Welcome to the Veterinary Newsletter, brought to you by the ASPCA Animal Poison Control Center.

Meet the Toxicology Team

**Dr. Colleen Almgren**
Dr. Colleen Almgren is a 1987 graduate of the University of Illinois, College of Veterinary Medicine. She was employed as a clinical veterinarian in private small and mixed animal practice and at Northwestern University Medical School for many years prior to returning to the Ohio State University to continue her education. She completed a residency in veterinary anatomic pathology and received her Ph.D. in veterinary biosciences (pathobiology) from OSU in 2005. Dr. Almgren was employed by the Ohio Department of Agriculture Animal Disease Diagnostic Laboratory prior to joining the poison center staff in 2007. Outside of work, she enjoys many activities, including traveling, camping and canoeing. She lives in Bondville, Illinois, with her new canine companion, Gallagher.

**Dr. Collette Wegenast**
Dr. Colette Wegenast joined the ASPCA Animal Poison Control Center in July 2007. Prior to joining the center, Dr. Wegenast obtained a B.S. degree in Biology from Coastal Carolina University in Conway, SC, and then a DVM from Iowa State University. After practicing for three years at a small animal hospital in Palm Coast, Florida, she is excited to be closer to home (North Dakota) and enjoys hiking with her dogs in the plentiful parks around Illinois. Dr. Wegenast is a consulting veterinarian in clinical toxicology at the ASPCA Animal Poison Control Center.

**Dr. Leigh Gass**
Dr. Gass grew up on a farm in southern Illinois. His father was a veterinarian and his example inspired Dr. Gass to enter the veterinary profession. Dr. Gass graduated from the College of Veterinary Medicine at the University of Illinois in 2002. Dr. Gass practiced clinical medicine with his father and three other Illinois graduates at his small animal practice for approximately five years before joining the poison center in 2007. Dr. Gass has always had dogs and cats (besides the chickens and sheep on the farm) when he was growing up, and he now shares an apartment with his cat, Koonrod.

Opportunities for CE
The ASPCA Animal Poison Control Center will be hosting the biannual Toxicology Short Course for Small Animal Veterinarians on Thursday, May 15, and Friday, May 16, 2008. The keynote speaker this year will be Dr. Guy Weinberg, Founder of LipidRescue. Dr. Tina Wismer, Dr. Sharon Gwaltney, Dr. Charlotte Means, and other poison center toxicologists and veterinarians will be speaking at this educational course. More information and registration will be available soon at the short course website. Stay tuned!

The ASPCA is pleased to announce that the 2nd Annual ASPCA Continuing Education Conference for Veterinary Technicians will be held on Saturday, May 24, 2008, from 8:00 A.M. to 4:30 P.M CST. The conference will be held at the ASPCA’s Midwest Office in Urbana,
IL. Topics will include animal behavior and veterinary toxicology. This program is accredited by RACE for 7 hours of CE. Register online today.

What’s New on the ASPCA Animal Poison Control Center Website?
The poison center’s animal poison control resources for professionals have moved! We’ve transferred all our veterinary toxicology articles, the VLPP newsletter archive, and information about our consulting services to the ASPCA’s website for professionals, http://www.aspca.org/site/PageServer?pagename=aspcapro_home.

When you visit our new Animal Poison Control pages on ASPCApro.org, you’ll see these resources presented in an easy-to-navigate format. In addition, you’ll find quick links to:

- Our poisonous plants list
- An archived collection of published veterinary toxicology articles written by our poison center experts
- Animal poison control information for pet owners

In addition, we’ve provided links to our current training offerings, and to other websites with animal toxicology information.

Check out our new pages, and let us know what else you’d like to see on our site. Contact us at napcc@aspca.org.

Hot Links for the Season
As everyone starts to plant, and Easter rolls around, it’s time to remind clients of the potential hazards some plants may pose to pets. Below are some links to articles that veterinary staff may find useful in answering pet owners’ questions.

- How Dangerous are Winter and Spring Holiday Plants to Pets? (pdf)
- Easter Lily Toxicosis in Cats (pdf)
- Spring-Blooming Bulbs: A Year-Round Problem (pdf)
- Potentially Toxic Garden Plants (pdf)

And, of course, listings of nontoxic and toxic plants may be found on our web page.

Did you know?
That March 16th through 23rd is National Poison Prevention Week? This is a great time to educate clients about the potential hazards in their animals’ environments. Be sure to check out our latest press release, “Protect Your Pet from Perilous Poisons.”

And did you know?
The ASPCA Animal Poison Control Center offers 2-4 week externships to veterinary students and graduate veterinarians. This is an excellent opportunity to expand your knowledge in the field of clinical toxicology. The poison center now boasts a humble “on-call” room where externs may lodge during their stay in Urbana.
Spring Hazards for Pets

In many areas of the country, spring may seem a ‘long time coming’ this year, but it’s just around the corner. Common activities at this time of year may include spring cleaning, planting, opening swimming pools, de-winterizing campers or cabins, Easter celebrations and outdoor grilling. These activities can also lead to pets ingesting potentially toxic substances. Below is a list of the relative toxicity of various spring-time hazards to which a pet may be exposed.

