

Lesson Plan



Emergency First Aid for Cats and Dogs



SART Training Media



Emergency First Aid for Cats and Dogs

Lesson Plan

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About Florida SART

SART is a multiagency coordination group consisting of governmental and private entities dedicated to all-hazard disaster preparedness, planning, response, and recovery for the animal and agriculture sectors in the state of Florida.

SART operates at the local level through county SART organizations.

SART utilizes the skills and resources of many agencies, organizations and individuals with its multiagency coordination group structure.

SART supports the county, regional, and state emergency management efforts and incident management teams.

SART Mission

Empower Floridians through training and resource coordination to enhance all-hazard disaster planning and response for animals and agriculture.

SART Goals

- Promote the active engagement of each county coordinator who is responsible for animal and agricultural issues
 - Provide assistance in the development and writing of county ESF-17 plans
 - Promote the establishment of a county SART to work as a multiagency coordination group to support emergency management and incident management teams
 - Provide training for all SART and animal and agriculture personnel
 - Identify county resources available for an emergency or disaster
 - Work to comply with the National Incident Management System (NIMS) document
-

Subject: The purpose of this unit is to introduce trainees to basic concepts of the main components of emergency first aid for small animals: animal behavior, treatment practices, and emergency management procedures. The top priority in the emergency care of animals is always the safety of human caretakers.

Introduction

This lesson plan, together with a workbook and PowerPoint presentation, form a unit in the SART training series entitled *Emergency First Aid for Cats and Dogs*. This unit is one of several in the training module *Pets and Disaster*. This lesson plan guides the instructor in delivering the educational portion of the workshop. For information on planning, organizing and publicizing the entire training event, consult the *Creating a County SART Toolkit*. The toolkit and other SART training materials are available on the Florida SART Web site: <www.flsart.org>.

The content of the lesson plan is outlined in the learning objectives outlined on the next page

Throughout the lesson plan, symbols in the margin indicate that a slide in the PowerPoint presentation is available for that section.

Approximately 120 minutes should be allocated for this program.

Session Outline

Part 1 – Beginning the Workshop	5 minutes
Part 2 – Learning Objectives and Importance	5 minutes
Part 3 – Survey and Evaluate the Emergency	10 minutes
Part 4 – Handling and Transportation	15 minutes
Part 5 – Vital Signs of Dogs and Cats	15 minutes
Part 6 – First Aid for Dogs and Cats	45 minutes
Part 7 – Euthanasia	10minutes
Part 8 – Pets in Disaster	5 minutes
Part 9 – Highlight Resources	5 minutes
Part 10 – Summary and Wrap-Up	5 minutes
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Total	120 minutes

Learning Objectives

At the end of this unit, participants will be able to:

1. Define emergency first aid for cats and dogs.
2. Explain the health and safety priority of personnel.
3. Describe how to survey and evaluate emergency situations.
4. Identify appropriate handling techniques.
5. Explain the vital signs for cats and dogs, and their measurement.
6. Recognize trauma types and the appropriate treatment procedures.
7. Identify key resources available for more information.

Learning Environment/Aids

To complete this lesson plan, you will need:

- The PowerPoint presentation *Emergency First Aid for Cats and Dogs*.
- Optional: a companion publication, *Emergency First Aid for Cats and Dogs: Participant Workbook*, is available. It contains copies of the PowerPoint slides and resource information

To conduct this training unit, you will need:

- A means to show the PowerPoint presentation: a computer with a projector. (Note: Master black and white copies of the slides are included at the end of this manual for use as a flipbook or, if you prefer, to make transparencies for use with an overhead projector.)
- Sufficient space and seating for all participants
- Optional: Since this unit deals with evidence and chain of custody issues, you may want to include a police officer or attorney as part of your teaching team. This resource person may be helpful in answering some questions that arise during or after the program. You might ask them to co-teach part of the unit, depending on their comfort level and content interests.

Each participant will need:

- A pen or pencil
 - Participant workbook or paper for notes
-

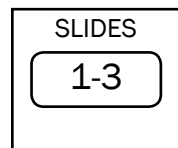
Before the Workshop

On the day of the workshop, check that all equipment needed is in place. Double-check that electronic media works on the equipment you have. Also, make certain that any materials for participants, such as paper, workbooks and pens/pencils, are available in sufficient numbers.

Part 1: Beginning the Workshop

Time: 5 minutes

Focus: Introducing participants to the concept of emergency first aid for cats and dogs



Once all participants have taken their seats and have settled down, welcome them to the Emergency First Aid for Cats and Dogs workshop. Thank them for attending and congratulate them on taking the time to learn about this important issue regarding animals during disaster. Remind them that the best way to respond to an emergency situation is to have a foundation of knowledge on which to build.

During this introduction, you may choose to distribute the pre-test included in the manual. Make sure to explain to the participants that the pre-test is only meant to guide them; they will not be graded. Use of pre- and post-tests can help to evaluate how much knowledge participants gain during the session.

You may, depending on the size of the group, also choose to have participants introduce themselves, state their background, and why they are interested in this topic.

Part 2: Learning Objectives and Importance

Time: 5 minutes

Focus: Identifying the learning objectives relating to small animal first aid, the need for safety, and how to care for injured cats and dogs.

SLIDE

4

This lesson plan can be used with agricultural and non-agricultural audiences. Review the learning objectives with the participants. At the end of this training session, participants will be able to define emergency first aid for cats and dogs, explain the health and safety priority of personnel, describe how to survey and evaluate emergency situations, identify appropriate handling techniques, explain the vital signs for cats and dogs, recognize trauma types and the appropriate treatment procedures, and identify key resources available for more information.

Remind participants that the reason they are attending the workshop is because they realize the value of being prepared by having a disaster plan in place. Part of disaster planning is learning about appropriate issues in order to be able to successfully address them during emergencies. The information that they gain in this workshop will enhance their professional performance.

SLIDE

5

The primary objective during any emergency is to insure the safety of human responders. This is especially true when working around cats and dogs in times of stress. When assisting these animals during an emergency situation keep in mind the following items:

- Your safety is the highest priority. You may be trying to help animals in need, but you are of no help to them if you yourself become injured or killed. You will detract others from doing their part as well.
- Don't endanger yourself or others by attempting a complicated rescue mission for animals. Trained responders are properly equipped to deal with many unusual situations.

SLIDE

6

This unit presentation is intended for a variety of audiences including emergency medical professionals, first responders, good Samaritans, and those who may encounter a disaster scene. The advice of a veterinarian is always recommended when dealing with animal first aid.

SLIDE

7

The highest priority is to avoid injury to yourself. Animals in emergency situations can pose a serious hazard. During these situations they tend to become:

- Nervous, anxious, and could possibly be injured.
- Unpredictable – these are individual beings and do not think like humans.
- Dangerous – they react to their surroundings and events and do not consider your well being in their reaction.

SLIDES

8-9

It is important to learn how cats and dogs can physically injure you in order to successfully avoid injuries from these animals. Some might term this the mechanism or vector of the injury.

Dogs can:

- Bite causing a puncture or crushing injury
- Scratch causing a skin injury
- Cause injuries that lead to bleeding and infection

Cats can:

- Bite causing puncture, bleeding or serious infection
- Scratch leading to bleeding and infection
- Prove to be very difficult to restrain. They are flexible and often bite or scratch when threatened

If bitten or scratched by either a cat or dog, contact a medical professional immediately. Certain zoonotic diseases can be transmitted from animal to human through saliva.

Part 3: Survey and Evaluate the Emergency

Time: 10 minutes

Focus: Evaluating the emergency, including potential hazards, approaching injured animals, emergency triage, and warning signs for cats and dogs

SLIDE

10

This section will cover various factors that are involved with cats and dogs during emergency including potential hazards, approaching injured animals, emergency triage, and warning signs. It is important to understand these issues so that you can better predict animal needs and behavior during emergencies. Even more critical is that you can safely and accurately work with cats and dogs during these times.

SLIDE

11

Survey the emergency situation. Remember your safety is key and you should always avoid becoming the victim. In an effort to stay safe, always survey the area for potential hazards that could injure you. These might include:

- Oncoming traffic, especially when dealing with road injured animals.
- Downed power lines that may have resulted from damage. These pose a serious electrical threat.
- Hazardous materials.
- Dangerous or venomous wildlife. The source of the cat/dog injury may still be in the area and pose a hazard to yourself.

SLIDES

12-13

Survey the emergency victim. If the situation includes injured animals remember that your safety is the top priority.

When approaching an injured dog or cat remember:

- Approach very slowly – avoid sudden movements.
 - Approach softly in order to avoid upsetting the animal.
 - If possible, lower your body level so that you are not towering over the injured animal. Some animals may interpret height imbalances as threat.
 - Do not make direct eye contact with the animal or stare directly at it.
 - Watch the animals' posture and expressions including the face, ears, tail, fur and body. These can alert you to possible hazards.
 - Allow the animal to smell the back of your hand. When doing this watch carefully for reactions. Avoid quick and/or sudden movements that may startle the animal.
-

SLIDE

14

Emergency triage may be required in some scenarios. Triage can be used in emergencies where multiple animals are injured in order to sort the injured into those who need critical attention and those with less serious injuries. The animal that is most critical but with the best chance of living should be attended to first.

LEARNING ACTIVITY

As an extra classroom activity you may consider including this discussion if time permits. In an effort to put the issue of “triage” into perspective, you can relate the triage of human casualties in scenarios such as earthquake, war zones, large highway automobile pile-ups, or terrorist attack.

Human definition: In advanced triage, doctors may decide that some seriously injured people should not receive advanced care because they are unlikely to survive. Advanced care will be used on patients with less severe injuries. Because treatment is intentionally withheld from patients with certain injuries, advanced triage has ethical implications. It is used to divert scarce resources away from patients with little chance of survival in order to increase the chances of survival of others who are more likely to survive.

In Western Europe, the criterion used for this category of patient is a trauma score of consistently at or below 3. This can be determined by using the Triage Revised Trauma Score (TRTS), a medically validated scoring system incorporated in some triage cards.

The use of advanced triage may become necessary when medical professionals decide that the medical resources available are not sufficient to treat all the people who need help. The treatment being prioritized can include the time spent on medical care, or drugs or other limited resources. This has happened in disasters such as volcanic eruptions, thunderstorms, and rail incidents. In these cases some percentage of patients will die regardless of medical care because of the severity of their injuries. Others would live if given immediate medical care, but would die without it.

In these extreme situations, any medical care given to people who will die anyway can be considered to be care withdrawn from others who might have survived (or perhaps suffered less severe disability from their injuries) had they been treated instead. It becomes the task of the disaster medical authorities to set aside some victims as hopeless, to avoid trying to save one life at the expense of several others. These same rules may need to be applied with large dog and cat emergencies in order to be able to save/treat the largest number possible.

SLIDES

15-16

When surveying the situation and the animal, there are varying warning signs that can be observed. These signs will help to give us a better understanding of how to proceed.

Warning signs for dogs include:

- Body language
 - o Growling or barking
 - o Hair standing up on back or shoulders
 - o Snarling
 - o Tail may be wagging or tucked under the body
 - o Ears straight back
- Submission
 - o Dog crouches or assumes a submissive posture (laying down with belly exposed)
 - o Urination
 - o Lick profusely
 - o A dog that is fearful yet submissive may bite if you force the situation

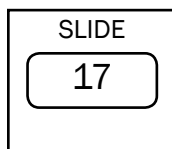
Warning signs for cats include:

- Body language of Aggressive/Fearful behavior
 - o Ears flattened
 - o Salivating or spitting
 - o Back may be arched
 - o Hair is standing on end
 - o Hissing
-

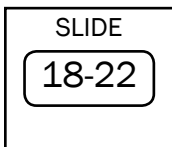
Part 4: Handling and Transportation

Time: 15 minutes

Focus: Learn about animal handling and transportation including handling techniques, restraints, and transport issues for cats and dogs



This section will cover various factors that are involved with cats and dogs during emergency including handling techniques, restraints, and transport issues. Even more critical is that you can safely and accurately work with cats and dogs during these times.



