ProTrainings
Because Life Matters

Pro Pet Hero
Student Manual

The purpose of this booklet is to provide a brief review of course content for a specific ProTrainings course.
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INTRODUCTION

WHAT THIS COURSE WILL PROVIDE

Of course we all hope that our family members never suffer any injuries or major illnesses, but if the unpredictable happens, being prepared can sometimes help to ensure a positive outcome. By the end of this course, you will be better able to identify the signs of a life-threatening emergency, be able to quickly create a plan for when a pet emergency occurs, and know some basic skills for limiting damage or starting treatments for some common emergencies in dogs and cats.

You will be able to create a first aid and disaster preparedness kit and how to use some of the important components of a kit. You will be able to recognize some common signs of illness in your pet and how urgently these should be assessed by your veterinarian. You will learn some basic skills on handling respiratory emergencies, or injuries such as fractures or bleeding wounds. You will be able to describe several of the common toxins dogs and cats may become exposed to and the initial steps for decontamination. Snakebites or insect bites will no longer cause you to panic, and you will be able to remain calm when faced with a minor allergic reaction. Finally, if the worst case scenario occurs, you will learn the basic steps to performing effective CPR in a dog or cat.

WHAT THIS COURSE WILL NOT PROVIDE

Prompt and effective first aid can sometimes replace the need for veterinary care, however in most situations described in this course, first aid is the initial care you can provide for your pet until you can take her to a veterinarian for definitive care. If there is ever any question about whether or not you can manage an injury on your own, you should always seek the advice of your family veterinarian or an emergency veterinary facility. There are a number of resources that are available to you that should be on hand when you have doubt about the best course of action.

SAFETY CONCERNS FOR THE PET FIRST AID PROVIDER

TRANSMISSION OF INFECTIOUS DISEASE FROM YOUR PET

Fortunately, the risk of transmitting an infectious disease from your pet to you while providing first aid is very low. The risk may be higher in people with compromised immune systems, children, or the elderly, so extra caution may be needed for some people. Very young children should not attempt to perform pet first aid. Nitrile or other gloves may be worn to protect the first aid provider or the pet, however if gloves are not readily available, treatment should not be delayed. The greatest risk to a pet first aid provider is from injuries sustained when a painful or fearful animal bites or scratches at the provider. Even the best-behaved pets may react defensively under certain circumstances.

RECOGNIZE THE SIGNS OF FEAR OR AGGRESSION

Recognizing the signs of fear or possible aggression in dogs and cats is important for preventing injuries to people. If you cannot safely restrain or contain your pet after an injury, you should not continue to approach him, as serious injury may result. Either wait a short while and attempt to restrain your animal after he calms down, or seek help from your local animal control services or your family veterinarian, if available.

BEHAVIORS THAT SUGGEST A DOG MAY ATTEMPT TO BITE OR SCRATCH INCLUDE:

- → Growling or baring the teeth
- → Fur raised along the spine and shoulders
- → Ears alert and held forward
- → Cowering and trying to move away from you
- → Lipsmacking
- → Urinating

This is not an exhaustive list, however, and if you are at all concerned that a dog may bite, wait until the dog calms or assistance can be found.

If you can get close enough to a dog to place a sliplead around his neck (assuming no spinal injuries are suspected), this may help keep the dog from running off or provide reassurance to dogs that are leashtrained. Dogs that are painful and unable to walk should have a muzzle placed prior to attempting transport. An appropriately sized muzzle can be purchased from a pet supply company. If a muzzle is not available, roll gauze or other soft strand of material can be looped around a dog's snout as a temporary muzzle. If your dog becomes more aggressive and agitated with a muzzle, do not attempt to place one – transport the dog to a veterinarian for care as soon as possible.

A small dog may be restrained by covering her with a towel or blanket and picking her up. You may need to hold her by the scruff (the loose skin on the back of the neck) to keep her from twisting around to bite you. The dog should then be placed inside a pet carrier and transported to a veterinarian.

CAUSES AND SIGNS OF AGGRESSION IN CATS

Cats may also become aggressive when sick or injured.

SIGNS THAT A CAT MAY BECOME AGGRESSIVE INCLUDE:

- → hissing or yowling
- → flattened ears
- → fur raised along the spine
- → tail up or flicking back and forth
- → or crouching or moving away from you

There are other signs that may be seen, and if you cannot safely capture or restrain your cat, do not continue to approach her until she is calm or you have professional assistance.

If your cat will not allow you to pick him up or restrain him, sometimes wrapping him in a towel will allow you to safely "scoop" him up and place him in a carrier to be transported to a veterinarian for care. You may need to hold him by the "scruff" to keep him from twisting around to bite or scratch, however even while being "scruffed" some cats manage to bite and scratch quite effectively.

Some cats become more aggressive and resistant the more we try to restrain them. Coaxing your cat into a carrier or box may be safer and less stressful for you and her. You know your pet best, and if the above techniques have made things worse in the past, a low, gentle approach may work best.

BE CAREFUL

Above all, remember never to put yourself or others in harm's way when trying to provide first aid for a pet – know the resources available to you and have the phone numbers for your veterinarian, local emergency veterinary hospital, and local animal services readily available in case of an emergency.

FIRST AID KIT AND DISASTER PREPAREDNESS

KIT CONTENTS

Maybe not surprisingly, a pet first aid kit is going to look pretty similar to a human first aid kit, with some important additions. Below is a list of recommended pet first aid kit contents for both dogs and cats. You may adjust your contents to reflect the type(s) and size(s) of pet(s) you have at home. A brief explanation for each item and what it might be used for is included.

- ☐ **Muzzle**
  - – Appropriate type and size for your pet
  - – When animals need to be restrained to provide care or transport – painful and scared animals may bite!
- ☐ **Nylon, slip-lead leash**
  - – Restraint
- ☐ **Emergency contact information**
  - – Your pets' local veterinarian information (doctor or hospital name, phone number, and address)
  - – The nearest emergency veterinary facility information (may be different from above)
  - – Animal Poison Control Hotline (1-888-426-4435)
  - – Name & contact information for responsible family members or friends if the primary pet owner is not reachable
  - – List of any ongoing medical illnesses and any medications your pet is receiving (include drug name, dosage [amount, route, and frequency], and pharmacy information)
- ☐ **Gauze squares**
  - – For applying pressure to bleeding wounds and creating bandages
- ☐ **Roll gauze**
  - – For securing bandages in place
  - – May be used as a makeshift muzzle if one is unavailable or the wrong size
- ☐ **Roll of elastic, cohesive wrap ("Vetrap" bandaging tape)**
  - – For securing bandages and splints
- ☐ **Adhesive tape**
  - – For securing bandages
- ☐ **Bandage scissors**
  - – For cutting bandage material or removing bandages from your pet
- ☐ **Antimicrobial ointment**
  - – For applying to/protecting wounds
- ☐ **Grooming clippers**
  - – For removing fur to evaluate and clean wounds
- ☐ **Rubbing (isopropyl) alcohol**
  - – For cleaning skin around a wound

- [ ] **Towel and blanket**
  – For keeping your pet warm
  – For transport of smaller animals
  – As a sling for large dogs
- [ ] **Disposable gloves**
  – Latex-free preferred
- [ ] **Hydrogen peroxide**
  – To induce vomiting
  – To help clean small wounds
- [ ] **Sterile saline eye wash**
  – To flush the eye
- [ ] **Quick-read rectal thermometer**
- [ ] **Pet nail clippers**
- [ ] **Styptic powder**
  – To stop bleeding from nails that are broken or were clipped too short
- [ ] **Any other items specifically recommended for your pet by your veterinarian**

DISASTER PREPAREDNESS KIT CONTENTS

Knowing what types of disasters may affect your area in advance may help with planning. Follow the instructions provided by local or national authorities on how to proceed during a disaster. Gather what you need in advance so that you can quickly collect your family (including your pets) and follow instructions. In addition to the items in the pet first aid kit listed above, there are a few other things to have available in case of a disaster.

