



First Aid in the Field, CPR, and Common Toxins

BRIAN HUSBANDS, DVM, DIPLOMATE ACVIM
ASSOCIATE PROFESSOR
UNIVERSITY OF MINNESOTA, COLLEGE OF VET MED

First Aid Kit

- ▶ Staple gun
- ▶ Gauze squares (3 x 3 inch or larger)
- ▶ Cotton balls
- ▶ Elasticon (adhesive tape)
- ▶ Vet wrap (non-adhesive tape)
- ▶ Honey (or sugar) packets
- ▶ Sterile non-adhesive pads
- ▶ Syringes, 2-3 (6mL or larger)
- ▶ Eye wash
- ▶ Dog friendly anti-inflammatory pain med
- ▶ Clippers
- ▶ Antiseptic (betadine or chlorohexidine)
- ▶ Bitter apple spray
- ▶ Scissors
- ▶ Triple antibiotic and hydrocortisone
- ▶ Thermometer
- ▶ Ear cleaner solution
- ▶ Nail clippers
- ▶ Quickstop

https://www.gundogsupply.com/ready-dog-professional-first-aid-kit.html?utm_source=google&utm_medium=cpc&utm_term=READY-DOG-PROFESSIONAL-FIRST-AID-KIT&gclid=EAlalQobChMIhueDvcHI4wIVeh-tBh2T8g- EAQYASABEgJQ9PD_BwE

First Aid in the Field

- ▶ Allergic reactions
- ▶ Minor lacerations/wounds
- ▶ Major lacerations
- ▶ Punctures
- ▶ Eye exposure
- ▶ Heat stroke
- ▶ Rattlesnake encounter
- ▶ Other wild animal encounters
- ▶ CPR

Allergic reactions

- ▶ Can happen with insect bites or exposure to a variety of things
- ▶ Benadryl – 1mg/pound = 25mg orally every 8-12 hours for a few days; can cause sedation
- ▶ Signs: hives, facial swelling, if severe: vomiting, diarrhea, weakness
- ▶ Anaphylaxis is rare
- ▶ If itchiness persists despite Benadryl or if signs are severe, seek veterinary care



Minor lacerations

- ▶ Most minor wounds can be tended to at home (some judgement needed)
- ▶ My rule of thumb: < 1 inch (quarter sized) and not deep can potentially be clipped and cleaned with warm water
- ▶ Hydrogen peroxide or isopropyl alcohol (OUCH) – can damage the tissue...rinse with tap water (ideal is 3-5 minutes) removing any debris
- ▶ Check the wound 2-3 times a day; clean twice a day
- ▶ If not improving within 2-3 days or if pet is declining, see vet



Photo courtesy of L. McCracken

Major lacerations

- ▶ Hunting vests – help prevent
- ▶ Larger wounds or those that are deep will require prompt veterinary care
- ▶ Trauma to the tissues beneath the wound
- ▶ Rinse with warm water to remove debris