How we handle ourselves when handling animals can have a giant effect on cat and dog behavior. We want to be calm, controlled, and exert confidence. Handling techniques are very important to learn and to use with small animals. When handling small animals remember these items:

- Gloves
 - o Thick gloves may cause a loss of dexterity with small animals. Thin gloves will offer better tactile ability for finer work.
 - o Latex or vinyl gloves should be worn at all times when handling injured animals
 - Leashes
 - o Should be leather, nylon or canvas. Do not use chain-link.
 - o Make a large loop by passing the “snap connector” end through the loop of the handle. While standing behind the animal, drop the loop over the neck and tighten.
 - Blankets – Cats
 - o Be aware of the cat’s body position.
 - o Drop the towel while standing well above the cat.
 - o Grasp the scruff of the neck and wrap the towel around the cat’s body.
 - Boxes – Cats or small dogs
 - o Cats will often crawl into them in order to feel safe.
 - o Can use the towel technique once in the box.
 - o This technique will also work for small dogs.
-

- Muzzles
 - o Can be useful for controlling the jaws and decreasing the risk of being bitten.
 - o May be dangerous to the animal if the animal is vomiting, coughing, or having difficulty breathing.
 - o Use soft nylon or leather as muzzle material.
 - o Muzzles for cats and dogs with short noses are commercially available.

- Muzzles – Home-made

If needed you can make a muzzle that can be used for dogs with the exception of those with short noses. Look at the series of 5 photographs to demonstrate the following 5 steps:

1. Start with 18” of material, such as gauze, stocking, neck-tie, soft rope or a piece of soft cloth.
2. Make the beginnings of a knot into a loop that can be placed over the animal’s nose. Note: Keep enough space between you and the animal’s mouth so that the animal can’t turn and bite you.
3. Tighten the loop down on top of the nose, but not so tight that the animal can’t breathe.
4. Pull the ends of the material down each side of the face, across under the chin and bring the ends back behind the ears.
5. Tie the loose ends back behind the ears.

Note: For short-nosed dogs and cats, after steps 1-5, take one end of the loop and pass it under the nose loop and tie to the other end around the neck to secure onto the nose.

SLIDES

23-25

Restraint techniques are an important skill to understand. Working with animals safely is a prime concern during emergency settings. Remember that your safety is paramount and that you cannot help others including animals if you yourself become injured. The next three slides will cover dog and cat techniques.

Dog

- Headlock – Dog standing
 - o Stand or kneel with your chest at the dog’s side.
 - o Place forearm under the dog’s neck and bring the arm up the other side of the neck (around the head).
 - o Lock your forearm under your head.
 - o Place the other arm over or under the animal’s belly.
-

- Dog lying on their side
 - o Stand facing the dog with your body beside the dog.
 - o Reach over dog and then back under dog; take hold of legs closest to your body.
 - o Slowly pull the legs up and around the dog, forcing it to lay on its' side. As the animal drops toward the ground, take care not to let the head hit the floor.
 - o Hold front and hind legs straight out, thus preventing the animal from standing.
 - o Use forearm closest to animal to push neck to the ground.

Cat

- Cat lying on their side
 - o The same technique as for the dog with some variation.
 - o Instead of pushing the neck toward the ground with the forearm, grasp the loose skin behind the neck (the scruff) and hold firmly. This is a primal carrying position for felines and can often relax the animal.
- Sitting position – Scruff of neck
 - o Grasp and hold firmly a large amount of the scruff of neck.
 - o Using the other hand, hold the cat's body in a sitting position.

SLIDES

26-27

Carrying and transporting small animals will be critical at some point during their treatment. It is important to learn some of the safe methods in which this can be done.

Dogs

- Small dogs (25 lbs and under)
 - o Dog can be carried in a box or pet carrier.
 - o Alternatively, the dog can be carried in a person's arms.
 1. Cradle the dog with your arms
 2. Place your hand around the dog's front legs, with two or three fingers between the legs
 3. Hold the legs as you walk
 4. Keep the injured side against your body
 - Large dogs (over 25 lbs)
 - o Place one arm under or around the neck.
 - o Place the other behind the rear legs or under the belly if you suspect a hind-limb injury.
-

Cats

- Box or pet carrier is the ideal method to transport a cat since they frighten easily. Cats often run away from the treatment.
- Arm carry
 - o Utilize the same small dog carry above.
 - o Alternatively, grab the scruff and support the cat's body with your other hand.

SLIDE

28

A zoonosis is any infectious disease that is able to be transmitted from other animals, both wild and domestic, to humans or from humans to animals (the latter is sometimes called reverse zoonosis). Examples of more commonly known small animal zoonosis include Ringworm, Scabies, and Rabies. When tending to small animals during emergencies, be mindful of the potential for zoonotic disease transfer. Generally CPR is not likely to cause human infection.

LEARNING ACTIVITY

As an extra classroom activity you may consider including one of these if time permits. A more detailed understanding of animal behavior would be beneficial to anyone that will be working around small animals. A practical hands-on activity illustrating Handling or Restraint Techniques will go a long way in helping participants to understand, remember, and practice the concepts learned above.

One activity would be to bring a cat into the classroom (preferably one that is well mannered). Proper handling techniques can be demonstrated to the class. The approach to the animal, body language, and handling can be demonstrated. The towel method of wrapping is an excellent technique to show the class, including the scruff carry.

A second option for an additional hands-on demonstration would be to arrange for a dog handling activity. If facilities allow for a safe demonstration, you may want to consider having a trained dog handler demonstrate the principles of animal restraint and leash with a live animal. Additionally the Home-Made Muzzle can be demonstrated so that participants can fully comprehend the soft cloth technique. The presence of a live animal in a visual and hands-on activity will further reinforce the educational value of this unit. Participants will better understand and retain the knowledge that they learned.

Part 5: Vital Signs of Dogs and Cats

Time: 15 minutes

Focus: Examine the vital signs of dogs and cats during emergency including normal signs, heart rate, breathing rate, body temperature, mucous membrane color and hydration

SLIDE

29

This section will cover the vital signs of dogs and cats during emergency including normal vital signs, heart rate, breathing rate, body temperature, mucous membrane color and hydration. It is important to understand these issues so that you can better predict first aid needs during emergencies.

The next 11 slides will relate to vital signs.

SLIDES

30-33

Normal vital signs are used as a basis or base line, to judge when an animal is deviating from the norm. One of the key indicators is the heart rate. We need to learn how to assess the heart rate and what techniques work best with small animals.

Heart Rates and Pulses:

- Heartbeat can be felt on the left side of the chest just behind the bend in the left elbow.
 - o If you place your hand over this area, you should be able to feel and count heartbeats.
 - Femoral or inner thigh pulse
 - o Place two fingers as high as possible on the inside of either back leg (use light touch).
 - o Feel for pulse in middle of leg about half way between front and back of leg (there is a small recess where the blood vessels run).
 - Just below the wrist – carpus
 - o Locate the area just above middle pad on underside of either front paw.
 - o Lightly place middle and index fingers at this point and feel for pulse.
 - Just below the ankle – hock
 - o Locate the area just above middle pad on underside of either rear paw.
 - o Lightly place middle and index fingers at this point and feel for pulse.
-

- Normal Heart Rates – The chart on slide #33 clearly illustrates the different heart rate ranges for varying sized dogs and cats.
 - o Dog
 1. Small – 100-160 beats/minute
 2. Medium – 60-100 beats/minute
 3. Puppy – 120-160 beats/minute
 - o Cat – 160-220 beats/minute

SLIDES

34-35

Breathing rates for dogs and cats vary. A normal range for dogs is 10-30 breaths/minute while cats respire at 20-30 breaths/minute. Under extreme conditions dogs can breathe at up to 200 breaths/minute, while cats can go up to 300 pants/minute.

Panting should not normally occur with a cat. If this is noticed start to worry!

SLIDES

36-37

Body temperatures should remain within a normal range for healthy, non-stressed animals. Techniques for determining this temperature include the following:

1. Use a pediatric rectal or digital thermometer.
2. Lubricate the thermometer with a water based lubricant or petroleum jelly.
3. Normal body temperatures include:
 - a. Dogs: 100.0°F – 102.8°F
 - b. Cats: 100.5°F – 102.5°F
 - c. Temperatures under 100°F and over 104°F should be considered an emergency.

SLIDES

38-39

Mucous membrane color can be used to help assess the current condition of the dog or cat. The photo in slide #38 illustrates the mucous membrane of the oral tissue. Looking at the color of the oral tissues is a good way to determine if the animal is getting enough oxygen. If the dog tissue is pigmented, you can use the membranes in the lower eyelid by gently pulling it down. The normal color is pink! Blue, pale, yellow, brick red or brown mucous membranes is an emergency!

The capillary refill time is the time that it takes for the gums to return to their normal pink color after you press them. As you press, the membrane should turn white, then it should only take 1-2 seconds for pink color to return. This is a good way to assess the circulation. If capillary refill time is more than 3 seconds, it is an emergency!

SLIDE

40

Hydration is the process of providing an adequate amount of water to the body tissues. The following steps can be used to determine if the animal is hydrated or dehydrated:

- Pull up on the skin at the back of the animal's neck.
- It should go back into place immediately (1-2 seconds).
- If not the animal is likely dehydrated.

Part 6: First Aid for Cats and Dogs

Time: 45 minutes

Focus: Learn the first aid actions for cats and dogs covering the entire spectrum of first aid management of cats and dogs during emergency. These include recognition, CPR, breathing, circulation, bleeding, choking, fractures, wounds, eyes, foreign objects, heat and toxins

SLIDE

41

This section will cover many factors that are involved with the first aid actions for cats and dogs covering the entire spectrum of first aid management of cats and dogs during emergency. It is important to understand these issues so that you can better react to small animal needs and treatments during emergencies.

Note: The next 43 slides will relate to first aid actions. These slides contain excellent pictures that help to highlight the first aid issue being demonstrated. Instructors are encouraged to make use of these photographs during the presentation. Draw the discussion points to the illustration so that participants can best see and hear the presentation.

SLIDES

42-45

Recognizing the emergency at hand and surveying the emergency victim are core competencies involved in the response and eventual treatment. Emergencies that you may encounter could include:

- Trauma (falls, hit by vehicle, gunshot, other punctures/cuts)
- Difficulty breathing
- Seizures

- Excessive bleeding (cannot be stopped by applying pressure)
- Snake bites
- Heat stroke or hypothermia
- Poisoning
- Shock
- Burns
- Drowning
- Unconsciousness
- Others

Surveying the emergency victim can follow the “ABC’s of CPR”

ABCs of CPR

Airway	Is there an open airway?
Breathing	Is the animal breathing?
Circulation	Is there a heartbeat and a pulse?

Also include the following four in your survey:

1. Mucous Membrane Color?
2. Capillary Refill Time?
3. Any evidence of bleeding?
4. Animal’s level of consciousness?

SLIDE

46

CPR or Cardiopulmonary Resuscitation is a method to treat an animal that is not breathing and/or has no heartbeat. It involves rescue breathing (mouth-to-nose resuscitation) and chest compressions. The ABC’s or basic principles (Airway, Breathing and Circulation) must be followed.

Warning: CPR does not always work even when performed by an experienced veterinarian. If your attempt fails, know that you did everything that you could to save an animal’s life.

SLIDES

47-52

Breathing – It is imperative that the animal be able to breathe. All mammals need oxygen in order to survive, and when it is blocked or not available, the animal will not live long.

Establish an Airway by performing the following steps:

1. Check to see if the throat and mouth are clear of foreign objects.
 2. To clear the airway, gently tilt the head back and extend the neck.
 3. Pull the tongue between the front teeth.
-

4. Use your finger to remove any material or liquid from the airway.

Note: Do not put your finger into the mouth of a *conscious* animal. You will be bitten!

If the animal is breathing, let them continue on their own. If not, then do the following:

1. Medium and large dogs (over 30 pounds): seal animal's mouth and lips by placing your hands around its lips. See photos in slide #50.
 - o Gently hold the muzzle closed
2. Cats and small dogs (under 30 pounds): your mouth will seal the mouth and lips – no need to seal with hands. See photos in slide #51.
3. Place your mouth over the animal's nose and forcefully exhale.
 - o Give 4-5 breaths rapidly, then check if animal is breathing.
 - o Continue up to 20 minutes. After each breathing session, check if the animal can breathe without assistance.