- [ ] **Additional contact information**
  – Veterinary/boarding facilities outside of your area or pet-friendly housing/hotels
- [ ] **Your pets' medical information**
  – Vaccination records
  – Major medical conditions (including medications)
- [ ] **Pet identification (tags, licenses, microchip information)**
- [ ] **ID tag including your information**
  – In case you and your pet become separated
- [ ] **Supply of pet food and food & water bowls**
- [ ] **Supply of medications your pet takes regularly**
- [ ] **Pet carriers for cats & small dogs**
- [ ] **Leashes & harness for larger dogs**
- [ ] **Bedding, toys, & treats**
- [ ] **Cleaning supplies, garbage bags, cat litter and a small litter pan**

RECOGNIZING NORMAL & ABNORMAL BEHAVIOR

The most important step in being able to recognize when something is wrong with your pet is to become familiar with what is normal. By their very nature, animals will hide any problems from you until the problem becomes more severe. Even the most observant pet owners can miss subtle changes in a pet's demeanor, or not recognize the importance of these changes. Many veterinarians and pet owners have examples of these instances – like when your usually voracious dog starts to eat more slowly or doesn't empty his food bowl within 6.7 seconds, this could be a sign of aging or even maturing. But it could also be a sign of mouth pain caused by dental disease or a tumor of the jaw. Many of us understandably expect our elderly pets to slow down and lose some of their vigor and enthusiasm, and it's easy to attribute many gradual changes to age-related changes. Often we don't realize how much a disease process was affecting our pet until it's corrected, and they return to a degree of vitality we thought gone forever.

In an emergency, remember that you know your pet better than anyone – even better than your veterinarian – and sometimes the only changes present will be subtle and undetectable with a cursory evaluation. Knowing what's normal for your pet – and what's changed – is crucial information for your veterinary team who might be meeting your pet for the first time.

VITAL SIGNS AND HOW TO MEASURE THEM

Vital signs are some basic data that your emergency veterinary team will obtain within minutes of assessing your pet in an emergency. A few pieces of information can alert a veterinary professional to potential serious illness in a matter of minutes, or can help determine the degree of severity of an illness. The vitals are generally not difficult to take and do not require fancy or specialized equipment – you can learn to obtain your dog or cat's vital parameters at home. If you measure and keep track of your pet's vitals once in a while during times of health, this could be extremely useful for you or your veterinarian to use when assessing your pet in an emergency. A single vital sign will generally not provide conclusive proof of either a problem or lack of a problem, but taken in conjunction with other signs, can provide a wealth of information.

HEART RATE

The heart rate of a dog or cat can vary dramatically depending on activity level, anxiety, or stability. Knowing how to measure your pet's heart rate – and what is normal – is easy and very useful. The easiest way to measure a dog or cat's heart rate at home is to feel the femoral pulse. The femoral artery runs along the middle of the inner thigh along the bone. Placing your index finger (or 2-3 fingers) gently on the inner thigh of one or both legs should allow you to find the pulse quickly. While looking at a clock or watch with a second hand, count the number of pulses you feel over a 6 second period, then multiply that number by 10 – this gives you the heart rate in beats per minute. For example, if you count 15 pulses within 6 seconds, your pet's heart rate is approximately 150 beats per minute. (Note: you can count the number of beats over a longer time period, such as 10 or 15 seconds, and this will give you a slightly more accurate heart rate, but I find the math is a bit tougher to do in my head and it will rarely make a big difference.)

It is very important that when you take your pet's heart rate during times of health that you only measure it when they are relaxed and at rest. Measurements during or shortly after periods of exercise or excitement will naturally be higher and more variable.

NORMAL RESTING HEART RATE FOR A HEALTHY DOG

A normal resting heart rate for a healthy dog at home should be around 40-100 beats per minute. There are some animals that will have an even lower resting heart rate, such as very athletic dogs or those that are fully asleep, while other animals may be perfectly healthy with a heart rate that is slightly above 100 beats per minute – the key is to find what is normal for your dog.

NORMAL RESTING HEART RATE FOR A HEALTHY CAT

Cats at home often have a resting heart rate around 100-140 beats per minute. This is very different from the typical heart rate of a healthy cat at the veterinarian's office, which is generally much higher at around 180-220 beats/minute. If your cat is particularly skittish when being handled, she may have a heart rate at home that is above 140 beats per minute, and this may be perfectly normal for her.

GUM COLOR

Excluding pigmented skin, your pet's gum color should generally always be bubble gum pink when at rest. Most animals that are heavily pigmented do still have some small areas of unpigmented gums, but the tongue should also be pink. If your dog or cat's gums become pale pink or white this could indicate a drop in red blood cells (anemia) or poor circulation. Blue or purple gums could indicate a lack of oxygen in the blood. Brown gums occur with some intoxications, and yellow gums may indicate a blood or liver disorder. Any change in your pet's typical gum color warrants prompt veterinary evaluation. If accompanied by other vital sign abnormalities (like an abnormal heart rate), immediate veterinary attention should be sought.

BREATHING RATE & QUALITY

Like measuring your pet's heart rate, the breathing, or respiratory rate should be measured at rest. Because the rate generally much slower than the heart rate, the number of breaths should be counted over 15 seconds and the results multiplied by four (i.e., 6 breaths over 15 seconds = 6 x 4 = 24 breaths per minute). Breaths are easiest to count by watching your pet's chest rise and fall, which is one breath cycle. A normal resting respiratory rate for a dog or cat is between around 10-30 breaths per minute. Resting rates above 40 breaths per minute are abnormal and may be an early sign of a problem. Remember that panting in dogs is a normal breathing pattern that dogs use to help cool themselves off, and if you count each breath cycle, the rate may easily exceed 100 breaths per minute! But panting itself is a normal breathing pattern in dogs when they are excited, anxious, or just need to cool off. Panting, or open-mouth breathing of any kind, is never normal in a cat and may indicate a very serious problem; an open-mouth breathing cat should be evaluated as soon as possible by a veterinarian.

In addition to the breathing rate, the breathing character or quality may indicate a problem. Generally any devation from your pet's normal breathing at rest warrants a trip to your veterinarian, but resting breathing that is labored is associated with new or unusual noises, or is accompanied by lethargy or collapse may constitute a severe emergency and deserves immediate veterinary attention.

TEMPERATURE

Your pet's temperature can indicate a lot more than just whether or not she has a fever. In general, with a few important exceptions, a low temperature is more worrisome and potentially life-threatening than an elevated one. The low temperature is often not dangerous in itself, but may indicate a severe problem with circulation. Your pet's blood helps to circulate warmth to your body, and in times of circulatory problems, blood may be shunted away from the skin and muscle to preserve blood flow to the heart and brain. When the peripheral blood flow is reduced, the warmth it brings is also reduced, causing cool extremities and a low measured rectal temperature.

Dogs and cats have a naturally higher temperature than people, and it generally ranges between ~99.5°F and 101.5°F, at rest, in both species. You can purchase a quick-read rectal thermometer at your local pharmacy. I generally recommend spending a couple extra dollars to get one that will give me an answer within 5-7 seconds, both for the comfort of your pet, and (if you're like me) to address your debilitating impatience. After applying a small amount of lubricant to the thermometer tip, it should be gently inserted into your pet's rectum about ½ to 1 inch and held in place until it indicates a reading. (Note: the temperature or moisture level of your pet's nose is not a good indicator of her general state of health and should not be a cause of worry or for relief.)

NORMAL BEHAVIORS

Knowing your pet's routine and keeping a close watch on him is critical for being able to recognize when he's not feeling well. Many dogs and cats will stop eating or eat less when they are not feeling well, but this could be caused by numerous problems of varying levels of severity. A good rule of thumb is that an animal that is eating, drinking, and otherwise acting normally is probably pretty stable and any other abnormalities you've detected are unlikely to be an emergency (but if your "gut" is telling you there could be something really wrong, a trip to an emergency veterinarian is never a bad idea).

Vomiting with or without diarrhea is a common problem encountered in dogs and cats. The causes can range from minor and self-limiting to severe and life-threatening, and it may not always be immediately obvious which situation your pet is in. A good rule of thumb is that vomiting accompanied by lethargy, weakness, or other changes to your pet's daily routine may be serious and should be addressed as soon as possible. Additionally, vomiting that persists for many episodes in a short time period (i.e., a few hours) or is intermittent but lasts for a few days – even if she is otherwise acting normally – warrants investigation by a veterinarian.