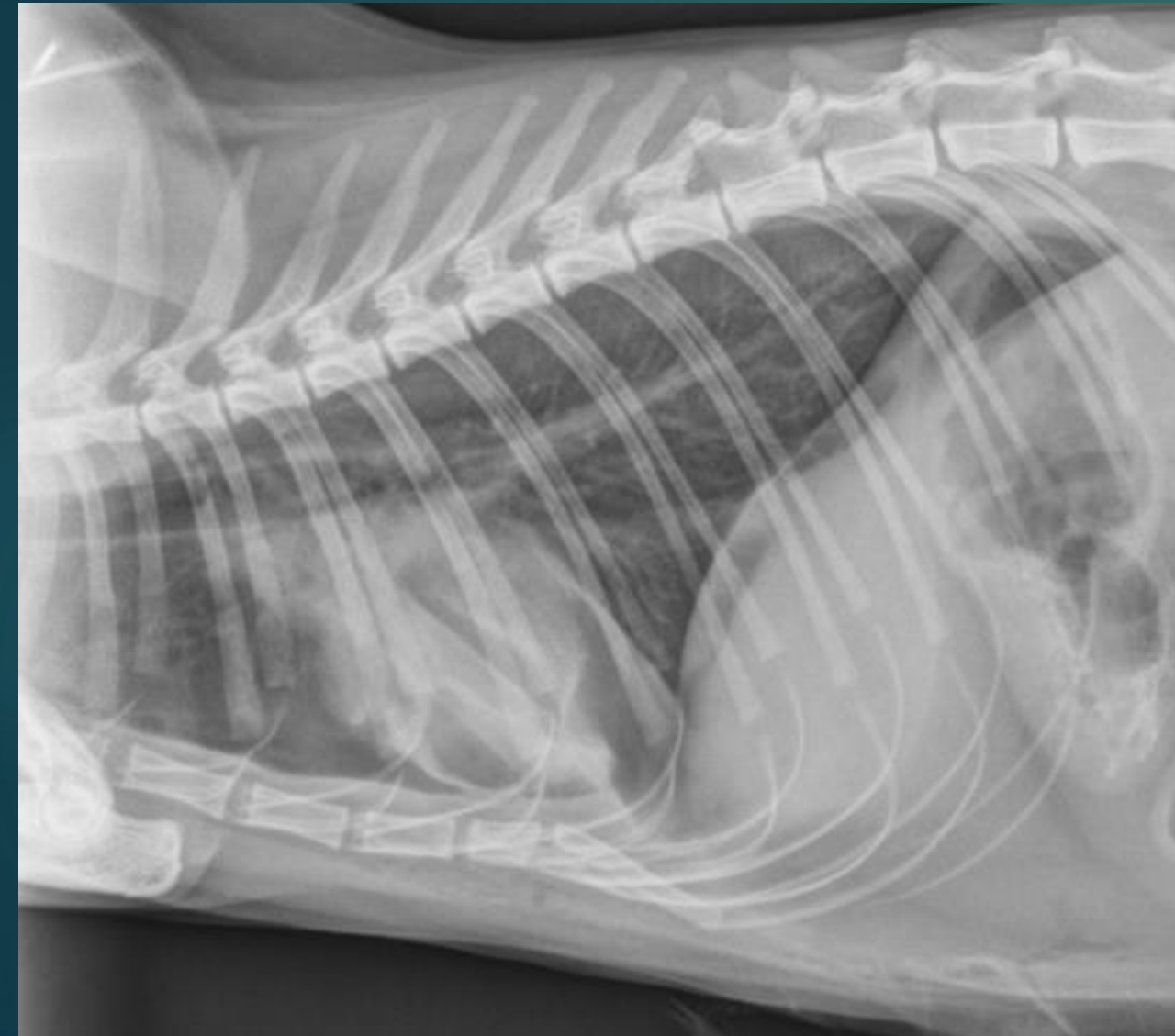
- ▶ Seek veterinary care right away

Punctures

- ▶ The skin site can be deceiving – small
- ▶ Potential to leave bacteria and foreign material behind
- ▶ Rinse the area with warm water for several minutes and monitor the site 2-3 times a day
- ▶ When to seek veterinary care:
 - ▶ Small puncture wounds that are not healing
 - ▶ Pet has signs that do not fit for a simple skin wound (vomiting, inappetance, diarrhea, others)
 - ▶ If you are concerned...want piece of mind



Punctures - Layla





Eye exposure

- ▶ Running through brush
- ▶ Common to get material in eyes (eye wash, can be used many times a day)
- ▶ If squinting or ocular discharge present beyond a few hours, seek veterinary care

Heat Stroke

- ▶ Hot, humid days
- ▶ Dogs do not have the same cooling mechanisms that we have
- ▶ Brachycephalic breeds (Pugs, Bulldogs, Boxers, and Frenchies) – even more limited cooling than other dog breeds

- ▶ Signs can include
 - ▶ rapid forceful panting, bright red tongue, red or pale gums, thick and sticky saliva, depression/lethargy, weakness, dizziness, vomiting, diarrhea, shock, coma and death
 - ▶ Prolonged high temperature can lead to organ damage and death
- ▶ Normal temp: 99-102.5F; when very active the temperature could be a bit higher...if >104F with signs, consider heat stroke

Heat Stroke

- ▶ Seek shaded area
- ▶ Offer small amount of water frequently (do not force to drink)
- ▶ Spray water to the trunk of the body

- ▶ When to seek veterinary care immediately:
 - ▶ having diarrhea, or is noticeably bleeding or bruised
 - ▶ pet is collapsed, unresponsive, or having seizures

- ▶ Do NOT pour water into the mouth if collapsed or unconscious.
- ▶ Do NOT use ice water or an ice bath.
- ▶ Do NOT cool your pet too fast or too far – gradual is best.
- ▶ Monitor rectal temperature every 1-2 minutes.
- ▶ Stop cooling once rectal temperature reaches 103.5°F.