Breathing Rates for CPR

Small dog or cat	20 – 30 breaths per minute
Medium or large dog	20 breaths per minute

Note: If you have access to oxygen for a distressed animal then use it instead.

SLIDES

53-57

Circulation is required to distribute the blood supply throughout the body. As the blood circulates it carries oxygen and vital nutrients throughout the circulation system.

If there is no pulse or no detectable heartbeat in the animal then perform chest compressions. The following instructions should be used. (See photos in slide #54 and #56.)

- Lay animal on its right side.
 - Kneel next to the animal with chest facing you.
 - Place palm of one of your hands over animal's ribs at point where elbow touches chest.
 - Place other hand around back of and underneath animal.
 - Compress chest $\frac{1}{2}$ - 1 inch (elbows should be locked).
 - Alternate with breaths.
 - o 5 compressions for each breath and check for a pulse.
-

- o If more than one person, each take a position and alternate at 3 compressions for each breath, then check for pulse.

Cardiac compressions can be made following the above instructions and should be altered depending on the size of the animal. The following breakdowns can be used with dogs of varying sizes:

- Medium to Large Dogs (30–90 pounds)
 - o Stand or kneel with the animal's back towards you.
 - o Extend arms at the elbows and cup your hands over each other.
 - o Compress the chest at the point where the left elbow lies when pulled back to the chest.
 - o Compress about 1-3 inches with each compression.
- Alternate with breathing
 - o If alone, do 5 compressions for each breath, then check for pulse.
 - o If two people, perform 2 – 3 compressions for each breath, then check for a pulse.
- Giant Dogs (Over 90 pounds)
 - o Use the same technique for medium to large dogs.
 - o If alone, do 10 compressions for each breath, then check for a pulse.
 - o If two people, do 6 compressions for each breath, then check for a pulse.

Note: Do not assume there is no heart rate or pulse because an animal is not breathing. Always check for a heartbeat before starting chest compressions.

SLIDES

58-59

Shock results from decreased blood and oxygen flow to tissues and organs. Symptoms can include the following:

- Increased heart rate
 - Pulse may be bounding or, in later stages, weak
 - Increased respiratory rate
 - Delayed capillary refill time
 - Decreased body temperature/cool feet
 - If in septic shock (infection), temperature may be elevated
 - Weakness
 - Disorientation
 - Rescue workers must focus on stopping bleeding, warming the animal and the ABC's
-

Terminal Shock or End Stage Shock is when the body can no longer compensate for decreased oxygen and blood to vital organs.

- Cardiac arrest is likely to occur soon – take the following actions:
 - o Assess ABC's of CPR
 - o Control the bleeding
 - o Warm the animal
 - o Elevate hind-end slightly (unless broken back is suspected)

SLIDES
60-62

Bleeding can be a life threatening situation for any animal. When this issue is discovered, the following five steps should be initiated:

1. Check ABC's of CPR
2. Apply direct pressure with gauze or cloth
3. Add more cloth if material gets soaked
4. Do not wipe
5. Secure with tape

Bleeding pressure points can be used to prevent further bleeding if conventional techniques have failed. Pressure points are areas from where the blood vessels travel. Apply firm and even pressure to appropriate pressure points. The chart on slide #61 illustrates the bleeding site versus the pressure point that controls it:

Site of Bleeding	Pressure Point
Forearm	Armpit
Hind Limb	Inner thigh
Head	Lower Jaw – Place 3 fingers at base of lower jaw on the same side as injury and below where bleeding is occurring
Neck	Groove next to windpipe - Place 3 fingers in groove next to windpipe (round & hard) on side of neck where bleeding is occurring

When using pressure points, you must release pressure every 10 minutes (for a few seconds), as this prevents permanent damage to limb. When using head and neck pressure points, take care not to obstruct breathing.

SLIDES
63-64

Choking can occur quite frequently with small animals. Be prepared to treat this common occurrence which can many times be easily remedied. The fol-

lowing steps should be used:

1. Open animal's mouth and sweep from side to side to see if object can be dislodged.
2. If animal is small enough, suspend animal by the hips with head hanging down. (See illustrations on slide #64).
3. If animal is bigger, place your arms around animal's waist.
4. Close your hands together to make a fist just behind first rib.
5. Compress the abdomen by pushing up 5 times.
 - a. Alternate with performing 5 breaths (any air around the object is better than none).
6. As a last resort, administer a sharp blow to the back between the shoulder blades.
 - a. Then repeat abdominal compressions.

SLIDES

65-69

Fractures can manifest themselves by lameness, swelling, and abnormal limb position. Occasionally they will illustrate themselves with bruising or protruding bones. Splinting guidelines can help to insure proper treatment.

- If a piece of bone is sticking out of the wound, wash the area with water or saline solution. Loosely place a dressing over the wound and wrap with tape.
- If the animal can't be kept completely still for transport, a splint may be applied by the following:
 - o Place a rigid structure along each side of the fractured limb (rolled paper, stick, pen, etc).
 - o Hold with tape in multiple locations, but do not wrap too tightly.
- Splinting should always include the joints below and above the fracture site. Otherwise, the splint can cause more harm than good.
- If animal is struggling or you can transport it in a box or carrier, do not attempt to splint. Splinting can worsen a fracture.

SLIDES

70-71

Puncture wounds and lacerations are common injuries to dogs and cats. First aid measures should include the following:

1. Remove foreign object
2. Wash area with saline
 - a. Add one teaspoon of salt to a quart of warm water
3. Dry foot
4. Bandage
5. Check ABC's of CPR
6. Check for shock

7. Apply sterile lube to keep hair out of wound
8. Clip hair around wound area
 - a. Clippers or razor blade
9. Flush with saline
10. Apply a bandage

SLIDE

72

Drowning has its own unique first aid actions.

1. Check ABC's of CPR.
2. For unconscious animals, hold the animal upside down and allow water to come out airway (nose or mouth).
3. CPR as needed.
4. Treat for shock (keep quiet and warm).

SLIDES

73-74

These two slides illustrate actual eye injuries of a foreign object and an eye out of the socket.

- Foreign Objects in the Eye:
 - o Swelling, squinting, pawing or obvious object
 - o Gently wash the eye with large amounts of tap water or sterile eye wash
 - o Inspect closely to confirm that all of the object has been removed
- Eye out of Socket:
 - o Flush with sterile eyewash
 - o Cover the eye with a moistened gauze
 - o Blind the opposite eye
 - o Do not put a leash around the animal's neck
 - o Get veterinary attention as quickly as possible

SLIDES

75-76

Embedded foreign bodies can make their way into cats and dogs during disasters. It is important to know how these should be treated in first aid so as not to make the injury worse.

Do Not Remove Embedded Foreign Bodies!

1. Roll up gauze or other material that can be used to stabilize the object in place
2. Use tape or an object that fits over the foreign body to make a brace to hold foreign body still
3. If the object is long, make it shorter without removing it
4. Get veterinary assistance as soon as possible

Embedded Fish Hooks

1. Do not pull or cut the line!

2. Push the hook through the exit wound
3. Cut the barb off using a wire cutter
4. Pull the hook out from the direction that it entered the skin
5. Treat the resulting puncture like a wound

SLIDES

77-78

Heat comes from both internal (metabolic) and external sources. Metabolic heat is generated all of the time. Approximately 50% of metabolic heat is generated directly from what is eaten. Additional metabolic heat is generated when an animal exercises. This metabolic heat is dissipated in most species through sweating, although dogs use panting as the main avenue for heat dissipation. Severe heat stress is characterized by body temperatures well above the normal range.

Heat Stroke symptoms include:

- Collapse
- Vomiting or bloody diarrhea
- Excessive salivation
- Increased heart rate
- Fast or difficult breathing
- Red mucous membranes
- Capillary refill time may be prolonged or very quick
- Body temperature 104° F or above

Solutions to heat stroke include:

- Move to cool or shaded area
- Soak in or with cool (not iced) water
- Place towels around neck, head, abdomen and feet
- Discontinue cooling once the temperature reaches 103° F

SLIDE

79

Snake Bite is common for dogs and cats living in snake infested areas. Even in relative low snake density areas, disasters (such as hurricanes, floods, etc) can drive snakes into areas that they normally do not inhabit. During these times, snake encounters could be more likely to happen to small animals. If a dog or cat is bitten by a snake follow these guidelines:

1. ABC's of CPR/Check for shock
2. Keep as still and calm as possible (carry the animal)
3. Do not cut wound or suck venom
4. Do not apply ice or a tourniquet
5. Seek medical attention as soon as possible

SLIDES

80-83

Toxin Ingestion may come in various forms. Liquids, chemicals, and items that are eaten, may all play a role in toxic contamination. Look for these signs and think about the solutions:

- Signs of potential toxin ingestion
 - o Vomiting or diarrhea.
 - o Seizures or abnormal mental state (hyper excitable, depressed).
 - o Excessive salivation.
 - o Ulcers in mouth.
 - o Bleeding from mouth or any body cavity.
- Seizures
 - o Animals may have seizures from toxin ingestion or other causes.
 - o Protect from harm due to surroundings.
 - o Do not put hand in the mouth or try to pull on the tongue
- Toxin Ingestion
 - o Check the ABC's of CPR.
 - o Check the mucous membrane color, capillary refill time, animal's mental state.
 - o Check the surroundings for possible poison or toxin.
 - o If possible, call the National Animal Poison Control Center 1-800-548-2423 or 1-900-680-0000.

SLIDE

84

Burns can result from fire, chemical, or electrical disasters. Cats and dogs can be adversely affected by these emergencies and may need specialized treatment. Look for and do the following:

- Check for shock
- Flush chemical burns profusely with water
- Apply cool water or cool compresses to burned area
- Apply sterile nonstick dressing
- Do not immerse in water or ice!
- Do not apply butter or ointment!

SLIDE

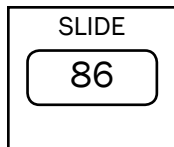
85

Emergency Triage – Just as was covered in Slide #14 in Part 3: Survey and Evaluate the Emergency, we need to keep in mind that “When presented with the situation, the animal that is most critical but the best chance of living should be attended to first”.

Part 7: Euthanasia

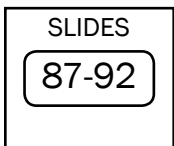
Time: 10 minutes

Focus: Learn about the issues surrounding euthanasia including decision making, humane considerations, procedures, and Florida laws



This section will cover the issues surrounding euthanasia including decision making, humane considerations, procedures, and Florida laws. It is important to understand these issues so that you can better serve animals in distress during emergencies.

The next 6 slides deal with Euthanasia.



All animal owners, farmers, ranchers, and veterinarians would prefer to use treatment options in order to save/heal an animal. Under certain severe conditions the nature of the injury or disease to the animal will be terminal eventually and it is more humane to destroy the animal versus having it suffer a long and protracted death. Euthanasia is defined as the action of killing the animal for reasons considered to be merciful.

General issues to consider include:

- Pain and stress of the animal
- Likelihood of recovery
- Diagnostic information
- Welfare of the animal, humane considerations
- Sustained injuries may necessitate humane euthanasia
- Best performed by a veterinarian or under veterinary guidance
- Veterinary assistance may not be available during large scale emergency – therefore very important to understand issues involved

Important considerations include:

- When euthanasia is necessary, always minimize animal distress as much as possible
 - For animals who are accustomed to human contact, the presence of humans may be reassuring
 1. Penetrating captive bolt may be preferred
 2. Exsanguination in unconscious animals may be preferred
-

- For wildlife, human contact causes fear and greater distress
 1. Gunshot may be preferred
 2. Gunshot permits the least amount of human contact

Aesthetic concerns of euthanasia:

- Despite being humane, both captive bolt and gunshot are aesthetically displeasing procedures
- Involuntary movement of the animal will most likely occur after the procedure. Some issues include:
 1. “Kill the head, the body dies slowly” – Temple Grandin
 2. Exsanguination (the draining of blood) requires several minutes and is visually uncomfortable to observe.
- These procedures should be conducted away from the public view, especially since many will not fully understand the principles of euthanasia.