YOUR PET'S URINARY HABITS

Your pet's urinary habits are also important and should be monitored closely. Straining to urinate, frequent urination of small amounts of urine, or red or brown discolored urine may indicate a lower urinary tract problem, such as an infection or stones, or in cats, sterile (non-infectious) cystitis, or bladder inflammation. Dogs or cats that strain to urinate without producing any urine may indicate a life-threatening emergency. Straining to urinate associated with lethargy, vomiting, or inappetance should be explored further by a veterinarian as soon as possible. In particular, male cats are at an increased risk of developing a urinary obstruction, or a complete inability to pass urine and this is a painful, life-threatening emergency. If you notice your cat going in and out of the litter box frequently and he is yowling loudly, he should be evaluated immediately. Cats with urinary obstruction develop severe signs suddenly (within a few hours in some cases) and may decline just as rapidly. He may be listless, painful to the touch, and you may notice a hard mass in his belly – he must be transported to a veterinary hospital immediately.

An increase in urination (with or without an increased frequency of bathroom trips) is often seen with increased thirst and may indicate one of several different illnesses, such as diabetes mellitus or hyperadrenocorticism (Cushing's disease). Never withhold water from a dog or cat that seems to be urinating or drinking excessively, as this could lead to dehydration and other problems. If possible, try to measure how much your pet is drinking (or urinating, if you're very dedicated) to help quantify the increase for your veterinarian. Most cases of increased drinking or urinating are not immediately life-threatening, unless seen in conjunction with lethargy, inappetance, vomiting, or some other abnormality, but an appointment should be made with your family veterinarian soon to investigate it.

Always remember that you know your pet better than anyone and even if you can't quite put your finger on what's different about him lately, trust your instincts and have him evaluated by your veterinarian to see what subtle changes might be indicating. Because, just like people, each pet is a little different from the next, we (veterinarians) rely heavily on pet owners to be able to recognize and report what's normal, and what's unusual in their pets. Information you provide your veterinarian is a huge piece of the puzzle that we need to put together to figure out what's ailing your best friend.

VOMITING AND DIARRHEA

Vomiting with or without concurrent diarrhea is a very common cause for pet owners to bring a dog or cat in for an emergency examination, and for good reason. Vomiting in particular may be an early sign of a very serious problem. The vomiting itself is very non-specific however, and in most cases, your veterinarian will recommend performing preliminary tests such as abdominal radiographs (x-rays) and some bloodwork.

Vomiting is rarely something that should be "treated" at home, as there is probably good reason your pet is trying to empty its stomach. The times that you can probably wait a day or so to have your pet examined if he's vomiting would be if the vomiting only occurred once or twice and he's otherwise acting like himself – happy and interactive, not withdrawn or lethargic – and his vitals are normal. Withholding food (but never water) for a single meal and trying to feed him again and the next mealtime is reasonable for the otherwise normal dog that vomits. If the vomiting persists or other signs develop, have him seen by your veterinarian.

Exceptions to this are if you have reason to believe your pet may have ingested a foreign object (like a toy or large treat) or a possible toxin. If any of your pet's toys are missing or you have young children that leave toys or bits of clothing around and a dog who loves to clean up after them, this is a recipe for potential trouble, and vomiting may be the first sign of a problem.

DIARRHEA

Diarrhea may be seen on its own and it also often is seen with vomiting. Severe diarrhea could cause or contribute to diarrhea. Like vomiting, if your pet is otherwise acting normally and retains a normal appetite, diarrhea is rarely life-threatening. It is important to note what the diarrhea looks like or what it contains – bright red blood is often very disconcerting, but may not always indicate a severe problem. Dark, tarry stools indicate bleeding in the upper gastrointestinal tract (stomach or small intestines) and suggests an important problem that warrants an examination. Sudden onset of severe bloody diarrhea in a dog may be caused by a potentially life-threatening syndrome called hemorrhagic gastroenteritis (HGE). Dogs with HGE may become severely dehydrated quickly. Pets that are treated promptly with appropriate supportive care generally do very well, but they often need a day or two of hospitalization. The cause of HGE in dogs is still not known.

GASTRIC DILATATION AND VOLVULUS (GDV)

Another important condition to be aware of in dogs, particularly large and giant-breed dogs, is gastric dilatation and volvulus (GDV), which is often also called "bloat." Dogs with GDV often drool excessively and try to vomit, but little to nothing is produced. You may notice your dog's abdomen becoming very distended and firm, and she will be very weak and lethargic. Her signs will come on suddenly, and she needs immediate veterinary attention or the disease is highly fatal. This disease can be prevented in high-risk dogs with a procedure to tack or pexy the stomach to prevent it from twisting. The pros and cons of this procedure should be discussed with your veterinarian when she is still a puppy, and further discussion about what to watch for and do if you think your dog has bloat can be brought up.

LOSS OF APPETITE

Similar to vomiting, loss of appetite, or anorexia, is a common problem in sick dogs and cats, but is also very non-specific. Sometimes it means a problem with the gastrointestinal tract, but could be caused by myriad other problems as well, such as kidney or liver disease, heart problems, pain (of the mouth or virtually anywhere), or something else entirely. Knowing your pet's typical eating habits, what he eats, how often he is fed or whether food is available at all times, and what is his appetite normally. Does he never turn down a meal or is he a picky eater under normal circumstances. Loss of appetite is rarely seen without other signs of illness, such as lethargy or maybe vomiting. If your pet truly is 100% normal, but just refuses to eat, there is a chance there is something wrong with his food. Did you just open a new bag or switch food type? Just as you would be reluctant to drink sour milk, your pet may be able to sense a problem with his food – try feeding him something else that he would normally like and if he refuses that too, he's probably not feeling as well as he's letting on. If he does eat other foods, he could still be sick, but it might be worth getting a new bag of food (preferably from a different lot as the bag/can he refused initially), and trying again.

LETHARGY

Sometimes your pet might just be a little "off" and while you can't quite put your finger on it, you know something's up. Unfortunately, lethargy is about as vague a sign as you can get, and even trained professionals can get stumped with this one without running some tests. It's always a good idea to take the vitals from a lethargic pet – if any of them are abnormal, you should probably schedule an appointment or take her to an emergency veterinary hospital. If she's otherwise okay, but just not herself, you can watch her for a day and see if she bounces back, especially if you have reason for her to be quieter than usual. Were you running around playing all day, more than is typical for her? Have there been recent changes to her environment, such as a recently introduced new family member or a recent loss? Whatever it is, her signs – which may be as subtle as not sitting on your lap while you watch Seinfeld reruns, which she always does – are significant and if they worsen or don't improve within a day, she should be evaluated.

WEAKNESS OR COLLAPSE

Weakness in your pet could be caused by many different problems, some of which are simple to identify and treat, others that are more complicated. Weakness in puppies and kittens is sometimes caused by hypoglycemia, or low blood sugar, especially in very small breed puppies like Yorkshire Terriers and Chihuahuas that are not eating frequently. Other pets that might be at risk for low blood sugar are those with diabetes mellitus that are being treated with insulin. If you suspect your pet's weakness could be related to low blood sugar, offer her some food or rub some corn syrup or maple syrup on her gums. She should then be evaluated by your veterinarian, but be sure to note if she improves after eating or getting some syrup – correction of the weakness suggest low blood sugar was the underlying problem. Low blood sugar is a potentially life-threatening emergency and even if your pet improves after a meal, she should be evaluated.

Weakness may also be caused by other electrolyte disturbances, such as problems with calcium or potassium. Female dogs and cats that are due to give birth or have recently given birth are at risk for developing low blood calcium. Ensuring their diet is high in calcium, or supplementing with a source of calcium is a good idea and should be discussed with your veterinarian prior to the development of a problem, but weakness seen in female pets around the time of birth should be investigated as soon as possible.

Underlying muscular or neurologic disorders may also lead to weakness – these often may have a slow onset that becomes progressively more pronounced, but could also appear suddenly and warrants a trip to your veterinarian.

One of the more concerning causes for weakness is a cardiovascular disorder. An underlying heart disease or problem with blood circulation may be seen as weakness or exercise intolerance. If you notice your pet is weak, take his heart rate – is it faster or slower than usual? This could be a sign of an underlying cardiovascular disorder. Try to keep your pet calm and limit his activity until you can have him evaluated by a veterinarian. His gums may also become pale pink to white during a weakness event, which may become even worse with activity – this is more evidence of an underlying cardiovascular problem needing attention. It may not be a primary heart condition, but it warrants a visit to a veterinarian as soon as possible.