Low blood sugar (hypoglycemia)

- ▶ Uncommon in adult dogs, but with heavy exercise...
- ▶ Prevent: small snacks/meals throughout the day
- ▶ Signs: lethargy/weakness and ultimately seizures
- ▶ Treatment in the field:
 - ▶ If able to eat, feed
 - ▶ if not honey/sugar water/syrup – absorbed through the gums/mucosa (no need to swallow) – don't get bit; amount 1-2 teaspoons; feed once recovered...call it a day
 - ▶ Improvement should be seen relatively quickly

Rattlesnake bite

- ▶ Venom – best used to obtain food; dogs are protective and curious
- ▶ Small dog = more venom relative to size (more likely to die)
- ▶ Vaccine – only W. Diamondback rattlesnake; data is uncertain – may decrease severity of reaction to venom
- ▶ Signs: pain and swelling at the site followed by weakness/shock
- ▶ Treatment: anti-venin (within 4 hours, \$\$), hospitalization (fluids, pain meds, antihistamines, and antibiotics).

Other wild animals

- ▶ Bites
- ▶ Quills
- ▶ Trauma
- ▶ Infectious diseases (rabies, other)



CPR

- ▶ Check for responsiveness
- ▶ Check for breathing and for a heart beat (just behind front leg)
- ▶ If CPR needed:
 - ▶ Compress the chest $\frac{1}{2}$ of the width – “Staying Alive”
 - ▶ Stop to give two breaths every 30-40 compressions
 - ▶ Check for breathing every 2 min
 - ▶ Get to vet
- ▶ VIDEO: <https://www.youtube.com/watch?v=ibd4edu1Zhs&feature=youtu.be>

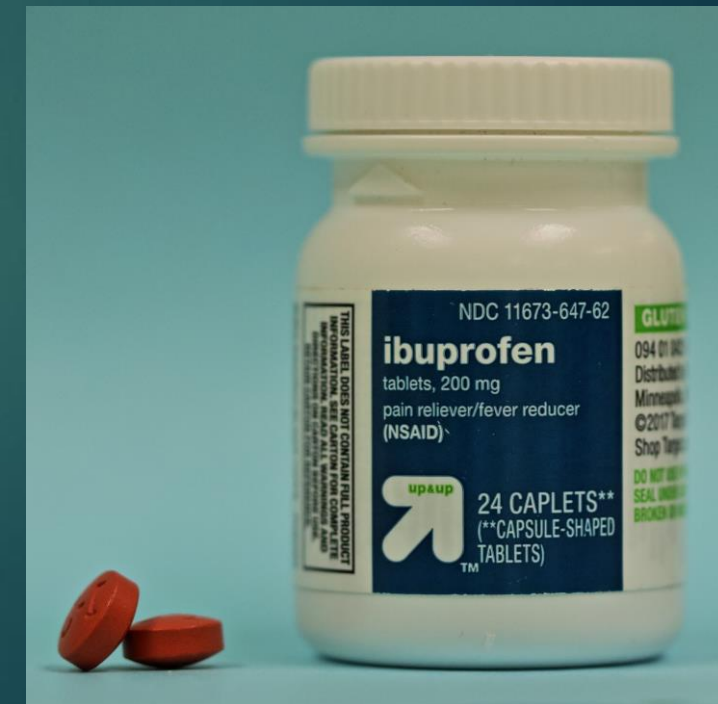
Toxins

- Xylitol
 - Grapes, Raisins, and Currants
 - Chocolate
 - Avocado pit
 - Human Anti-inflammatory Meds – ibuprofen (Advil) & acetaminophen (Tylenol)
 - Onions and Garlic
 - Blue-green Algae
 - Mouse/Rat Poison
-
- Easter lilies in cats

Over the Counter Anti-inflammatory Meds

...we love our dogs

- a) Weekend warrior – there are veterinary NSAIDs that are effective and safer
- b) Curious pups – getting into what they shouldn't



OTC Anti-inflammatory Meds

dose needed is too close to the toxic dose...as a result, these should be avoided
veterinary alternatives are available (Rimadyl, Previcox, others)



Can lead to stomach/intestinal ulcers and kidney failure



Can lead to red blood cell damage and liver failure

Signs can be seen as quickly as a few hours to a couple of days after ingestion.