Death should be confirmed by the evaluation of the following physical parameters over a period of several minutes:

- Lack of a heartbeat – a pulse is normally not present in these circumstances
- Lack of respiration – breathing may be erratic in an unconscious animal
- Lack of a corneal reflex
- Lack of movement over a period of several hours – rigor mortis should set in

Unacceptable methods of euthanasia include the following which are forbidden under Florida law (Florida Statutes 828.12):

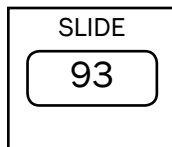
- Manually applied blunt trauma to the head, such as a large hammer
- Injection of any chemical substance not labeled for use for euthanasia. (This is where the services of a licensed veterinarian can be crucial.)
- Injection of air into a vein
- Electrocution, as with 120 or 220 volt electrical power.

In general euthanasia is a difficult decision, and a complicated action that may be required in severe circumstances. It is one that is difficult for animal owners to accept and often harder for the general public who only sees the final outcome. The proper understanding and mental preparation for this critical issue is vitally important. It is hoped by all involved that euthanasia of small animals will never have to be carried out. We must keep in mind that our work is done in the best interest of the animals, and we must realize that in certain severe cases, euthanasia is more humane for the suffering animal than all other options.

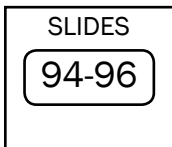
Part 8: Pets in Disaster

Time: 5 minutes

Focus: Identify where to take pets during a disaster, how to create a first aid kit, and reliable pet identification



This section will identify where to take pets during a disaster, how to create a first aid kit, and reliable pet identification. It is important to learn these issues so that you can be better prepared for emergencies, direct pet owners during emergencies, and locate missing pets after a disaster.



Where can pets go during an emergency? There are many shelters located across Florida. Florida Pet Friendly.com lists shelters (by county) where people can stay with their pets if they must evacuate their area. Requirements for each shelter are also listed. The website can be found at the following URL:

<http://floridapetfriendly.com/shelters.htm>

First Aid kits for pets should be made up in advance of an emergency. A good list of supplies can be found at the following URL:

<http://www.canismajor.com/dog/fstaidk.html>

Pet Identification can be a major factor in reuniting lost pets with their owners. During emergencies, many pets get displaced/separated from their owners. Many times they are sadly never reunited. A simple and very effective precaution is called “microchipping”, where a small electronic microchip is placed under the skin of the pet. This technology is considered the best way to help reunite displaced animals with their owners.

Part 9:
Highlight Resources

Time: 5 minutes

Focus: Identify key resources that participants can easily access for additional information

The following sources of information, including agencies, may be helpful.

- The American Veterinary Medical Association (AVMA), established in 1863, is a not-for-profit association representing more than 76,000 veterinarians working in private and corporate practice, government, industry, academia, and uniformed services. Information on animal welfare and euthanasia can be found at: <http://www.avma.org/issues/default.asp>
 - Animal Management in Disasters. Heath, Sebastian E. Ph.D., DVM., Mosby, Inc, 1999.
 - Disaster Planning Tips for Pets, Livestock and Wildlife. Federal Emergency Management Agency publication, June 2002.
 - Extension Disaster Education Network (EDEN) is a collaborative multi-state effort by Extension Services across the country to improve the delivery of services to citizens affected by disasters. This site serves primarily Extension agents and educators by providing them access to resources on disaster mitigation, preparedness, response, and recovery that will enhance their short- and long-term programming efforts.
 - Florida Agricultural Law Enforcement. The Office of Agricultural Law Enforcement is dedicated to protecting Florida's agriculture and its consumers through professional law enforcement. <http://www.fl-aglaw.com/>
 - Florida Dept. of Agriculture and Consumer Services (FDACS). <http://www.doacs.state.fl.us>
 - Florida Animal Disease Control http://www.doacs.state.fl.us/ai/adc/adc_main.shtml
 - Florida Dept. of Community Affairs, Div. of Emergency Management. <http://www.floridadisaster.org>
 - Florida Pet Friendly: Florida emergency shelters where you can stay with your pet if you must evacuate from your home during hurricanes or disasters. <http://www.floridapetfriendly.com/pet-friendly-hurricane-shelters.htm>
 - Guidelines for the Development of a Local Animal Care Plan in Emergencies, Disasters, and Evacuations. Heath, Sebastian E. Ph.D. D.V.M., Purdue University, School of Veterinary Medicine.
-

- Homeland Security <http://www.dhs.gov/index.shtm>
 - Humane Society of United States (HSUS), Cat First Aid Kit: http://www.hsus.org/pets/pet_care/cat_care/keys_to_a_healthy_cat/your_cats_firstaid_kit.html
 - National Agricultural Safety Database (NASD), The information contained in NASD was contributed by safety professionals and organizations from across the nation and provides a national resource for the dissemination of information. <http://www.cdc.gov/nasd/>
 - o Animal Handling Safety
<http://www.cdc.gov/nasd/docs/d001801-d001900/d001823/d001823.html>
 - o Fleas
<http://www.cdc.gov/nasd/docs/d001201-d001300/d001253/d001253.html>
 - o Preparing to Evacuate Your Farm, Safety Measures When Flooding is Expected
<http://www.cdc.gov/nasd/docs/d001401-d001500/d001487/d001487.html>
 - o Things to Know about Pet Grooming and Pesticides
<http://www.cdc.gov/nasd/docs/d000901-d001000/d000986/d000986.html>
 - Pet First Aid Kit – list of supplies can be found at the dog owners website: <http://www.canismajor.com/dog/fstaidk.html>
 - State Veterinarian Office contact information for each state. <http://www.aphis.usda.gov/vs/sregs/official.html>
 - United States Dept. of Agriculture (USDA). <http://www.usda.gov>
 - University of Florida Institute for Food and Agricultural Sciences Extension publication resource (EDIS) offers many fact sheets for veterinary and animal health issues. http://edis.ifas.ufl.edu/Departement_Veterinary_Medicine
 - University of Florida IFAS Extension Disaster Handbook. <http://disaster.ifas.ufl.edu>
 - USDA–APHIS Veterinary Services publication, “Animal Health Hazards of Concern During Natural Disasters”(Feb. 2002). This publication aims to “describe some of the natural disasters that have occurred in the U.S. during recent years and to review some infectious and noninfectious hazards that are perceived to be related directly to natural disasters.” http://www.aphis.usda.gov/vs/ceah/EmergingAnimalHealthIssues_files/hazards.PDF
 - World Organization for Animal Health (OIE). <http://oie.int>
-

Part 10: Summary and Wrap-Up

Time: 5 minutes

Focus: Review the learning objectives that have been accomplished and encourage a commitment to SART

SLIDE

97

You and your audience have had a busy and educational two hours, but it is almost over. Prior to answering general questions, provide a summary to the participants of what they have just learned.

In Summary, let us keep in mind the basic principles that we have learned:

1. In an emergency, your safety is of the utmost importance.
2. Prevention and preparation are the keys.
3. Providing animals with adequate shelter, water, and food is critical in the immediate aftermath of an emergency.
4. Treating injured animals may not be feasible without help from trained professionals.

It is recommended that you summarize the 7 learning objectives that were covered during the unit. Go over each and make sure that the participants understand each of the objectives. If not, briefly cover the important points for that objective.

1. Define emergency first aid for cats and dogs
2. Explain the health and safety priority of personnel
3. Describe how to survey and evaluate emergency situations
4. Identify appropriate handling techniques
5. Explain the vital signs for cats and dogs, and their measurement
6. Recognize trauma types and the appropriate treatment procedures
7. Identify key resources available for more information

SLIDE

97

Thank the audience for their attention and participation. Congratulate them for their commitment to the SART endeavor and on their desire to be part of the solution.

At this point in the program, you may choose to have the participants take the Post-Test provided in the resources section of this Lesson Plan. Remember to review the answers to the test questions after all participants have completed the test. It may be most beneficial to review these as a group in order to maxi-

mize the educational component.

A content specific Evaluation is provided in the Resources section of this Lesson Plan. The generic Evaluation available in the Toolkit for Planning a Community Based SART Training Event can be utilized as well. As the presenter, you should decide which evaluation best meets the needs of your program. Please have the participants complete an evaluation at the conclusion of this unit. Encourage participants to be as honest and forthright as possible as it helps you, the presenter, make adjustments to future presentations.

Participant's Evaluation of *Emergency First Aid for Cats and Dogs*

Please circle the number that best expresses your opinions about the following statements.

		FULLY DISAGREE	DISAGREE	NEUTRAL	AGREE	FULLY AGREE
1.	The training unit's format was appropriate.	1	2	3	4	5
2.	The information presented was useful to me.	1	2	3	4	5
3.	The time it took to complete this unit was acceptable.	1	2	3	4	5
4.	The PowerPoint slides accurately presented the information.	1	2	3	4	5
5.	I can explain the health and safety priority for personnel.	1	2	3	4	5
6.	I can describe how to survey and evaluate emergency situations.	1	2	3	4	5
7.	I can identify appropriate handling techniques.	1	2	3	4	5
8.	I can explain the vital signs for cats and dogs and their measurement.	1	2	3	4	5
9.	I can recognize trauma types and the appropriate treatments.	1	2	3	4	5
10.	I can define emergency first aid for cats and dogs.	1	2	3	4	5
11.	We welcome your comments about this program:					

Please use the back of this sheet for any further comments.

Emergency First Aid for Cats and Dogs Participant Pre-Test

This pre-test is intended to gauge the level of knowledge that you have before participating in the *Emergency First Aid for Cats and Dogs*. Please answer all of the following questions to the best of your ability.

1. Whose safety is of the highest importance during an emergency? Circle one.

Dog Cat Human caretaker Reptiles

2. When surveying an emergency situation involving a dog, name two “body language” warning signs that dogs may exhibit showing that the dog could be dangerous.

3. _____ can be useful for controlling the jaws and decreasing the risk of being bitten.

4. Breathing rates for cats and dogs vary. A panting cat is a happy cat. True or False.

5. What organization keeps information listings for pet emergency shelters across Florida?

6. What are the ABCs of CPR? Circle three.

Airway Beats Breathing Circulation Counting

7. _____ is the action of killing an animal for reasons considered to be merciful, and may be the most humane alternative when dealing with seriously ill or injured animals.

8. Name two unacceptable methods of euthanasia that are prohibited by Florida State law.

9. _____ should be consulted before issuing any drugs/medications to injured or sick animals.

10. _____ can manifest themselves by lameness, swelling, and abnormal limb position. Occasionally, they will illustrate themselves with bruising or protruding bones.
-

Emergency First Aid for Cats and Dogs Participant Post-Test

This post-test is intended to gauge the level of knowledge that you have before participating in the *Emergency First Aid for Cats and Dogs*. Please answer all of the following questions to the best of your ability.

1. Whose safety is of the highest importance during an emergency? Circle one.

Dog

Cat

Human caretaker

Reptiles

2. When surveying an emergency situation involving a dog, name two “body language” warning signs that dogs may exhibit showing that the dog could be dangerous.

3. _____ can be useful for controlling the jaws and decreasing the risk of being bitten.

4. Breathing rates for cats and dogs vary. A panting cat is a happy cat. True or False.

5. What organization keeps information listings for pet emergency shelters across Florida?

6. What are the ABCs of CPR? Circle three.

Airway

Beats

Breathing

Circulation

Counting

7. _____ is the action of killing an animal for reasons considered to be merciful, and may be the most humane alternative when dealing with seriously ill or injured animals.

8. Name two unacceptable methods of euthanasia that are prohibited by Florida State law.

9. _____ should be consulted before issuing any drugs/medications to injured or sick animals.

10. _____ can manifest themselves by lameness, swelling, and abnormal limb position. Occasionally, they will illustrate themselves with bruising or protruding bones.
-

Answer Key to *Emergency First Aid for Cats and Dogs* Pre- and Post-Tests

1. Your safety is the most important. The primary objective during any emergency is to insure the safety of human responders. This is especially true when working around cats and dogs in times of stress. You may be trying to help animals in need, but you are of no help to them if you yourself become injured or killed.
2. When surveying the situation and the animal, there are varying warning signs that can be observed. These signs will help to give us a better understanding of how to proceed.