COLLAPSE

A collapse event, or sudden, severe weakness, may also have one of many possible causes. It is important to note what your pet was doing just before the collapse. Was he becoming weak or did he collapse suddenly and without warning? A collapse episode is understandably scary, but try to determine if your pet has lost consciousness – does he turn his head to try to respond if you call his name? Did he snap out of it soon after the collapse and seem to be back to himself quickly or did he remain weak and unable to move. If he wakes back up quickly, this could be a syncopal event and is discussed more below. If he has not lost consciousness, quickly take your pet's vitals and transport him as soon as possible to the nearest veterinary hospital. Collapse without loss of consciousness has many of the same underlying causes as weakness, but is an even more severe manifestation. Spontaneous internal bleeding is a common cause of collapse in older dogs and will often cause a high heart rate, a low temperature, and gum color changes. This of course warrants immediate veterinary care.

SEIZURES

A seizure is the physical manifestation of abnormal electrical activity in the brain. There are many different types of seizures, but here we will focus on generalized tonic-clonic, or "grand mal" seizures. During a grand mal seizure, your pet will lose consciousness and then frequently become stiff, or tonic, for a brief time (15-30 seconds), followed by repetitive jerking, or clonic, movements (30-60 seconds). Dogs and cats will often also have a lot of jaw movement in a "biting" motion. Some pets will urinate or defecate during a seizure. There are many variations from this typical seizure, but they often last for about 1 to 2 minutes and are followed by a "post-ictal" phase, in which you pet may not be quite herself. You may notice that she is lethargic, "glassy-eyed," uncoordinated and unsteady. Some pets lose vision temporarily. This phase can last several minutes to a couple of hours.

Keeping your pet safe during a seizure involves minimizing ways for them to injure themselves. NEVER put your hand in or around a seizing animal's mouth, but you should prevent them from falling off of furniture or down stairs if they happen to be nearby when your animal starts to seizure. Although it can be difficult to remain calm, try to note the time that passes from the start of the tonic-clonic phase and then the length of the post-ictal phase as well. Tonic-clonic seizure activity lasting longer than 5 minutes is a serious medical emergency, but most seizures will stop on their own within a minute or two. Cluster seizures – two or more seizures within a 24 hour period – also warrant immediate veterinary care. Prolonged seizure activity can lead to overheating and possible heat stroke as well – if you do not have veterinary care available within a 10-15 minute time span, a continuously seizing animal may need to be cooled off with water and fans or air conditioning for transport to keep her temperature below 104°F.

Seizures may sometimes be confused with other collapse events – usually fainting or "syncope." Syncope is a sudden drop in blood flow to the brain that causes collapse and loss of consciousness, and is usually caused by an underlying heart disease – often an arrhythmia. Syncope can also be caused by a neurologic disorder and may actually be a seizure. If your pet starts to recover but doesn't seem to be quite himself for short while, this could be a seizure. If these episodes happen more than once, attempting to get a video of the episode is often helpful. Taking your pet's vitals a during or just after an event is also helpful. Either way, your pet needs to be examined by a veterinarian as soon as possible.

HEAT OR COLD EXPOSURE

Your pet's temperature is determined by the balance between heat production and heat loss. The internal temperature set point in the brain acts like a thermostat and if your pet's temperature falls below the set point, she will try to warm herself up through physiologic changes like shivering, and behavioral changes, like curling into ball or seeking a warmer environment. If her temperature rises above her set point, the same will happen in the reverse: dogs will pant, as this is the method they've developed for effective heat loss and will seek shade or cooler environments. Cats do not pant under normal circumstances simply for heat loss, unless they become severely overheated. Your pet's physiologic and behavioral response to her temperature has to do with the difference between her measured or actual temperature, and the set point temperature. This means that the *feeling* of being hot or cold reflects the actual temperature relative to the set point. This is why when you have a fever, your temperature is elevated but you feel cold and wrap yourself in a blanket on the couch and sip hot beverages. If your brain says your temperature should be 104°F and it is actually at a measly 103°F, you'll *feel* cold. A pet with a fever, therefore, will have an elevated temperature, but may not show signs of being hot, and may even show signs of feeling cold, such as shivering. This pet should not be actively cooled in most situations, but should be evaluated by a veterinarian to try to determine the cause of the fever. Pets with an elevated temperature that *feel* hot (are panting, drinking lots of water, seeking cooler environments) may benefit from some help cooling down.

HYPOTHERMIA

If you live in a part of the world with harsh winters, a pet that is left outside in extreme conditions may develop exposure hypothermia (unsafe drop in temperature), but warming these pets must be done carefully under the guidance of a veterinarian, as complications may arise from overly aggressive or improper warming. If you think your pet may have exposure hypothermia, wrap it in a towel or blanket and transport it immediately to the nearest veterinary hospital. If you measure your pet's temperature and she hasn't been exposed to very cold temperatures, a low rectal temperature is more likely to be a sign of circulatory failure, and external warming should not be performed. Instead, she needs to be evaluated by a veterinarian immediately. You can wrap her in a blanket or towel for transport, which can prevent further loss of body heat, but active warming won't improve her blood flow, and may even be counterproductive.

HYPERTHERMIA (HEAT STRESS OR HEAT STROKE)

Heat stroke, also called sun stroke, heat exhaustion, and other terms, occurs when there is an imbalance between heat production and heat loss or dissipation. The classic example is a dog locked in a car, where the ambient temperature can quickly exceed 120°F or more, even on a pleasant 70°F day. Most conscientious pet owners know never to leave a pet in a parked car, even for a few minutes, but there are other situations where heat stroke may occur. Periods of exertion without adequate time to recover may lead to heat stroke in dogs. Strenuous exercise in hot weather, especially if there is also high humidity, may lead to heat stroke in dogs. Some dogs are at especially high risk if their ability to pant is impaired because of anatomical differences, such as dogs with a short snout like bulldogs, Boston terriers, and Pugs, are always at increased risk of developing heat stroke because they are less effective panters.

Older dogs may develop laryngeal paralysis, a condition that leads to less effective panting as well as other signs like voice changes and respiratory difficulty. Cats are less predisposed to exertional heat stroke, but their signs and treatment would be similar as for dogs. Ongoing tremors or seizure activity can also cause hyperthermia, so any pet exhibiting these signs should have her temperature monitored closely (and cooled if needed) until she can be transported to a veterinary hospital.

A dog that is panting persistently and becomes weak, lethargic, or otherwise abnormal may be becoming overheated. If you have a thermometer, if your dog's rectal temperature measures 105°F or above, you should begin cooling him immediately with cool (not ice cold) water and prepare to transport him to the nearest veterinary facility as soon as possible. Keep the car's air conditioning on or windows down for transport. Do not use ice packs to cool your dog off, as this can be counterproductive by causing local vasoconstriction. If it takes more than 10-15 minutes to transport your dog to the veterinary hospital, recheck your dog's temperature to ensure that it's dropping, but stop actively cooling him off when the temperature falls below 103°F, as it will continue to drop and you could cause hypothermia. Heat stroke can lead to life-threatening damage and dysfunction to various organs and body systems, but prompt reversal of the elevated temperature can truly mean the difference between life and death.

FEVER

A true fever is an elevated temperature caused by a change of the set point in the brain. It is caused by an inflammatory condition, but does not always mean an infection. It can be distinguished from heat stress because a dog or cat with a fever is not trying to cool himself by panting or moving to a cooler environment. He may even be acting like he feels cold and curling up or shivering. Cooling a feverish pet off is counterproductive, as it will have no effect on the set point, and your pet will then have to expend more energy trying to raise his temperature back up to where it was heading before. Pets that are shivering should be wrapped in a blanket, even if they have an elevated temperature. Fever is often accompanied by other signs of illness, such as lethargy, inappetance, or weakness. If other vital signs are abnormal as well, an emergency veterinary visit is warranted. Your veterinarian will probably recommend starting to find the cause of the fever – if there are not any clear problems identified on a physical examination, bloodwork and imaging, such as x-rays, will likely be recommended. It is important to NOT give any over-the-counter fever reducing medications, such as aspirin or acetaminophen (Tylenol), as these may be contraindicated depending on the cause of the fever, or toxic to your pet, as is the case with acetaminophen in cats. Fevers in pets can range from mild and self-limiting to being a marker for a severe and potentially life-threatening medical condition – when in doubt, have your pet examined by your veterinarian or at an emergency veterinary facility as soon as possible.

