolate chips	138	22
Baker’s (unsweetened) chocolate	393	47
Dry cocoa powder	737	70
Instant cocoa powder	136	15
Cocoa beans	600	NA
Coffee beans	0	600
Cocoa bean hulls	255	NA

Table 1: Relative amounts of methylxanthines in various forms of chocolate. Source: Hershey Foods Corps. Oct 2000.

- **Prognosis:** Is good with immediate aggressive therapy within 4 hours of ingestion. Prognosis is guarded the longer the client waits to bring the animal in a veterinary clinic.
- **Calculating methylxanthine dosage: A case study**

Minnie was a 5 year old Chihuahua weighing 8 lb. (3.64 kg.) had ingested her owner’s Easter chocolate bunny which was made with milk chocolate. The bunny weighed about 7 oz. Looking at the chart on the first page, the amount of methylxanthines ingested was 7 X (58+6) = 448 mg of methylxanthines; 448 mg /3.64 kg ~ 123 mg/kg. At this level of methylxanthinesm, Minnie needs immediate veterinary care and could be showing both cardiovascular and neurological signs of chocolate toxicity. Please look at this chart made by national geographic to educate clients on chocolate toxicity: <http://ngm.nationalgeographic.com/2007/10/pets/chocolate-chart-interactive>

MISCELLANEOUS: EASTER TINSEL/GRASS (cellophane strands) has caused foreign bodies and intestinal blockages in both cats and dogs. A safer alternative is to use colorful shredded paper or tissue paper.

BABY CHICKS AND RABBITS: Please do not buy baby chicks and rabbits during Easter. Most baby rabbits and chicks are abandoned in shelters and baby chicks can also carry *Salmonella*. A safer alternative is to buy stuffed toys.

EASTER TABLE SCRAPS are usually high in fat which can cause pancreatitis especially in dogs. A safer alternative is to keep pets routine consistent and do not let guests feed the animals any table scraps. Here is a list of safe low calorie options for pets: apples, peas, green beans, unsalted and unbuttered popcorn, carrots, sweet potatoes, zucchini, squash, ice chips (freeze diluted beef or chicken broth), lettuce and blueberries.

REFERENCES

www.aspca.org; www.petpoisonhelpline.com; <http://vdi.sagepub.com>; veterinaryteam.dvm360.com; www.vspn.org; www.cdc.gov; www.merckmanuals.com
 Chocolate amount excel calculator:
<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&ved=0CGoQFjAH&url=http%3A%2F%2Fwww.bouldervet.com%2Fsites%2Fsite3212%2Fdocuments%2FChocolate%2520Toxicity%2520Spreadsheet.xls&ei=gDyWUwDdOgkQfRnoGA>
[AQ&usg=AFQjCNEkDjIP0cc7JitXYw7YOQLk_868g&sig2=AMV6RdsUJJ5FwI4BPIHtiQ&bvm=bv.57155469,d.cGU](http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=8&ved=0CGoQFjAH&url=http%3A%2F%2Fwww.bouldervet.com%2Fsites%2Fsite3212%2Fdocuments%2FChocolate%2520Toxicity%2520Spreadsheet.xls&ei=gDyWUwDdOgkQfRnoGA)