Warning signs for dogs include:

- Body language
 - o Growling or barking
 - o Hair standing up on back or shoulders
 - o Snarling
 - o Tail may be wagging or tucked under the body
 - o Ears straight back
 - Submission
 - o Dog crouches or assumes a submissive posture (laying down with belly exposed)
 - o Urination
 - o Lick profusely
 - o A dog that is fearful yet submissive may bite if you force the situation
3. Muzzles can be useful for controlling the jaws and decreasing the risk of being bitten.
 4. Breathing rates for dogs and cats vary. A normal range for dogs is 10-30 breaths/minute while cats respire at 20-30 breaths/minute. Under extreme conditions dogs can breathe at up to 200 breaths/minute, while cats can go up to 300 pants/minute. Panting should not normally occur with a cat. If this is noticed start to worry!
 5. Where can pets go during an emergency? There are many shelters located across Florida. Florida Pet Friendly.com lists shelters (by county) where people can stay with their pets if they must evacuate their area. Requirements for each shelter are also listed. The Web site can be found at the following URL: <http://floridapetfriendly.com/shelters.htm>
-

6. Surveying the emergency victim can follow the “ABC’s of CPR”:

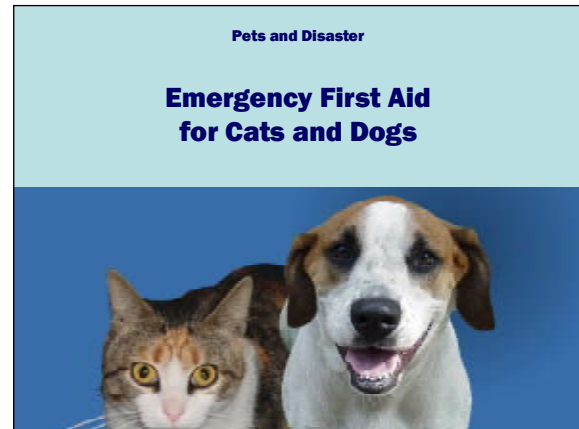
ABCs of CPR

Airway	Is there an open airway?
Breathing	Is the animal breathing?
Circulation	Is there a heartbeat and a pulse?

7. Euthanasia is the action of killing the animal for reasons considered to be merciful, and may be the most humane alternative when dealing with seriously ill or injured animals.
8. Unacceptable methods of euthanasia include the following which are forbidden under Florida law (Florida Statutes 828.12): Manually applied blunt trauma to the head, such as a large hammer, Injection of any chemical substance not labeled for use for euthanasia, Injection of air into a vein, Electrocuting, as with 120 or 220 volt electrical power.
9. A veterinarian should be consulted before issuing any drugs/medications to injured or sick animals. Most drugs can only be given by prescription, and others are restricted for administration by veterinarians only.
10. Fractures can manifest themselves by lameness, swelling, and abnormal limb position. Occasionally they will illustrate themselves with bruising or protruding bones.
-


PowerPoint Slides

Slides 1-6



Emergency First Aid for Cats and Dogs


Prepared by
Amy Stone
 Clinical Assistant Professor – Small Animal Surgery
 Department of Small Animal Clinical Sciences
 University of Florida, College of Veterinary Medicine / IFAS

 State Agricultural Response Team 3

Learning Objectives


After completing this training activity, participants should:

- Describe ways to practice Priority #1 – Prevent Injury to Yourself
- Understand the stages of rendering treatment that represent best practice, including:
 - Describe how to survey and evaluate the emergency situation
 - List appropriate handling techniques
 - List vital signs of dogs and cats and how they are measured
 - List and recognize types of trauma
 - Recognize which first aid procedures are appropriate to type of trauma

 State Agricultural Response Team 4

Primary Objective


- When assisting dogs and cats during an emergency situation
 - Your safety is ultimately the highest priority!!!
 - Do not endanger yourself or fellow first responders to attempt heroic rescue measures for animals

 State Agricultural Response Team 5

This Presentation is Intended for...

- Good Samaritans
- Emergency Medical Professionals
- First Responders
- No Matter the level of experience, remember to seek veterinary advice whenever possible!




 State Agricultural Response Team 6

PowerPoint Slides

Slides 7-12

Priority #1 -- Avoid Injury to Yourself

- Animals in emergency situations
 - Nervous, anxious, possibly injured
 - Unpredictable
 - Dangerous!!!



State Agricultural Response Team 7

Avoiding Injury to Yourself

- Dogs
 - Can bite causing crushing injury
 - Can scratch causing skin injury
 - Both bites and scratches can lead to bleeding and infection



State Agricultural Response Team 8


Avoiding Injury to Yourself

- Cats
 - Can bite causing puncture, bleeding and serious infection
 - Scratch leading to bleeding and infection
 - They are very flexible and can be difficult to restrain without getting scratched or bitten
 - If you are scratched or bitten by a cat, contact a medical professional immediately!



State Agricultural Response Team 9


Survey and Evaluate the Emergency



State Agricultural Response Team 10

Survey the Emergency Situation

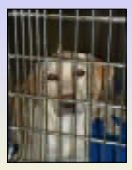
- Avoid becoming a victim; always survey for potential hazards
 - Oncoming traffic
 - Downed power lines
 - Hazardous materials
 - Dangerous or venomous wildlife



State Agricultural Response Team 11

Survey the Emergency Victim

- Approaching an Injured Dog or Cat
 - Approach very slowly
 - Approach softly as to avoid startling the animal
 - Lower your body so that you are not towering over them – standing at full height could be interpreted as a threat
 - Do not make direct eye contact with the animal or stare directly




State Agricultural Response Team 12

PowerPoint Slides

Slides 13-18

Survey the Emergency Victim

- Keep an eye on the animal's posture and expressions
 - Face, ears, tail, fur and body
- Allow the animal to smell the back of your hand
 - WATCH for reactions carefully
 - Never make quick or sudden movements




State Agricultural Response Team 13

Emergency Triage

- When presented with the situation, the animal that is most critical but with the best chance of living should be attended to first

Severity of injury ↑	Critical injury Poor chance	Critical injury Good chance
	Injury Poor chance	Injury Good chance
	Chance of survival →	



State Agricultural Response Team 14

Warning Signs -- Dogs

- Body Language Signs
 - Growling
 - Hair standing up (back, shoulders)
 - Snarling
 - Tail may be wagging or tucked under the body
 - Ears straight back
- Submission
 - Dog crouches and assumes submissive posture (lays down with belly exposed), may urinate or lick profusely
 - A fearfully submissive dog can become a biting dog if you force the situation



State Agricultural Response Team 15



Warning Signs -- Cats

- Body Language Signs (Aggressive/Fearful)
 - Ears flattened
 - Salivating or spitting
 - Back may be arched
 - Hair is standing on end
 - Hissing




State Agricultural Response Team 16


Handling and Transportation

State Agricultural Response Team 17

Handling Techniques

- Gloves
 - Thick gloves may cause a loss of dexterity with small animals
 - Latex or vinyl gloves should be worn at all times when handling injured animals
- Dogs: Leashes (leather, nylon or canvas – no chain-link)
 - Make a large loop by passing the end you normally connect to the collar through the hole in the handle
 - Standing just behind the animal or to the side, drop the loop over the neck and tighten




State Agricultural Response Team 18

PowerPoint Slides

Slides 19-24

Handling Techniques

- **Cats: Towels or Blankets**
 - Be aware of cat's position at all times
 - Drop towel while standing well over cat
 - Grasp scruff of neck and wrap towel around cat's body
- **Cats or Small Dogs: Boxes**
 - Cats will often crawl into them for comfort
 - Then you can use the towel technique
 - This may also work for small dogs



State Agricultural Response Team 19

Handling Techniques – Muzzles

- **May be dangerous to muzzle these situations:**
 - Vomiting
 - Coughing
 - Having difficulty breathing
- **Muzzles may be necessary to treat injured animals**
 - Use soft nylon or leather
 - There are pre-made muzzles for cats and dogs with short noses





State Agricultural Response Team 20

Making a Home-Made Muzzle

If needed you can make a muzzle that can be used for dogs with the exception of those with short noses.

1. Start with 18" of material, such as gauze, stocking, neck-tie, soft rope or a piece of soft cloth
2. Make the beginnings of a knot into a loop that can be placed over the animal's nose

Note: Keep enough space between you and animal's mouth so that the animal can't turn and bite you.





State Agricultural Response Team 21

Making a Home-Made Muzzle

3. Tighten the loop down on top of the nose, but not so tight that the animal can't breath
4. Pull the ends of the material down each side of the face, cross under the chin and bring the ends back behind the ears
5. Tie the loose ends back behind the ears

Note: For short-nosed dogs and cats, after steps 1-5, take one end of the loop and pass it under the nose loop and tie to the other end around the neck to secure onto the nose



State Agricultural Response Team 22

Restraint Techniques – Dog

- **Headlock – Dog Standing**
 - Stand or kneel with your chest at dog's side
 - Place forearm under the dog's neck and bring the arm up the other side of the neck (around the head)
 - Lock your forearm under your head
 - Place the other arm over or under the animal's belly

State Agricultural Response Team 23

Restraint Techniques – Dog

- **Lying on their side**
 - Stand with your body beside dog, facing dog
 - Reach over dog and then back under dog; take hold of legs closest to your body
 - Slowly pull the legs up and around the dog, forcing to lay on its side. As the animal drops toward the ground, take care not to let the head hit the floor
 - Hold front and hind legs straight out, thus preventing animal from standing
 - Use forearm closest to animal to push neck to the ground



State Agricultural Response Team 24

PowerPoint Slides

Slides 25-30

Restraint Techniques -- Cat

- **Lying on their side**
 - The same technique as for the dog with some variation
 - Instead of pushing the neck toward the ground with the forearm, grasp the loose skin behind the neck (the scruff) and hold firmly
- **Scruff in a sitting position**
 - Grasp and hold firmly a large amount of the scruff
 - Using the other hand, hold the cat's body in a sitting position




Warning: Some cats are better managed with minimal restraint. They can actually become harder to handle if restrained.

 State Agricultural Response Team 25

Carrying and Transporting -- Dog

- **Small (less than 25 pounds)**
 - Dog can be carried in box or carrier
 - Alternatively, the dog can be carried in a person's arms
 - Cradle the dog with your arms
 - Place your hand around the dog's front legs, with two or three fingers between the legs
 - Hold the legs as you walk
 - Keep the injured side against your body
- **Large (25 pounds or more)**
 - Place one arm under or around the neck
 - Place the other behind the rear legs or under the belly if you suspect a hind-limb injury

 State Agricultural Response Team 26

Carrying and Transporting -- Cat


- **Box or carrier**
 - Ideal way to transport a cat
 - They frighten easily and may jump away from you
- **Arms**
 - Use the small dog technique
 - Alternatively, grab the scruff and support the cat's body with your other hand




 State Agricultural Response Team 27

Zoonoses

- **Zoonoses are diseases of animals transmissible to humans**
 - Ringworm
 - Scabies
 - Rabies
- **Be mindful of these while aiding animals in emergency situations**
- **In general, CPR is not likely to cause human illness**



 State Agricultural Response Team 28


Vital Signs of Dogs and Cats




 State Agricultural Response Team 29

Normal Vital Signs

- **Heart Rates and Pulses**
 - Heartbeat can be felt on the left side of the chest just behind the bend in the left elbow
 - If you place your hand over this area, you should be able to feel and count heartbeats



 State Agricultural Response Team 30

PowerPoint Slides

Slides 31-36

Normal Vital Signs


- **Heart Rates and Pulses: Femoral or inner thigh pulse**
 - Place two fingers as high as possible on the inside of either back leg (use light touch)
 - Feel for pulse in middle of leg about half way between front and back of leg (there is a small recess where the blood vessels run)



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Normal Vital Signs

- **Just below the wrist (carpus)**
 - Locate the area just above middle pad on underside of either front paw
 - Lightly place middle and index fingers at this point and feel for pulse
- **Just below the ankle (hock)**
 - Locate the area just above middle pad on underside of either rear paw
 - Lightly place middle and index fingers at this point and feel for pulse



State Agricultural Response Team 32

Normal Heart Rate


Dog	Small, miniature, or toy breed (30 pounds or less)	100 - 160 bpm
	Medium to large breed (over 30 pounds)	60 - 100 bpm
	Puppy (until one year old)	120 - 160 bpm
Cat		160 - 220 bpm

* bpm – beats per minute

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Breathing Rate

- **Dogs**
 - 10-30 breaths/minute
 - Up to 200 pants per minute
- **Cats**
 - 20-30 breaths/minute
 - Up to 300 pants per minute



State Agricultural Response Team 34

Panting

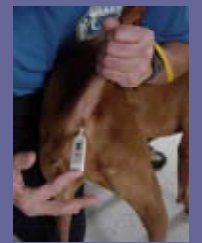


Worry if a cat is panting!!