CHOKING

Choking can occur suddenly in dogs and cats that are chewing on food, treats, or toys. Your pet may suddenly become anxious, start pawing and her mouth, and may struggle to breathe. Her gums may turn blue or gray and she may lose consciousness. If she is still conscious, extra care should be taken not to get bitten while trying to dislodge the object. If it is safe to do so, you should open her mouth, pull her tongue forward (it might be very slippery from excessive drooling, so using some gauze or other cloth material), and use your finger to try to remove any foreign material from the back of her mouth.

If you are unable to remove the object this way, you should perform a modified Heimlich maneuver, depending on the size of your pet. For cats and small dogs that can be lifted, hold the pet with the spine along your chest. With one or two hands, make a fist and apply 5 quick thrusts just behind the last ribs in and upward motion pulling toward you slightly. Check your pet's mouth to see if the object has been dislodged.

LARGER DOGS

In larger dogs that you are unable to lift, wrap your arms around his belly with your fists just behind his ribcage, and while standing behind him, thrust upward and backward 5 times to try to dislodge the object. Alternatively, you can perform the abdominal thrusts with the dog on his side if he is unconscious or tolerates this position better.

UNCONSCIOUS PET

If your pet is unconscious, and you can see the object (a penlight or flashlight helps with visualization), you can try to remove the object manually. Needle nose pliers may be needed if your dog has a long nose and your hand cannot reach. If you are unable to dislodge the object using the above techniques, you can apply 5 sharp thrusts to your pet's back between her shoulder blades.

If at any time your pet is unconscious and stops breathing, you should give rescue breaths by covering her nose with your mouth, keeping her mouth closed with your hand, and blowing air into the nose until the chest rises. Interpose 5 rescue breaths with 5 abdominal or back thrusts until the object is dislodged. Depending on how long it takes to dislodge the object (and whether it was completely or partially obstructive), it is possible that your pet may have arrested and you will need to perform CPR. Your pet should then be immediately transported to the nearest veterinary facility.

NEAR-DROWNING

Dogs or cats that suffocate while submerged underwater suffer near-drowning, while drowning refers to pets that have passed away from such an incident. This can occur in animals that become fatigued while swimming, or have a secondary problem that prevents them from swimming appropriately or aspirating fluid while in the water. If you find your dog or cat submerged in water, immediately remove the pet from the water and lift her legs in the air (or lift her completely while letting her head hang toward the ground) to allow as much water to drain from the mouth and nose as possible. If she is unconscious, assess for a pulse and perform CPR, if needed. She should then be immediately transported to a veterinary hospital.

Animals that do not lose consciousness but may have ingested a large amount of water should still be assessed by a veterinarian. Lung injury and potentially life-threatening electrolyte disturbances may occur from aspiration or ingestion of large amounts of water (whether it is from a pool or salt- or fresh body of water).

BREATHING PROBLEMS / RESPIRATORY DISTRESS

If you've ever had the "wind knocked out of you" you understand the panic that sets in when you don't know if you'll be able to take another breath effectively. Animals likely endure the same sensation, known as *dyspnea*. Knowing what is normal breathing for your pet is essential for picking up on subtle changes to breathing. Pay close attention to what a normal breath looks like – the chest wall expands during inspiration, and then relaxes back to baseline during exhalation. The abdominal wall will move slightly with each breath, but the abdominal muscles do not become engaged or flex during normal breathing.

If your pet is using more than normal effort to breath, she has increased respiratory effort or labored breathing, and unless she's just been exercising, this indicates a problem requiring veterinary attention.

SIGNS OF LABORED BREATHING MAY INCLUDE:

- → Engaging accessory muscles of inspiration
  - Nasal flaring
  - Neck muscles
- → Engaging accessory muscles of exhalation
  - Abdominal contraction
  - Coughing
- → Positional breathing
  - Usually head/neck extended with elbows pulled outward
- → Faster and/or deeper breathing
- → Increased noise when breathing
- → Blue discoloration of the gums

If any of the above signs are seen, you should have your pet examined by a veterinarian as soon as possible. Do your best to keep your pet calm, but there will be very little you'll be able to do at home to help her – your veterinarian will be able to provide supplemental oxygen, sedation if needed, and perform diagnostics to determine the best treatment options if the cause is not easily determined from a physical examination.

HIT BY CAR, FALL FROM HEIGHT, ANIMAL ATTACK

Injuries are a common cause for dogs and cats to be brought in for an emergency evaluation. Of course preventing these types of incidents by keeping your pet on a leash or harness or secured within the home or yard is ideal, but even with the best of intentions, accidents happen.

A pet that is struck by a motor vehicle, falls from a height (like a balcony) or is attacked by another animal may sustain anywhere from mild to life-threatening injuries, depending on the nature of the incident. Obvious major wounds and injuries require immediate veterinary care, but there are some important things you can do to limit the damage during transport and prior to arrival at the veterinary hospital. Problems arising from blunt force injuries (as opposed to a penetrating injury) can be difficult to identify if you don't know what to look for. Internal bleeding, fractures, lung contusions, and brain injuries are all possible following blunt trauma, and your pet may not have any obvious external injuries. Assessing your pet's vital signs after an injury may be the first hint that a more severe injury could be lurking beneath the surface. With penetrating injuries, the external wound might be the "tip of the iceberg" with a small, benign-looking external wound masking severe damage underneath. Wounds that are relatively minor may become life-threatening if secondary infection sets in. For these reasons it is always best to have your pet evaluated by a veterinarian following an injury, even if it seems minor.

Please remember that following an injury, please do not give your pet any medications without first consulting a veterinarian. Even if your pet has pain medications prescribed to him, they may not be safe now that he's suffered an injury. The most common class of pain medications used in veterinary medicine – NSAIDs such as carprofen, meloxicam, or deracoxib – are generally not recommended immediately following an injury because of potential kidney and stomach damage if your pet is not completely stable with good blood flow.

SHOCK

Shock, or circulatory shock, is a life-threatening medical condition in which the perfusion, or blood flow, to the tissues is dangerously low and can lead to organ dysfunction and damage. If not treated promptly, pets in circulatory shock may progress and pass away. Even when treated aggressively and appropriately, not all pets that develop circulatory shock can be saved. Many of the signs of shock are identifiable without any specialized equipment, and the changes that occur over time may give an indication to you and your veterinarian if your pet is getting more stable, or if she is worsening.

One of the earliest visible changes seen in pets that are in shock is a change in heart rate. In early shock, a change in heart rate may be the only change seen. A dog's heart rate will typically increase to above 140 beats per minute. In cats, an elevated heart rate is less specific to shock, and we sometimes become more worried about cats with a low heart rate – sick and injured cats with a heart rate below 140 beats per minute is abnormal. With the change in heart rate, you may notice your pet's gum color change as well – gums should be bubble gum pink, but may become pale pink to white when circulatory shock sets in. You may also notice that your pet's extremities (ear tips, toes) begin to feel cool to the touch. She may also become weak and not as responsive to you as normal. Taken together, all of these signs – altered heart rate and gum color, cool extremities and mental dullness – are indicative of a patient that is in shock following an injury and that should be transported to a veterinary hospital as soon as possible.

BLEEDING

Bleeding is typically in two major situations – following an injury or spontaneously. An injury is far more common and is what we will focus on here, but spontaneous bleeding – bleeding that occurs without an injury may be caused by a clotting disorder or sometimes a tumor. Bleeding from any cause should be handled similarly, but spontaneous bleeding always requires evaluation by a veterinarian to determine the cause.

Bleeding following an injury results from damage to blood vessels. Veins are low-pressure vessels that lead to slow blood loss, while arteries are high-pressure blood vessels and damage to medium and large arteries can lead to spurting blood and large volume of blood loss quickly. Applying pressure to a bleeding wound is very important for limiting blood loss and may be the only treatment needed for some wounds. It is important to remember to apply firm, steady pressure and resist the urge to check under the dressing to check to see if the bleeding stopped! Do not wipe at a bleeding wound, as you could dislodge an early, unstable clot that is trying to form. For blood that is spurting rhythmically, a tourniquet may be placed if it is possible to do so. Roll gauze or other cloth can be tied around a limb, with the tourniquet applied closer to the body than the wound. Tourniquets should only be applied if there is severe bleeding, as tissue damage can occur from lack of blood supply. Tourniquets should be loosened briefly once every 10 minutes until professional veterinary care is provided.