OTC Anti-inflammatory Meds

- ▶ If exposure occurs
- ▶ Contact Pet Poison Control or a veterinarian right away
- ▶ If within 1-2 hours (<4 hours), vomiting should be induced
- ▶ If the dose of any of these meds is high enough, aggressive treatment is usually needed

Xylitol – sugar alcohol



- ▶ One of several sugar substitutes – sweeteners for humans
 - ▶ Sugar free candy and gum; some peanut butters, some flavored lip balms and face lotions
- ▶ Ingestion can lead to low blood sugar in dogs (within 1-12 hours) and liver failure (within 8-24 hours)
- ▶ Treatment: if asymptomatic and immediately after ingestion – induce vomiting; then head to a vet.
- ▶ Blood sugar should be monitored for 12 hours after ingestion.
- ▶ If larger amounts have been ingested, the risk for liver damage is high. Liver protectants may be helpful. Death rate with liver toxicity: up to 60%.
- ▶ Dogs are the only species reported to experience toxicity with xylitol.

Check any sugar free sweetened item

INGREDIENTS: **XYLITOL**; GUM BASE; MALTITOL; MANNITOL; MALTITOL SYRUP;
CONTAINS 2% OR LESS OF: NATURAL FLAVOR AND ARTIFICIAL FLAVOR;
LECITHIN (SOY); MALTODEXTRIN; ARTIFICIAL COLOR [BLUE 1 LAKE; BLUE 1];
ASPARTAME*; GUM ACACIA; GELATIN; ACESULFAME POTASSIUM;
SORBITOL; ISOMALT; NEOTAME; BHT, TO MAINTAIN FRESHNESS; SUCRALOSE.
PHENYLKETONURICS: CONTAINS PHENYLALANINE.


Grapes, Raisins, & Currants

- ▶ Component - unknown
- ▶ Ingestion → severe kidney failure
- ▶ Amount to cause kidney failure is variable
- ▶ Some dogs seem to be more sensitive than others
- ▶ 4-5 grapes can be fatal for an 18 pound dog

- ▶ Signs: vomiting, diarrhea, restlessness, excessive thirst with 6-12 hours
- ▶ Renal failure develops within 24-72 hours of ingestion
- ▶ Treatment: induce vomiting if within an hour;
 - ▶ veterinary treatment: hospitalization with fluids for days
- ▶ Prognosis: guarded



Chocolate

- ▶ Toxic components: caffeine and theobromine
 - ▶ Milk chocolate
 - ▶ Dark Chocolate
 - ▶ Semi-sweet chocolate
 - ▶ Unsweetened baker's chocolate
 - ▶ Cocoa powder
- 
- ▶ White chocolate...yuck! That doesn't contain cocoa = not toxic



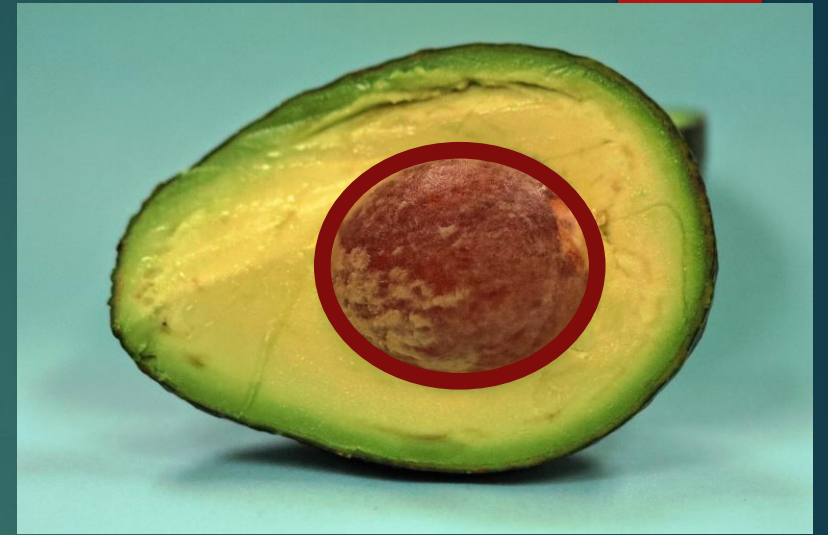
Chocolate

- ▶ Amount to be toxic depends on the amount of caffeine and theobromine
- ▶ SIGNS – within 6-12 hours
- ▶ Lower amounts: restlessness, transient vomiting, diarrhea, excessive thirst
- ▶ Modest amounts: signs above and cardiac rhythm changes (fast and/or irregular heartbeat).
- ▶ Higher doses: Seizures and even death
- ▶ Similar signs can be seen with other CNS stimulants
- ▶ Chocolate toxicity calculators are available online
- ▶ Treatment: if early (within an hour) – induce vomiting, veterinary treatment with muscle relaxants, antarrhythmic drugs, +/- antiseizure meds, and fluids
- ▶ Can take 72 hours to recover