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Body Temperature

- Use a pediatric rectal or digital thermometer
- Lubricate the thermometer with a water-based lubricant or petroleum jelly



State Agricultural Response Team 36

PowerPoint Slides

Slides 37-42

Body Temperature


Normal body temperatures are:

Dogs	100.0 - 102.8 °F
Cats	100.5 - 102.5 °F

Temperatures under **100°F** and over **104°F** should be considered an emergency

State Agricultural Response Team 37

Mucous Membrane Color



- Looking at the color of the oral tissues is a good way to determine if the animal is getting oxygen
- If the dog is pigmented, you can use the membranes in the lower eyelid by gently pulling it down
- The normal color is pink!
- Blue, pale, yellow, brick red or brown mucous membranes is an **emergency**

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Capillary Refill Time

- This is the time that it takes for the gums to return to their normal pink color after you press them
- As you press, the membrane should turn white
- Then it should only take 1-2 seconds for pink color to return
- This is a good way to assess circulation
- If capillary refill time is more than 3 seconds, it is an **emergency**




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Hydration

Pull up on the skin at the back of the animal's neck

It should go back into place immediately (1-2 seconds)

If not the animal is likely dehydrated.



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First Aid for Dogs and Cats



State Agricultural Response Team 41

Recognizing an Emergency

- Trauma (Falls, hit by vehicle, gun shot, other punctures/cuts)
- Difficulty breathing
- Seizures
- Excessive bleeding (cannot be stopped by applying pressure)
- Snake bites
- Heat stroke or hypothermia
- Poisoning
- Shock
- Burns
- Drowning
- Unconsciousness
- Others



State Agricultural Response Team 42

PowerPoint Slides

Slides 43-48


Survey the Emergency Victim

ABCs of CPR

Airway Is there an open airway?

Breathing Is the animal breathing?


Circulation Is there a heartbeat and a pulse?



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Survey the Emergency Victim






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Survey the Emergency Victim

- Mucous Membrane Color ?
- Capillary Refill Time ?
- Any evidence of bleeding ?
- Animal's level of consciousness ?


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Cardiopulmonary Resuscitation

- Method to treat an animal that is not breathing and/or has no heartbeat
- It involves rescue breathing (mouth-to-nose resuscitation) *and* chest compressions
- The ABC's or basic principles (airway, breathing and circulation) must be followed


Warning: CPR does not always work even when performed by an experienced veterinarian. If your attempt fails, know that you did everything that you could to save an animal's life.



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Establish an Airway



- Check to see if the throat and mouth are clear of foreign objects
- To clear the airway, gently tilt the head back and extend the neck
- Pull the tongue between the front teeth
- Use your finger to remove any material or liquid from the airway

Do not put your finger into the mouth of a conscious animal; you will be bitten



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Establish an Airway




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PowerPoint Slides



Slides 49-54

Breathing


- If the animal is breathing, let them continue on their own. If not, then do the following:
 - Medium and large dogs (over 30 pounds): seal animal's mouth and lips by placing your hands around its lips
 - Gently hold the muzzle closed
 - Cats and small dogs (under 30 pounds): your mouth will seal the mouth and lips – no need to seal with hands
 - Place your mouth over the animal's nose and forcefully exhale
 - Give 4-5 breaths rapidly, then check if animal is breathing
 - Continue up to 20 minutes. After each breathing session, check if the animal can breath without assistance

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Artificial Breathing

Artificial breathing for medium or large dogs

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Artificial Breathing




Artificial breathing for small dogs and cats


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Breathing Rates

Use the following breathing rates:

Small dog or cat:	20 – 30 breaths per minute
Medium or large dog:	20 breaths per minute


Note: If you have access to oxygen for a distressed animal, use it.

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Circulation – Small Dog or Cat

If no pulse or no detectable heartbeat, perform chest compressions

- Lay animal on its right side
- Kneel next to animal with chest facing you
- Place palm of one of your hands over animal's ribs at point where elbow touches chest
- Place other hand around back of and underneath animal
- Compress chest $\frac{1}{2}$ - 1 inch (elbows should be locked)
- Alternate with breaths
 - 5 compressions for each breath and check for a pulse
 - If more than one person, each take a position and alternate at 3 compressions for each breath, then check for pulse

 State Agricultural Response Team 53

Cardiac Compressions




 State Agricultural Response Team 54

PowerPoint Slides

Slides 55-60

Cardiac Compressions

- **Medium to Large Dogs (30 – 90 pounds)**
 - Stand or kneel with the animal's back towards you
 - Extend arms at the elbows and cup your hands over each other
 - Compress the chest at the point where the left elbow lies when pulled back to the chest
 - Compress about 1-3 inches with each compression
- **Alternate with breathing**
 - If alone, do 5 compressions for each breath, then check for pulse
 - If two people, perform 2 – 3 compressions for each breath, then check for a pulse



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Cardiac Compressions





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Cardiac Compressions

- **Giant Dogs (Over 90 pounds)**
 - Use the same technique for medium to large dogs
 - If alone, do 10 compressions for each breath, then check for a pulse
 - If two people, do 6 compressions for each breath, then check for a pulse

Note: Do not assume there is no heart rate or pulse because an animal is not breathing. Always check for a heartbeat before starting chest compressions.




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Shock

Shock results from decreased blood and oxygen flow to tissues and organs. Symptoms include:

- **Increased heart rate**
 - Pulse may be bounding or, in later stages, weak
- **Increased respiratory rate**
- **Delayed capillary refill time**
- **Decreased body temperature/cool feet**
 - If in septic shock (infection), temperature may be elevated
- **Weakness**
- **Disorientation**
- **Rescue workers must focus on stopping bleeding, warming the animal and the ABC's**





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End Stage/Terminal Shock

- **When the body can no longer compensate for decreased oxygen and blood to vital organs**
- **Cardiac arrest likely to occur soon**
 - Assess ABC's of CPR
 - Control bleeding
 - Warm animal
 - Elevate hind end slightly (unless broken back is suspected)






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Bleeding

- **Check ABC's of CPR**
- **Apply direct pressure with gauze or cloth**
- **Add more cloth if material gets soaked**
- **Do not wipe**
- **Secure with tape**

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PowerPoint Slides

Slides 61-66

Bleeding Pressure Points

If previous techniques are not working, use bleeding pressure point technique


- Pressure points are areas from where the blood vessels travel
- Apply firm and even pressure to appropriate pressure points

Site of bleeding	Pressure point
Forearm	Armpit
Hind limb	Inner thigh
Head	Lower jaw Place three fingers at the base of the lower jaw on the same side and below where bleeding is occurring
Neck	Groove next to windpipe Place three fingers in groove next to wind pipe (round and hard) on side of neck where bleeding is occurring

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Bleeding Points

- When using pressure points, you must release pressure every 10 minutes (for a few seconds)
 - Prevents permanent damage to limb
- When using head and neck pressure points, take care not to obstruct breathing



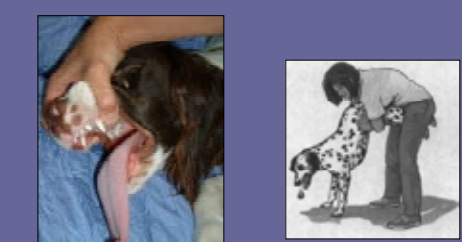
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Choking

- Open animal's mouth and sweep from side to side to see if object can be dislodged
- If animal is small enough, suspend animal by the hips with head hanging down
- If animal is bigger, place your arms around animal's waist
- Close your hands together to make a fist just behind first rib
- Compress the abdomen by pushing up 5 times
 - Alternate with performing 5 breaths (any air around the object is better than none)
- As a last resort, administer a sharp blow to the back between the shoulder blades
 - Then repeat abdominal compressions

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Choking



State Agricultural Response Team 64

Fractures

- Lameness
- Swelling
- Abnormal limb position
- +/- bruising
- +/- protruding bone



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Fractures


- If a piece of bone is sticking out, wash the area with water or saline
 - Loosely place a dressing over the wound and wrap with tape
- If the animal can't be kept completely still for transport, a splint may be applied
 - Place a rigid structure along each side of the fractured limb (rolled paper, stick, pen, etc)
 - Hold with tape in multiple locations, but do not wrap too tightly

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PowerPoint Slides

Slides 67-72

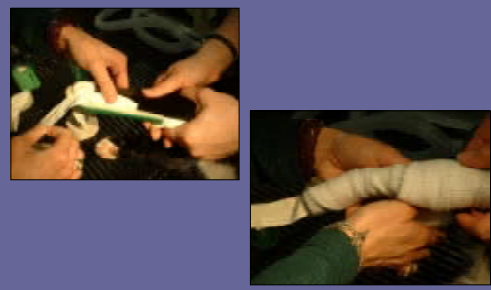
Fractures



Splinting should always include the joints below and above the fracture site. Otherwise, the splint can cause more harm.

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Fractures



State Agricultural Response Team 68


Fractures



If animal is struggling or you can transport it in a box or carrier, do not attempt to splint. Splinting can worsen a fracture.

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Puncture Wound and Lacerations



- Remove foreign object
- Wash area with saline
 - Add one teaspoon of salt to a quart of warm water
- Dry foot
- Bandage

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Wound and Lacerations

- Check ABC's of CPR
- Check for shock
- Apply sterile lube
 - To keep hair out of wound
- Clip hair around wound area
 - Clippers or razor blade
- Flush with saline
- Apply a bandage



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Near Drowning



- Check ABC's of CPR
- For unconscious animals, hold the animal upside down and allow water to come out airway (nose or mouth)
- CPR as needed
- Treat for shock (keep quiet and warm)

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PowerPoint Slides

Slides 73-78

Eye Injury


Foreign Objects in the Eye

- Swelling, squinting, pawing or obvious object
- Gently wash the eye with large amounts of tap water or sterile eye wash
- Inspect closely to confirm that all of the object has been removed



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Eye Out of Socket



- Flush with sterile eyewash
- Cover the eye with a moistened gauze
- Blind the opposite eye
- Do not put a leash around the animal's neck
- Get veterinary attention as quickly as possible

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Embedded Foreign Bodies

DO NOT REMOVE IMPAIRED FOREIGN BODIES

- Roll up gauze or other material that can be used to stabilize the object in place
- Use tape or an object that fits over the foreign body to make a brace to hold foreign body still
- If the object is long, make it shorter without removing it
- Get veterinary assistance as soon as possible



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Foreign Bodies – Fish hooks




Do not pull or cut the line!