If bleeding is severe but is not spraying or the wound is in an area where a tourniquet cannot be applied, applying firm pressure to the wound may slow or stop the bleeding. Gauze squares should be applied directly over the bleeding and held firmly in place for at least 5 minutes. If the gauze becomes soaked with blood, add more gauze and continue to apply pressure – do not switch the gauze out as removing it may dislodge a developing clot! If needed, a large stack of gauze can be applied over a wound and then it can be secured in place with bandage material for transport.

For minor wounds at home, apply firm pressure via gauze squares to the bleeding area for at least 5 minutes without removing the gauze. If blood does not soak through the gauze, gently peel away the gauze (don't wipe!) and check for continued bleeding. Repeat if necessary. If bleeding does not stop using this method, take your pet to a veterinarian.

Bleeding is some areas may be very difficult to control and may require veterinary attention, even if it's not a life-threatening situation. Lacerations of the tongue are notorious for not stopping on their own (imagine trying to hold your dog's tongue still for 5 minutes and you'll start to understand why). In some cases, animals will need to be sedated or anesthetized so that bleeding can be controlled surgically. Bleeding from the toenail can also be difficult to stop. Styptic powder can be purchased at many pet stores and can be used to stop minor bleeding associated with toenail injuries or cutting a nail too short. Cornstarch can be used if styptic powder isn't handy. Remember never to pour these powders into a wound or coat large wounds, but small, persistently bleeding wounds may be controlled this way.

TEMPORARY WOUND CARE & INFECTION PREVENTION

Even minor wounds can become major problems if secondary infection sets in. If you have any doubt about whether you can manage a wound on your own, err on the side of caution and take your injured pet to a veterinarian as soon as you can. Proper cleaning of wounds is the most important part of preventing infection – more important than giving a pet antibiotics – and should not be overlooked or underestimated. By definition, any wound that occurs outside of an aseptic surgical suite is contaminated, even if it looks clean. Sources of pathogens include the environment (grass, dirt), saliva (from an attacking animal or your own pet's mouth), and the skin around the wound. An intact layer of skin is an amazing deterrent to all kinds of infectious pathogens, but any break in the skin is a potential source for bacteria, viruses, fungi, and other pathogens to gain access and start growing.

Simple wound care may be sufficient for minor abrasions and shallow cuts, or may need to be performed as an initial step for more severe wounds. Remember that after an injury, wounds on the surface may not be the most life-threatening injury your dog or cat has suffered, and you should assess her behavior and vital signs before addressing any wounds. Bleeding should be addressed first. For wound cleaning:

→ Restrain your pet – if she is very painful, you may not be able to care for her wound at home and will need to take her to a veterinarian for pain medications and possibly sedation or anesthesia.

→ Apply sterile, water-based lubricant directly in & around the wound to protect it from hair and other debris.

→ Gently clip the fur around the wound using grooming clippers; clip in a wide margin around the wound – she may have a silly haircut for a while, but it will be much easier to keep the wound clean and bandage it; if your pet has long fur, an even wider margin may be needed.

→ Wash the wound with warm water to remove any loose fur, leftover lubricant, and visible dirt and debris; you may need to using wet gauze to remove stubborn debris – wash the wound directly as well as the area around the wound.

→ If the area is large or may be deep, you can temporarily cover the wound with sterile gauze packed directly over the wound and secured in place with a layer of roll gauze followed by cohesive wrap ("Vetrap") – make sure the bandage is not too tight as this could interfere with bloodflow to the area.

→ Transport your pet to a veterinarian for definitive care of severe wounds.

→ Monitor any wounds daily for signs of infection, and if any are seen, seek veterinary care as soon as possible; signs of infection may include:
- Increased redness
- Increased pain
- Increased swelling
- Pus or any cloudy discharge
- Foul odor
- General malaise (loss of appetite, lethargy, vomiting)

→ Never give your pet antibiotics from another pet or person, or that are left over from a previous illness – not all antibiotics are appropriate in all situations and could lead to problems for your pet or the development of a resistant infection.

LAMENESS

A sudden lameness, or limping, is often caused by pain associated with an injury to the soft tissues (tendons, ligaments, and muscles) or bones of a dog or cat's limb. They are sometimes also caused by an underlying neurologic disorder. Many pets are very stoic and it can be difficult to isolate the source of the lameness. The degree of lameness often correlates with the severity of the injury – a dog or cat that is unable or unwilling to bear any weight on a limb likely has a more significant injury than one that is "toe-touching" or bearing some weight on the affected limb. Some lameness even gets better within several minutes or hours.

If your pet appears to be in severe pain, transport him to a veterinarian immediately. Use a sling for large dogs to help them get around, and place smaller dogs and cats in a pet carrier for transport to avoid worsening the injury. If she seems to be okay other than the limping, you can try to identify the source of the pain. Before examining your pet, place a muzzle – if you find the painful spot, she may strike out to let you know it hurts! Once muzzled, try to place her on her side, with the affected side facing up to allow you to inspect her limbs; if you are unsure which limb is affected you may need to flip her to the other side to inspect the other limbs more easily. You may need a second person to help hold her on her side.

Once on her side, visually inspect her limbs for any swelling, bleeding, or obvious bruising, remembering that her fur coat may hide these things. Next, start with the toes of her front or hind limb, feeling gently for any signs of pain or swelling – if you can find the source of pain with a light touch, there's no need to press any harder! Slowing move up from the toes toward the elbow or knee, feeling carefully for swelling or a reaction, finishing at the hip or shoulder, then switching to the other limb. If gentle touch does not elicit a reaction, you can carefully flex and extend each joint of them limb looking for a reaction, starting with the toes, then moving to the carpus (wrist) or tarsus (ankle), followed by the elbow or stifle (knee), and finally the shoulder and hip. Some animals may become nervous and anticipate pain, and might react if you touch them anywhere, not just the painful area. If your pet seems to be reacting no matter where you touch her, you may have a difficult time identifying the location of the injury and she may need to be examined by a veterinarian if the limping does not improve quickly.

If your pet's lameness is mild and starts improving quickly, you can help with pain and swelling by applying an ice pack to the painful area for 10-15 minutes at a time, if tolerated, several times in the first 24 hours. Ice cubes in a resealable plastic bag works well. After a day or so, icing is less helpful with swelling, but may still provide some pain relief. Never give a pet pain medications that are not prescribed for her specifically and for the prescribed indication.

Some types of lameness are actually weakness caused by a neurologic disorder and the pet may not have any pain of the limbs. These types of lameness often appear as an uncoordinated gait, or "drunken sailor" gait. Your pet may scuff or knuckle over on his toes in one or more limbs. This should always be evaluated by a veterinarian as soon as possible, as spinal cord injuries can progress to complete loss of motor function and paralysis. If you are unsure if the change in your pet's gait is from pain or a spinal injury, have him evaluated immediately.

SUSPECTED FRACTURE OR SPINAL INJURY

A pet that has suffered a severe traumatic injury may develop a fracture. This can occur after a motor vehicle accident, a fall from a height, or a fight with another animal. In small breed dogs, simply jumping from a person's arms or a piece of furniture may lead to a fracture. Fractures are always very painful and if a "long bone" is affected (think upper and lower front and hind limbs), there will be severe lameness and your pet will not bear any weight on the limb. The limb may turn in an unnatural direction. If there is severe swelling or the fracture is over the thigh or shoulder, deformities may not be obvious. Most fractures indicate a great deal of force was applied to the bone, and other less noticeable injuries may also be present. It is a good idea to check your pet's vital signs and assess for other injuries or shock. A pet with a suspected fracture should be assessed by a veterinarian as soon as possible, and care should be taken during transport to minimize further damage.

Attempting to place a splint on a limb with a suspected fracture is generally not recommended, because if performed incorrectly, it could make the injuries worse. If a fracture is "open," meaning there is bone exposure, the wound should be carefully cleaned and covered and the animal should be transported to a veterinary facility. Small pets should be placed in a carrier or other supportive structure. Larger animals may require extra hands for safe transport, but towels and blankets may work as a temporary sling to support your dog's weight if needed.