Avocado pit

- ▶ Mild toxin for dogs and cats
- ▶ Blockage/obstruction in the esophagus or gastrointestinal tract
- ▶ Very toxic to birds and horses
- ▶ Avoid



Macadamia Nuts

- ▶ Toxin within the nut: uncertain
- ▶ Weakness, depression, vomiting, tremors, and high body temps
- ▶ Signs within 12 hours
- ▶ Treatment: induce vomiting if a large amount ingested; severely affected dogs may need hospitalization
- ▶ Signs usually resolve within 12-48 hours
- ▶ Only seen in dogs



Amazon.com

Onions and Garlic

- ▶ Small amounts vs large amounts (many onions)
- ▶ Gastrointestinal upset
- ▶ Cause damage to red blood cells resulting in anemia
- ▶ If a large amount has been ingested – seek veterinary care



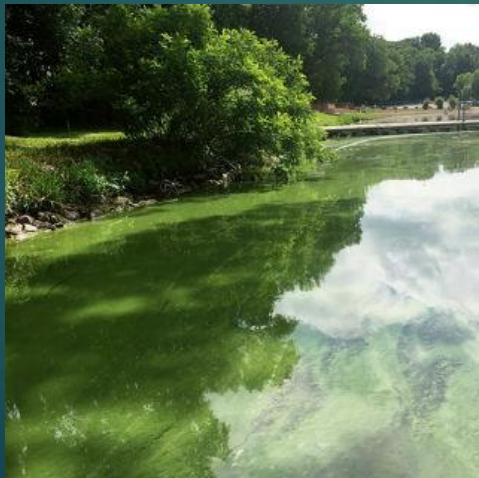
Mushroom Toxicity

- ▶ Wild mushrooms are common; identifying toxic mushrooms – challenge!
- ▶ Death cap mushroom, others. Consider any wild mushroom as potential toxin
- ▶ Signs: vomiting, diarrhea, abdominal pain, staggering/weakness, and seizure; can lead to liver and kidney damage.
- ▶ Seek veterinary care immediately
- ▶ Again, identifying the mushroom as poisonous can be very challenging; you can collect one or snap a photo



Blue Green Algae

- ▶ June, 2019: 2 dogs poisoned by blue green algae in Alexandria, MN
- ▶ Cause: a bacteria in the water that produces
- ▶ Requirement for the bacteria: well nourished (fertilizer), still/stagnant water and sunlight
- ▶ Which lakes contain blue green algae? Often “pea soup” or sludge.



Post Details

University of Minnesota Veterinary Medical Center
Published by Diawitter Haag 7h · June 9 at 9:52am · Edited · View

We were saddened to hear two dogs were poisoned last Friday from lake water near Alexandria, MN and one of the dogs died. Please share this important information on the dangers of blue green algae. Thank you.
<http://ow.ly/O4T1R>

Blue-green Algae

Blue-green algae can pose harmful health risks to your pet.

Symptoms:
Lethargy/disorientation, vomiting, diarrhea, seizures, excess salivation, skin irritation, pale gums, jaundice, neurological signs, difficulty breathing, and even death.

Treatment:
There is no antidote for the toxins produced by blue-green algae. **Immediate veterinary care is crucial.**



Blue Green Algae

- ▶ Signs: lethargy/disorientation, vomiting, diarrhea, excessive drooling, seizures, jaundice/yellow pigment to tissues, and even death
- ▶ Prevention: avoid exposure; wash right away (be careful that you are not exposed)
- ▶ Very hard to confirm
- ▶ Treatment: supportive care (no specific treatment)

Mouse/Rat Poison

- ▶ Common!
- ▶ Several types of poisons and how they act to poison the rodent
 - ▶ Anti-coagulants (similar to warfarin): blocks normal blood clotting
 - ▶ Bromethalin (nerve damage) and cholecalciferol (excessively high blood calcium)
- ▶ Seek veterinary care right away!



Lead shot

- ▶ Chronic lead toxicity in any species

Easter Lillies – cats only

- ▶ Leaves and flowers are toxic to cats
- ▶ Severe renal failure
- ▶ Seek veterinary care immediately!



Phone Numbers

- ▶ Put these numbers in your cell phone NOW so you have if needed
- ▶ Your vet
- ▶ Local Emergency Vet
- ▶ **Pet Poison Helpline: (855-764-7661)**
- ▶ **Animal Poison Control Center: 888-4ANI-HELP (888-426-4435)**
 - ▶ Both charge about \$60 (one time fee; offer recs to you and vet team treating the patient) –money well spent; they are the experts with a lot of info at their fingertips

Questions