- Push the hook through the exit wound
- Cut the barb off using a wire cutter
- Pull the hook out from the direction that it entered the skin
- Treat the resulting puncture like a wound

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Heat Stroke


- Collapse
- Vomiting or bloody diarrhea
- Excessive salivation
- Increased heart rate
- Fast or difficult breathing
- Red mucous membranes
- Capillary refill time may be prolonged or very quick
- Body temperature 104°F or above



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Heat Stroke

- Move to cool or shaded area
- Soak in or with cool (**Not iced**) water
- Place towels around neck, head, abdomen and feet
- **Discontinue cooling once the temperature reaches 103°F**



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PowerPoint Slides

Slides 79-84

Snake Bite




- ABC's of CPR/Check for shock
- Keep as still and calm as possible (carry the animal)
- **Do not cut wound or suck venom**
- **Do not apply ice or a tourniquet**
- Seek medical attention as soon as possible

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Toxin Ingestion

Signs of potential toxin ingestion

- Vomiting or diarrhea
- Seizures or abnormal mental state (hyperexcitable, depressed)
- Excessive salivation
- Ulcers in mouth
- Bleeding from mouth or any body cavity



Cat Fanciers' Association: CFA Health Committee

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Seizures



- Animals may have seizures from toxin ingestion or other causes
- Protect from harm due to surroundings
- **Do not put hand in the mouth or try to pull on the tongue**

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Toxin Ingestion



- Check the ABC's of CPR
- Check the mucous membrane color, capillary refill time, animal's mental state
- Check the surroundings for possible poison or toxin
- If possible, call the National Animal Poison Control Center 1-800-548-2423 or 1-900-680-0000

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Toxin Ingestion


If advised to induce vomiting, give household (3%) hydrogen peroxide orally (animals only!)

- 1 teaspoon per 10 pounds of body weight
- This can be repeated every 10-20 minutes for 3 - 4 doses
- Ipecac should not be used in dogs or cats



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Burns



- Check for shock
- Flush chemical burns profusely with water
- Apply cool water or cool compresses to burned area
- Apply sterile nonstick dressing
- **Do not immerse in water or ice!**
- **Do not apply butter or ointment!**

State Agricultural Response Team 84

PowerPoint Slides


Slides 85-90

Remember Emergency Triage

When presented with the situation, the animal that is **most critical** but with the **best chance** of living should be attended to first

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Euthanasia



State Agricultural Response Team 86

Treatment or Euthanasia

- Criteria to be included in the decision making should include
 - Pain and distress of the animal
 - Likelihood of recovery
 - Diagnostic information
 - Welfare for the animal, humane considerations

State Agricultural Response Team 87

Euthanasia

- In some cases, sustained injuries may necessitate humane euthanasia
- Best performed by a veterinarian or under veterinary guidance
- However, such assistance may not be readily available – The person performing a physical method of euthanasia must be well trained for each technique that may be used

www.avma.org/issues/animal

State Agricultural Response Team 88

Important Considerations

- When euthanasia is necessary, always minimize animal distress as much as possible
 - The presence of humans may be reassuring for animals accustomed to human contact (penetrating captive bolt (dogs)/exsanguination in unconscious animals may be preferred)
 - For wildlife, human contact causes fear and greater distress (gunshot may be preferred – gunshot permits the least amount of human contact)

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Aesthetic Concerns

Humane Euthanasia by Gunshot or Penetrating Captive Bolt

- Despite being humane, both are aesthetically displeasing procedures
 - Involuntary movement will occur
 - Exsanguination requires several minutes and is visually uncomfortable to observe
- These procedures should be conducted out of the public view

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PowerPoint Slides

Slides 91-96

Confirmation of Death

- Death should be confirmed by evaluation of the following physical parameters over a period of several minutes
 - Lack of heartbeat
 - A pulse is normally not present under such circumstances
 - Lack of respiration
 - These may be erratic in an unconscious animal
 - Lack of blink reflex
 - Lack of movement over a period of several hours
 - The presence of "rigor mortis"

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Unacceptable Methods of Euthanasia

- The following are forbidden under Florida Law 828.12
 - Manually applied blunt trauma to the head such as a large hammer
 - Injection of any chemical substance not labeled for use as a euthanasia agent
 - Injection of air into a vein
 - Electrocuting

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Pets in Disasters



State Agricultural Response Team 93

Where can pets go?

- Florida Pet Friendly.com
 - <http://floridapetfriendly.com/shelters.htm>
 - Lists shelters (by county) where people can stay with their pets if they must evacuate
 - Requirements for each shelter are also listed



State Agricultural Response Team 94

Pet Disaster First Aid Kit


- Establish a disaster first aid kit before the need arises
 - <http://www.canismajor.com/dog/fstaidk.html>



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Pet Identification

- Microchipping is the best way to reunite animals with their owners after a disaster situation




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PowerPoint Slides

Slides 97-99

Closing Thoughts

- In an emergency, your safety is of the utmost importance
- Prevention and preparation are key
- Providing animals with adequate shelter, water, and food is critical in the immediate aftermath of an emergency
- Treating injured animals may not be feasible without help from trained professionals



State Agricultural Response Team

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References and Helpful Resources

- HSUS Pet First Aid. Bobbie Mammato, DVM, MPH. 1997
- Small Animal First Aid Presentation, Bay Area Animal Response Team. May-li Cuypers, DVM, DACVIM. 2007




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Thank You!

SART Training Media



PowerPoint Slides – Handout Pages

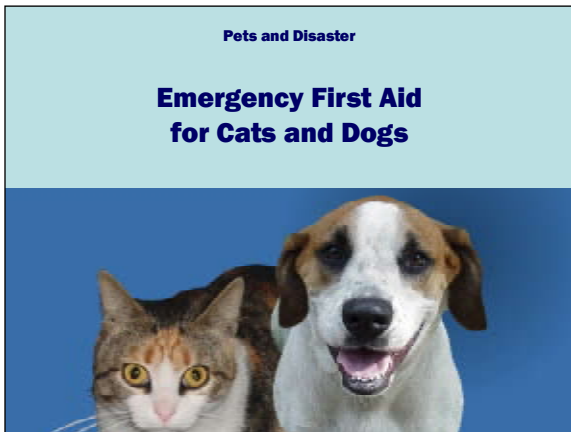
The *Emergency First Aid for Cats and Dogs* PowerPoint slides are reproduced on the following pages at reduced size with space for participant notes.

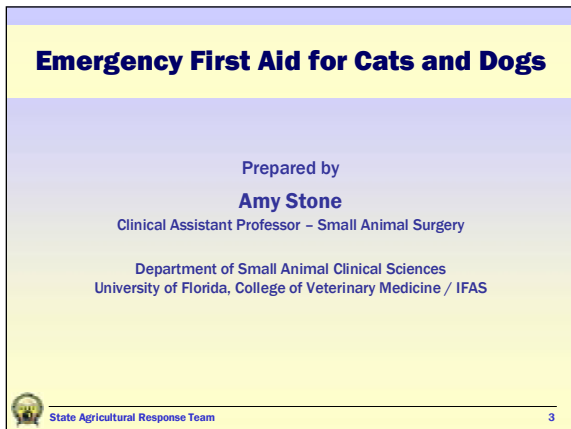
(Also included in the participant workbook for *Evidence Collection and Chain of Custody Issues*, available on the SART Web site:

<www.flsart.org>

Slides 1-3








Slides 4-6

Learning Objectives


After completing this training activity, participants should:

- Describe ways to practice Priority #1 – Prevent Injury to Yourself
- Understand the stages of rendering treatment that represent best practice, including:
 - Describe how to survey and evaluate the emergency situation
 - List appropriate handling techniques
 - List vital signs of dogs and cats and how they are measured
 - List and recognize types of trauma
 - Recognize which first aid procedures are appropriate to type of trauma

 State Agricultural Response Team 4

Primary Objective

- When assisting dogs and cats during an emergency situation
 - Your safety is ultimately the highest priority!!!
 - Do not endanger yourself or fellow first responders to attempt heroic rescue measures for animals

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This Presentation is Intended for...

- Good Samaritans
- Emergency Medical Professionals
- First Responders
- No Matter the level of experience, remember to seek veterinary advice whenever possible!



 State Agricultural Response Team 6

Slides 7-9

Priority #1 – Avoid Injury to Yourself

- **Animals in emergency situations**
 - Nervous, anxious, possibly injured
 - Unpredictable
 - Dangerous!!!



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Avoiding Injury to Yourself

- **Dogs**
 - Can bite causing crushing injury
 - Can scratch causing skin injury
 - Both bites and scratches can lead to bleeding and infection



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Avoiding Injury to Yourself


- **Cats**
 - Can bite causing puncture, bleeding and serious infection
 - Scratch leading to bleeding and infection
 - They are very flexible and can be difficult to restrain without getting scratched or bitten
 - If you are scratched or bitten by a cat, contact a medical professional immediately!



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Slides 10-12

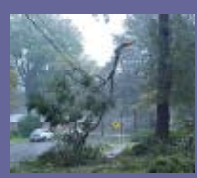
Survey and Evaluate the Emergency



State Agricultural Response Team 10

Survey the Emergency Situation


- Avoid becoming a victim; always survey for potential hazards
 - Oncoming traffic
 - Downed power lines
 - Hazardous materials
 - Dangerous or venomous wildlife



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Survey the Emergency Victim

- Approaching an Injured Dog or Cat
 - Approach very slowly
 - Approach softly as to avoid startling the animal
 - Lower your body so that you are not towering over them – standing at full height could be interpreted as a threat
 - Do not make direct eye contact with the animal or stare directly




State Agricultural Response Team 12

Slides 13-15

Survey the Emergency Victim


- Keep an eye on the animal's posture and expressions
 - Face, ears, tail, fur and body
- Allow the animal to smell the back of your hand
 - WATCH for reactions carefully
 - Never make quick or sudden movements

 State Agricultural Response Team 13

Emergency Triage

- When presented with the situation, the animal that is most critical but with the best chance of living should be attended to first

Severity of Injury ↑	Critical injury Poor chance	Critical injury Good chance
	Injury Poor chance	Injury Good chance
	Chance of survival →	

 State Agricultural Response Team 14

Warning Signs – Dogs

- Body Language Signs
 - Growling
 - Hair standing up (back, shoulders)
 - Snarling
 - Tail may be wagging or tucked under the body
 - Ears straight back
- Submission
 - Dog crouches and assumes submissive posture (lays down with belly exposed), may urinate or lick profusely
 - A fearfully submissive dog can become a biting dog if you force the situation

 State Agricultural Response Team 15

Slides 16-18


Warning Signs – Cats

- **Body Language Signs (Aggressive/Fearful)**
 - Ears flattened
 - Salivating or spitting
 - Back may be arched
 - Hair is standing on end
 - Hissing



State Agricultural Response Team 16

Handling and Transportation



State Agricultural Response Team 17

Handling Techniques

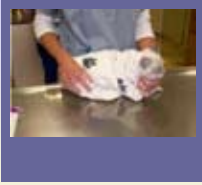
- **Gloves**
 - Thick gloves may cause a loss of dexterity with small animals
 - Latex or vinyl gloves should be worn at all times when handling injured animals
- **Dogs: Leashes (leather, nylon or canvas – no chain-link)**
 - Make a large loop by passing the end you normally connect to the collar through the hole in the handle
 - Standing just behind the animal or to the side, drop the loop over the neck and tighten

State Agricultural Response Team 18

Slides 19-21

Handling Techniques

- **Cats: Towels or Blankets**
 - Be aware of cat's position at all times
 - Drop towel while standing well over cat
 - Grasp scruff of neck and wrap towel around cat's body
- **Cats or Small Dogs: Boxes**
 - Cats will often crawl into them for comfort
 - Then you can use the towel technique
 - This may also work for small dogs



State Agricultural Response Team 19

Handling Techniques – Muzzles

- **May be dangerous to muzzle these situations:**
 - Vomiting
 - Coughing
 - Having difficulty breathing
- **Muzzles may be necessary to treat injured animals**
 - Use soft nylon or leather
 - There are pre-made muzzles for cats and dogs with short noses





State Agricultural Response Team 20

Making a Home-Made Muzzle

If needed you can make a muzzle that can be used for dogs with the exception of those with short noses.

1. Start with 18" of material, such as gauze, stocking, neck-tie, soft rope or a piece of soft cloth
2. Make the beginnings of a knot into a loop that can be placed over the animal's nose

Note: Keep enough space between you and animal's mouth so that the animal can't turn and bite you.