SPINAL INJURY

If you suspect your pet has suffered an injury to his spine (neck or back), extreme care must be taken not to make the injury worse. This is a serious condition and may cause severe pain – immediate veterinary care must be sought. Check your pet's vital signs, paying extra attention to his breathing rate and pattern – some spinal injuries can lead to an inability to breathe properly. Your pet may be unable to use her hind limbs or all four limbs. She may cry out in pain if she tries to move her head or torso. It is best to place a muzzle on your pet before trying to move her. Some type of board or sturdy, flat material should be obtained. For cats and small dogs, a pet carrier or thick cardboard may be sufficient. Several layers of large pieces of cardboard taped together may work for medium-sized dogs, but something stronger will be needed for larger dogs. If nothing else is available, a large quilt can be used as a sling/gurney, but will not provide much support and the goal is to minimize movement of the spine. Once the dog has been gently placed on the board, he should be secured in place with strips of tape over his shoulders and hips, attached to the board. He should be transported immediately to a veterinary facility – when you arrive, leave your pet in the vehicle and alert the staff that you suspect a spinal injury. They will have gurneys available to safely transport your pet into the facility.

BURN WOUNDS

Fortunately, burn wounds are relatively uncommon in pets, but can be life-threatening in some cases. Any burns involving more than just the top layer of skin require veterinary attention, and even the most superficial burn wounds should be evaluated by a veterinarian if they cover more than a square inch or two of skin, as the risk of an infection may be high. If there is any doubt, have the burn wound evaluated by a veterinarian.

Initial care for a burn wound is like most injuries – check over your whole pet first, starting with vital signs, paying particular attention to the respiratory system, as smoke inhalation is a severe complication of pets that have been in a fire. Initially, you should cool the burned areas with cool water (not ice or ice cold water). Afterward, you should cover the affected area with a non-stick bandage and secure it in place for transporting to a veterinary facility. If the burns are extensive and cover a large area, cover your pet with a clean towel or towels and transport him to a veterinarian.

POISONINGS AND ENVENOMATIONS

RECOGNIZING INTOXICATION

The signs of an intoxication will vary depending on the toxin ingested, but some common signs will be seen. Additionally, the signs will arise relatively suddenly – within minutes to hours in many cases, but up to a few days in some cases.

SOME SIGNS OF A POTENTIAL INTOXICATION INCLUDE:

- → Drooling
- → Vomiting
- → Diarrhea

ANY NEUROLOGIC SIGNS SUCH AS:

- → Stumbling
- → Twitching or muscle tremors
- → Hyperactivity
- → Depression
- → Seizures or loss of consciousness
- → Bleeding
- → Ulcers of the mouth or lips
- → Irritated or ulcerated skin

CONTACTING POISON CONTROL

In case of a suspected or confirmed intoxication, contact either your local veterinarian or the ASPCA Animal Poison Control Hotline at 1-888-426-4435 for guidance. For uncommon toxins, your veterinarian may request that you contact Animal Poison Control for additional information – the veterinarians on call have access to a huge database of pet poisoning information, not all of which is published and available to your veterinarian.

When you contact Poison Control or your veterinarian, the more information you have on hand, the better the veterinarians and toxicologists will be able to help you.

- → Know what your pet was exposed to (or a list of things he may have been exposed to)
- → How much he was exposed to (e.g., the maximum number of pills he could have eaten)
- → How long it has been since the possible or known exposure
- → How much he weighs
- → Any abnormal signs he is showing

It is also helpful if you have taken your pet's vital signs.

COMMON TOXINS

In 2012, the ASPCA Animal Poison Control Center reported the top ten pet intoxications for the year and 3 of the 4 most common toxins were medications (prescription medications for people, over-the-counter medications for people, and prescription medications for pets). The medications you take are a significant potential source of severe illness for you pet, so keeping your medications tucked safely away is very important. But because mistakes happen and pets can be stealthy, keeping a list of the medications (prescription and over-the-counter) within the household is important, in case a medication container is destroyed or lost and the contents cannot be identified.

Never give medications to a pet that are not specifically prescribed for that pet, and for the intended purpose, or unless specifically directed to do so by a veterinarian. Even medications prescribed for a pet could be harmful if given under the wrong circumstances – this is particularly true with pain and anti-inflammatory medications. Do not give a medication prescribed for one pet to another pet. And remember, just because something is available over-the-counter doesn't mean it's safe for your pet! Always dispose of unused or expired medications properly and in a timely manner so the don't collect in your household.

SOME OPTIONS FOR DISPOSAL INCLUDE:

- → Community drug "take-back" programs (https://www.deadiversion.usdoj.gov/drug_disposal/index.html)
- → Follow disposal instructions included with the medication
- → Mix the medication with dirt, coffee grounds, or other undesirable substance
- → Place the medication in a resealable bag
- → Ask a pharmacist
  - Some medications should be flushed or washed down a sink
- → Remove or block out identifying information from the labels
- → Inhalers may have special disposal instructions due to fire/incinerator hazard

TOXIC FOODS

Besides medications, people food is another important source of potential toxins in pets. It is always better to check with your veterinarian before giving your pet anything other than his regular food, but some of the most common toxic foods either given to pets or that pets get into on their own are:

- → Chocolate
- → Grapes & raisins
- → Onions & garlic
- → Foods containing the artificial sweetener, xylitol
- → Old or moldy foods

This list is obviously not exhaustive, but contains some of the more common foods that pets get into.

TOXIC PLANTS

Plants are another source of potential toxicity in dogs and cats. The ASPCA Animal Poison Control Center's website has an extensive list of plants, with pictures, and whether they are safe for pets. Before bringing plants in or around the household, it's best to double check this list. Many species of lily are toxic to cats, who for some reason like to chew on these decorative flowers, which can lead to severe kidney damage. In southeastern United States, Sago Palm (in the cycad family) is severely toxic to both dogs and cats, causing liver failure Many plants will cause mouth irritation and gastrointestinal upset (tulip, azalea, cyclamen, amaryllis, chrysanthemum, and more), while others may cause these signs as well as cardiac and/or neurologic abnormalities which could be fatal (oleander, castor bean, yew, and more).

CANINE FLEA MEDICATION: TOXIC TO CATS

A common intoxication in cats is inadvertent treatment with a canine flea medication. Topical flea medications containing permethrin or pyrethrin are severely toxic in cats and will cause mild to severe full-body tremors or even seizures and can be fatal. Unfortunately, the flea products on the market are not always obviously labeled as toxic to cats, so cat owners should be particularly careful when purchasing flea medications. It is also not a good idea to purchase a medication for a larger animal and divide it between 2 or more smaller animals.

EMERGENCY DECONTAMINATION

For topical intoxications, check with your local veterinarian or ASPCA Animal Poison Control before bathing your pet, as some toxins are activated by water. If bathing your pet is recommended, be sure to wear gloves and use warm – not hot – water, and a mild shampoo or dish detergent and rinse thoroughly. Dry your pet with a towel and transport him to a veterinary hospital for further care. Do not use hot air to help dry your pet, as the heat could increase blood flow to your pet's skin and increase absorption of a topical toxin. For toxins that affect the eyes, flush your pet's eye or eyes with sterile saline and follow up with your veterinarian as soon as possible.

INDUCING VOMITING

For many ingested toxins, you may need to induce vomiting in your pet as soon as possible to limit absorption of the toxin. However, inducing vomiting is not recommended for a number of toxins or situations, therefore it is always recommended that your contact your veterinarian or Animal Poison Control prior to induction of vomiting. Generally, if vomiting is recommended, your veterinarian will have medications available that are more effective and consistent at inducing vomiting in dogs and cats, so transporting your pet to the nearest veterinary hospital is best following a known ingestion. If you're more than 10-15 minutes away from the nearest veterinary facility, your veterinarian may advise you to induce vomiting at home. Ensure that your pet is breathing normally, is not depressed or overly anxious, is fully conscious, and that vomiting has been recommended by Animal Poison Control and/or your veterinarian.

To attempt to induce vomiting, give your pet 1 teaspoon of 3% hydrogen peroxide for every 10 pounds of body weight. You should give the dose and then begin transporting your pet to the veterinary office, bringing towels and blankets to protect your car - your pet should vomit within about 15 minutes. If vomiting does not occur, you can repeat the dosage once, ideally while in transit to the veterinary hospital, but if your pet does not vomit, your veterinarian will have other medications to try to induce vomiting, or, if necessary, pump her stomach.