**Low Toxicity:** (may cause gastrointestinal upset, but unlikely to cause serious problems unless very large amounts are ingested)
- N-P-K fertilizers (no added insecticide or herbicide; iron level < 1%)
- Herbicides containing glyphosate
- Bone meal (no added insecticide or herbicide)
- Charcoal briquettes (unused, no added lighter fluids)

**Moderate toxicity:** (may cause significant signs beyond mild gastrointestinal upset)
- Spring blooming bulbs
- Chocolate

**High toxicity:** (potential for very serious or life-threatening signs)
- Pool chemicals
- Easter lilies in cats
- Antifreeze
- Disulfoton (disyston) containing systemic insecticides
- Paintballs

**Practice Tips**

Clients can be ready for a poisoning emergency by going to our website and visiting What to Do If Your Pet Is Poisoned. New puppy and kitten kits are a great place to put poison center decals and magnets so that emergency information is available in a moment’s notice. Free magnets and decals can be ordered in bulk by calling 888-426-4911 and selecting option 5 for customer service.

**Toxicant Update Warning about Waterproofing Agents**

Over the past few years, poison center experts have consulted on many cases in which animals (dogs, cats, ferrets, birds) were accidentally exposed to waterproofing agents that contain volatile hydrocarbons and subsequently developed significant dyspnea. Interestingly, the American Association of Poison Control Centers recently sent out a bulletin outlining similar cases in humans as well, and in a few cases reported to the poison center, both pets and their owners ended up hospitalized.
While it is not known which ingredient in these products is causing the signs, most experts believe that heptane is the culprit. Heptane is a very small molecule, which enables it to penetrate the alveoli more easily than other ingredients in waterproofing agents. Heptane can interfere with oxygen exchange in the lungs, and it may also induce chemical pneumonitis.

ASPCA Animal Poison Control Center cases have involved sneaker protectors, fabric protectors, boot protectors, and other water repellants. Some patients experienced relatively minimal exposures (i.e. sniffing sprayed product or being present in the room during/after the indoor use of products). Onset of signs ranged from within a few minutes of exposure to several hours later. Signs included dyspnea, tachypnea, abdominal breathing and wheezing. On radiography, changes consistent with non-cardiogenic pulmonary edema have been noted. If given prompt, symptomatic care, most will survive. Oxygen is usually indicated and steroids may assist in reducing inflammation. More serious cases may require ventilatory assistance.

Although some of these products have been taken off of the market, the potential for exposure to waterproofing products still exists. Clients should be warned about the potential hazards of these products and be reminded to keep pets out of areas while aerosols are being sprayed.

Case study

A concerned owner calls reporting that Alfonso, her 2-year-old, castrated male, 11-pound miniature poodle ingested a dropped tablet about 30 minutes ago. She tells you that the medication was an antimicrobial agent called isoniazid and the amount the dog ingested was 300 mg. The dog is asymptomatic at this time.

**Question 1:** What would you advise owner to do at this point?

a. Monitor at home, as antimicrobial agents typically only cause mild, self limiting GI upset.
b. Give dog 2T of yogurt to decrease the risk of diarrhea due to gut sterilization.
c. Induce vomiting with hydrogen peroxide and call back with emesis results.
d. Have owner bring the dog in immediately.

Answer (d): Isoniazid can cause rapid on set of clinical signs and spending time trying to induce vomiting at home may endanger the patient.

**Question 2:** The client shows up at the clinic about 45 minutes after the initial call, and the dog is having severe seizures. You give valium and call the ASPCA Animal Poison Control Center, and reach Dr. Joahnna Keigwin, who will be able to provide you with efficient and accurate information. What will she tell you about this exposure?

a. There are no antimicrobials that we know of that can cause seizures. The dog probably has epilepsy or has ingested something else.
b. Life threatening signs are rare, but possible with this agent.
c. We expect to see seizures with this agent, as well as acidosis.
Answer (c): Isoniazid (INH) is used to treat human tuberculosis, and it has a very narrow margin of safety. The LD50 is estimated to be about 50 mg/kg in dogs. Isoniazid is available as an elixir, injection, syrup and tablets in strengths of 50, 100, and 300 mg. INH results in decreased brain levels of GABA, an inhibitory neurotransmitter. INH also depletes the central nervous system of pyridoxine, a precursor of the coenzyme pyridoxal phosphate, which is necessary for the activity of the enzyme glutamic acid decarboxylase (GAD). Overdoses of INH produce life-threatening signs including seizures, acidosis, hyperthermia and coma.

Question 3: What is the approach to management of an INH toxicosis?

Answer: Treatment involves controlling seizures and metabolic abnormalities. Because of the potential for rapid onset of severe clinical signs, decontamination of pets exposed to INH is best done under veterinary supervision.

The decision to induce emesis is somewhat dependent on the time frame and dose ingested; emesis is contraindicated if severe signs are occurring. Aluminum-containing antacids (e.g. Mylanta®) may decrease the absorption of INH. Gastric or enterogastric lavage followed by AC and a cathartic is the safest choice for decontamination in many cases.

Any signs that the animal is showing should be managed before decontamination is attempted. Pyridoxine (Vitamin B6) is a direct antagonist of INH, and administration of pyridoxine will reverse many of the signs of INH toxicosis, including seizures. Pyridoxine should be dosed on equivalent (mg for mg) basis to the ingested INH; when the amount of INH ingested is not known, start with 71 mg/kg of pyridoxine. Pyridoxine is generally administered as a 5-10% IV infusion over 30-60 minutes, while monitoring for anaphylaxis. Pyridoxine can usually be obtained from human hospital pharmacies.

Injectable B-vitamin complex should NOT be used to attempt to treat INH toxicosis, as administration of the appropriate dose of pyridoxine may result in serious overdosing of other vitamins in the complex. If pyridoxine is not immediately available, attempt to control seizures with diazepam or a general anesthetic (propofol, isoflurane, long acting barbiturate). Monitor and treat for acidosis and hyperthermia as needed.

Veterinary Lifeline Partner Program

If you are not a member of the Veterinary Lifeline Partner Program and would like to join, sign up here or call (888) 332-3651 to be prepared for any poison emergency.

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