RECOGNIZING AN ALLERGIC REACTION

Allergic reactions can happen following exposure to allergens of various types, but common causes of allergic reactions include insect stings and recent vaccinations.

SIGNS OF A MILD ALLERGIC REACTION MAY INCLUDE:

- → Pain
- → Scratching
- → Facial swelling
- → Hives (red, raised skin bumps)
- → Vomiting

Severe allergic reactions, or anaphylaxis, may cause weakness and collapse and respiratory distress. If you suspect an allergic reaction, take your pet's vital signs and contact your primary veterinarian. It is generally best to have your pet evaluated by a veterinarian, but they may recommend that you give an over-the-counter antihistamine to help with the signs of a mild reaction, but your veterinarian will have an injectable formulation that may work more quickly, and facial swelling may make it difficult to give oral medications.

ANAPHYLAXIS

Anaphylaxis, or anaphylactic shock, is a life-threatening allergic reaction. It can occur immediately following exposure to an allergen or over a few hours. With anaphylaxis, your pet's heart rate will become very fast, and his gums will become bright pink or red. He will be weak with dull mentation, and he may develop respiratory difficulty. These signs may indicate anaphylactic shock, and immediate veterinary care is needed.

GENERAL ALLERGIES

Dogs and cats that develop allergies to food and environmental allergens often develop skin conditions that manifest as redness, hair loss, and often crusts or pustules (pimples). A secondary bacterial infection may lead to moist skin inflammation that may become intensely itchy. Ear infections are often also secondary to underlying food or environmental allergies. To prevent your pet from licking and chewing at itchy areas (as this may lead to secondary bacterial infection), place an E-collar on your pet until you can have her evaluated by your veterinarian and the allergies are under control.

CARDIOPULMONARY RESUSCITATION (CPR)

By definition, cardiopulmonary resuscitation (or CPR) is performed in a patient that has arrested, meaning they have lost consciousness, are not breathing normally, and do not have a pulse. If no intervention is provided, a patient that has arrested will virtually always pass away. The effectiveness of CPR is well-studied in people, but is not as well known in veterinary medicine. In general success rates (with success defined as survival with a good outcome) are usually less than around 10% unless the arrest occurred in a hospital associated with general anesthesia. CPR is usually unsuccessful, but the sooner it is performed the better chance a patient has of having a good outcome and preserve brain function. Remember it may not be appropriate to perform CPR in all instances of arrest; if there is not an underlying reversible condition that led to the arrest, CPR is very unlikely to be successful.

RECOGNIZING SEVERE ILLNESS OR INJURY EARLY

The best chance for a successful CPR outcome is to prevent the need to ever have to perform it. Recognizing the signs of shock early is crucial to treating problems before they progress to arrest.

SOME OF THE SEVERE ILLNESSES THAT COULD LEAD TO CARDIOPULMONARY ARREST:

- → Breathing trouble
- → Heart trouble
- → Severe infection
- → Trauma
- → Anaphylaxis
- → Pancreatitis
- → Intoxication
- → Envenomation

Aggressive medical treatment before your pet progresses is the best chance for a favorable outcome.

RECOGNIZING THE SIGNS OF CARDIOPULMONARY ARREST (CPA)

There are three key features of cardiopulmonary arrest:

1. Loss of consciousness
2. Loss of normal, spontaneous breathing
3. Lack of a palpable pulse

Care providers should not spend more than 10-15 seconds trying to identify a pulse – if the first two conditions are met and a pulse is not found quickly and easily, CPR efforts should be initiated without delay. Misdiagnosis of cardiopulmonary arrest may occur – collapse or syncope may look like arrest – but the risk of delaying CPR is great and the risk of causing serious injury is relatively small.

CPR IN CATS AND DOGS

CHEST COMPRESSIONS

Chest compressions should be initiated immediately once cardiopulmonary arrest has been recognized. Your pet should be placed on her side (either side down is fine), with you standing over her so that your elbows can be locked. Hand placement in cats and small dogs (less than ~25 pounds) is directly over the heart, where the bent elbow meets the chest. Hands should be placed either one on top of the other or (in very small animals) the chest can be grasped between the thumb and fingers on either side of the chest. For dogs larger than 25 pounds, your hand placement is over the widest part of the chest. Compressions should be firm and consistent, compressing the chest by ~1/3 to 1/2 the width of the chest with each compression. You should ensure your hands allow for complete chest recoil between compressions. The compression rate is 100-120 per minute without interruptions if possible. Because providing compressions can be exhausting, if more than one rescuer is available, caregivers should switch giving compressions every 2-3 minutes until a spontaneous pulse returns or CPR is unsuccessful and efforts are discontinued. If only one caregiver is available, a single caregiver can give 30 compressions followed by 2 breaths and repeating the cycle.

RESCUE BREATHING

Ensure your pet's airway is open and free of obstructions. If your pet is choking, follow the steps to dislodge the object. If her airway is open, you can deliver rescue breaths by covering your pet's mouth and nose with your mouth and exhaling until you see her chest rise. Alternatively, you can just cover her nose and hold her mouth closed with your other hand. If more than one caregiver is available, breaths should be given at a rate of 10 breaths per minute (one breath every 6 seconds). If only one provider is available 2 breaths should be given in rapid succession following 30 chest compressions and then the cycle should be repeated.

WHEN TO STOP CPR EFFORTS

There are no definitive guidelines for how long CPR efforts should last before the chances of a good outcome are too low to justify continuing. Some guidelines suggest after 20 minutes of CPR without return of a pulse, efforts should be discontinued. Logically, the longer a pet goes with severely low blood flow to vital organs, the higher the chances of suffering irreversible damage. While there are reports of patients recovering after longer periods of arrest, in most cases, dogs and cats that go on to have a good outcome following cardiopulmonary arrest are revived in 10 minutes or less.

PREPARING FOR PET LOSS & THE GRIEVING PROCESS

The tragedy of dogs and cats is that they will never live as long as we want them to. No matter the circumstances, it will always be difficult to say goodbye to a friend and family member, and it can be especially challenging to know when it's time to let go. Some animals will pass away quietly, but many times a beloved pet's quality of life declines significantly and we are charged with making the decision whether, and when, to consider humane euthanasia. There are also times when this difficult choice is thrust upon us in an emergency situation. While it is not an easy conversation to have, discuss euthanasia as an option with your veterinarian. They will be able to provide you with all of the treatment options available, including euthanasia, and help you decide what is best for your pet and your family.

EUTHANASIA

It is important to understand what euthanasia is and what will happen in order to make an informed decision. Euthanasia means "good death." In many cases, a catheter will be placed in your pet's leg as a means of delivering the medication, which is an overdose of an anesthetic agent. Initially your pet will go to sleep, just as if she were undergoing anesthesia for a surgery. After she is asleep, more of the same medication will be given to bring about a peaceful, painless death in less than a couple minutes. You will have the option to be present with your pet, which may provide comfort for your friend and closure for you. But rest assured if you aren't able to be with your pet during this time, staff from the veterinary hospital will be with your pet, providing comfort.

HANDLING YOUR PET'S REMAINS

Your veterinarian will also help you understand your options for handling your pet's remains. Many people choose cremation, and in some cases an individual, or private cremation, which will allow the return of your pet's ashes to you in an urn. Others choose to take their pet's remains with them for home burial, however local laws vary on whether it is legal to bury your pet on your property.

GRIEVING THE LOSS OF A PET

The grieving process following the loss of a pet is different for everyone and you should know the resources that are available to you and your loved ones during this difficult time. Your veterinarian is a good source for information on local support groups.

There are a number of online resources available as well, including:

- → www.petloss.com
- → www.aplb.org
- → www.lightning-strike.com

If you are struggling to deal with the pain of losing your fluffy family member, take care of yourself and reach out to one of the many support systems available to you.

Notes

ProTrainings is a nationally recognized CPR & First Aid Training provider offering healthcare CPR, lay rescuer/ general workplace CPR, and first aid certification. All courses follow the latest scientifically backed and nationally recognized guidelines developed by the International Liaison Committee on Resuscitation (ILCOR) and the AHA/ECC.

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