State Agricultural Response Team 21

Slides 22-24

Making a Home-Made Muzzle

3. Tighten the loop down on top of the nose, but not so tight that the animal can't breathe
4. Pull the ends of the material down each side of the face, cross under the chin and bring the ends back behind the ears
5. Tie the loose ends back behind the ears

Note: For short-nosed dogs and cats, after steps 1-5, take one end of the loop and pass it under the nose loop and tie to the other end around the neck to secure onto the nose



State Agricultural Response Team 22

Restraint Techniques -- Dog

- Headlock -- Dog Standing
 - Stand or kneel with your chest at dog's side
 - Place forearm under the dog's neck and bring the arm up the other side of the neck (around the head)
 - Lock your forearm under your head
 - Place the other arm over or under the animal's belly

State Agricultural Response Team 23

Restraint Techniques -- Dog

- Lying on their side
 - Stand with your body beside dog, facing dog
 - Reach over dog and then back under dog; take hold of legs closest to your body
 - Slowly pull the legs up and around the dog, forcing to lay on its side. As the animal drops toward the ground, take care not to let the head hit the floor
 - Hold front and hind legs straight out, thus preventing animal from standing
 - Use forearm closest to animal to push neck to the ground




State Agricultural Response Team 24

Slides 25-27

Restraint Techniques -- Cat

- **Lying on their side**
 - The same technique as for the dog with some variation
 - Instead of pushing the neck toward the ground with the forearm, grasp the loose skin behind the neck (the scruff) and hold firmly
- **Scruff in a sitting position**
 - Grasp and hold firmly a large amount of the scruff
 - Using the other hand, hold the cat's body in a sitting position



Warning: Some cats are better managed with minimal restraint. They can actually become harder to handle if restrained.

State Agricultural Response Team 25

Carrying and Transporting -- Dog

- **Small (less than 25 pounds)**
 - Dog can be carried in box or carrier
 - Alternatively, the dog can be carried in a person's arms
 - Cradle the dog with your arms
 - Place your hand around the dog's front legs, with two or three fingers between the legs
 - Hold the legs as you walk
 - Keep the injured side against your body
- **Large (25 pounds or more)**
 - Place one arm under or around the neck
 - Place the other behind the rear legs or under the belly if you suspect a hind-limb injury

State Agricultural Response Team 26

Carrying and Transporting -- Cat

- **Box or carrier**
 - Ideal way to transport a cat
 - They frighten easily and may jump away from you
- **Arms**
 - Use the small dog technique
 - Alternatively, grab the scruff and support the cat's body with your other hand




State Agricultural Response Team 27

Slides 28-30

Zoonoses

- Zoonoses are diseases of animals transmissible to humans
 - Ringworm
 - Scabies
 - Rabies
- Be mindful of these while aiding animals in emergency situations
- In general, CPR is not likely to cause human illness



State Agricultural Response Team 28


Vital Signs of Dogs and Cats



State Agricultural Response Team 29

Normal Vital Signs

- Heart Rates and Pulses
 - Heartbeat can be felt on the left side of the chest just behind the bend in the left elbow
 - If you place your hand over this area, you should be able to feel and count heartbeats





State Agricultural Response Team 30

Slides 31-33

Normal Vital Signs


- **Heart Rates and Pulses: Femoral or inner thigh pulse**
 - Place two fingers as high as possible on the inside of either back leg (use light touch)
 - Feel for pulse in middle of leg about half way between front and back of leg (there is a small recess where the blood vessels run)

State Agricultural Response Team 31

Normal Vital Signs

- **Just below the wrist (carpus)**
 - Locate the area just above middle pad on underside of either front paw
 - Lightly place middle and index fingers at this point and feel for pulse
- **Just below the ankle (hock)**
 - Locate the area just above middle pad on underside of either rear paw
 - Lightly place middle and index fingers at this point and feel for pulse



State Agricultural Response Team 32

Normal Heart Rate


Dog	Small, miniature, or toy breed (30 pounds or less)	100 - 160 bpm
	Medium to large breed (over 30 pounds)	60 - 100 bpm
	Puppy (until one year old)	120 - 160 bpm
Cat		160 - 220 bpm

* bpm – beats per minute
State Agricultural Response Team 33

Slides 34-36

Breathing Rate

- **Dogs**
 - 10-30 breaths/minute
 - Up to 200 pants per minute
- **Cats**
 - 20-30 breaths/minute
 - Up to 300 pants per minute



State Agricultural Response Team 34

Panting

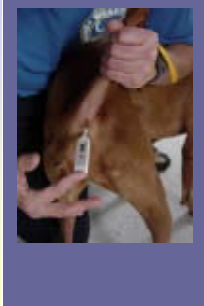


Worry if a cat is panting!!

State Agricultural Response Team 35

Body Temperature

- Use a pediatric rectal or digital thermometer
- Lubricate the thermometer with a water-based lubricant or petroleum jelly



State Agricultural Response Team 36

Slides 37-39

Body Temperature


Normal body temperatures are:

Dogs	100.0 - 102.8 °F
Cats	100.5 - 102.5 °F

Temperatures under **100°F** and over **104°F** should be considered an emergency

State Agricultural Response Team 37

Mucous Membrane Color



- Looking at the color of the oral tissues is a good way to determine if the animal is getting oxygen
- If the dog is pigmented, you can use the membranes in the lower eyelid by gently pulling it down
- The normal color is pink!
- Blue, pale, yellow, brick red or brown mucous membranes is an **emergency**

State Agricultural Response Team 38

Capillary Refill Time

- This is the time that it takes for the gums to return to their normal pink color after you press them
- As you press, the membrane should turn white
- Then it should only take 1-2 seconds for pink color to return
- This is a good way to assess circulation
- If capillary refill time is more than 3 seconds, it is an **emergency**



State Agricultural Response Team 39


Slides 40-42


Hydration

Pull up on the skin at the back of the animal's neck

It should go back into place immediately (1-2 seconds)

If not the animal is likely dehydrated.



 State Agricultural Response Team 40


First Aid for Dogs and Cats




 State Agricultural Response Team 41

Recognizing an Emergency

- Trauma (Falls, hit by vehicle, gun shot, other punctures/cuts)
- Difficulty breathing
- Seizures
- Excessive bleeding (cannot be stopped by applying pressure)
- Snake bites
- Heat stroke or hypothermia
- Poisoning
- Shock
- Burns
- Drowning
- Unconsciousness
- Others



 State Agricultural Response Team 42

Slides 43-45


Survey the Emergency Victim

ABCs of CPR


Airway Is there an open airway?


Breathing Is the animal breathing?

Circulation Is there a heartbeat and a pulse?

 State Agricultural Response Team 43


Survey the Emergency Victim




 State Agricultural Response Team 44

Survey the Emergency Victim

- Mucous Membrane Color ?
- Capillary Refill Time ?
- Any evidence of bleeding ?
- Animal's level of consciousness ?




 State Agricultural Response Team 45

Slides 46-48

Cardiopulmonary Resuscitation


- Method to treat an animal that is not breathing and/or has no heartbeat
- It involves rescue breathing (mouth-to-nose resuscitation) and chest compressions
- The ABC's or basic principles (airway, breathing and circulation) must be followed

Warning: CPR does not always work even when performed by an experienced veterinarian. If your attempt fails, know that you did everything that you could to save an animal's life.




State Agricultural Response Team 46

Establish an Airway



- Check to see if the throat and mouth are clear of foreign objects
- To clear the airway, gently tilt the head back and extend the neck
- Pull the tongue between the front teeth
- Use your finger to remove any material or liquid from the airway

Do not put your finger into the mouth of a conscious animal; you will be bitten



State Agricultural Response Team 47

Establish an Airway




State Agricultural Response Team 48



Slides 49-51

Breathing


- If the animal is breathing, let them continue on their own. If not, then do the following:
 - Medium and large dogs (over 30 pounds): seal animal's mouth and lips by placing your hands around its lips
 - Gently hold the muzzle closed
 - Cats and small dogs (under 30 pounds): your mouth will seal the mouth and lips – no need to seal with hands
 - Place your mouth over the animal's nose and forcefully exhale
 - Give 4-5 breaths rapidly, then check if animal is breathing
 - Continue up to 20 minutes. After each breathing session, check if the animal can breath without assistance

 State Agricultural Response Team 49

Artificial Breathing



Artificial breathing for medium or large dogs

 State Agricultural Response Team 50

Artificial Breathing



Artificial breathing for small dogs and cats

 State Agricultural Response Team 51

Slides 52-54

Breathing Rates

Use the following breathing rates:

Small dog or cat:	20 – 30 breaths per minute
Medium or large dog:	20 breaths per minute

Note: If you have access to oxygen for a distressed animal, use it.

State Agricultural Response Team 52

Circulation – Small Dog or Cat

If no pulse or no detectable heartbeat, perform chest compressions

- Lay animal on its right side
- Kneel next to animal with chest facing you
- Place palm of one of your hands over animal's ribs at point where elbow touches chest
- Place other hand around back of and underneath animal
- Compress chest $\frac{1}{2}$ - 1 inch (elbows should be locked)
- Alternate with breaths
 - 5 compressions for each breath and check for a pulse
 - If more than one person, each take a position and alternate at 3 compressions for each breath, then check for pulse

State Agricultural Response Team 53

Cardiac Compressions




State Agricultural Response Team 54

Slides 55-57

Cardiac Compressions

- **Medium to Large Dogs (30 – 90 pounds)**
 - Stand or kneel with the animal's back towards you
 - Extend arms at the elbows and cup your hands over each other
 - Compress the chest at the point where the left elbow lies when pulled back to the chest
 - Compress about 1-3 inches with each compression
- **Alternate with breathing**
 - If alone, do 5 compressions for each breath, then check for pulse
 - If two people, perform 2 – 3 compressions for each breath, then check for a pulse

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Cardiac Compressions




 State Agricultural Response Team 56

Cardiac Compressions

- **Giant Dogs (Over 90 pounds)**
 - Use the same technique for medium to large dogs
 - If alone, do 10 compressions for each breath, then check for a pulse
 - If two people, do 6 compressions for each breath, then check for a pulse

Note: Do not assume there is no heart rate or pulse because an animal is not breathing. Always check for a heartbeat before starting chest compressions.


 State Agricultural Response Team 57

Slides 58-60

Shock


Shock results from decreased blood and oxygen flow to tissues and organs. Symptoms include:


- **Increased heart rate**
 - Pulse may be bounding or, in later stages, weak
- **Increased respiratory rate**
- **Delayed capillary refill time**
- **Decreased body temperature/cool feet**
 - If in septic shock (infection), temperature may be elevated
- **Weakness**
- **Disorientation**
- **Rescue workers must focus on stopping bleeding, warming the animal and the ABC's**

 State Agricultural Response Team 58

End Stage/Terminal Shock


- **When the body can no longer compensate for decreased oxygen and blood to vital organs**
- **Cardiac arrest likely to occur soon**
 - Assess ABC's of CPR
 - Control bleeding
 - Warm animal
 - Elevate hind end slightly (unless broken back is suspected)




 State Agricultural Response Team 59

Bleeding

- **Check ABC's of CPR**
- **Apply direct pressure with gauze or cloth**
- **Add more cloth if material gets soaked**
- **Do not wipe**
- **Secure with tape**



 State Agricultural Response Team 60

Slides 61-63

Bleeding Pressure Points

If previous techniques are not working, use bleeding pressure point technique


- Pressure points are areas from where the blood vessels travel
- Apply firm and even pressure to appropriate pressure points

Site of bleeding	Pressure point
Forearm	Armpit
Hind limb	Inner thigh
Head	Lower jaw
	Place three fingers at the base of the lower jaw on the same side and below where bleeding is occurring
Neck	Groove next to windpipe
	Place three fingers in groove next to wind pipe (round and hard) on side of neck where bleeding is occurring

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Bleeding Points

- When using pressure points, you must release pressure every 10 minutes (for a few seconds)
 - Prevents permanent damage to limb
- When using head and neck pressure points, take care not to obstruct breathing



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Choking

- Open animal's mouth and sweep from side to side to see if object can be dislodged
- If animal is small enough, suspend animal by the hips with head hanging down
- If animal is bigger, place your arms around animal's waist
- Close your hands together to make a fist just behind first rib
- Compress the abdomen by pushing up 5 times
 - Alternate with performing 5 breaths (any air around the object is better than none)
- As a last resort, administer a sharp blow to the back between the shoulder blades
 - Then repeat abdominal compressions

State Agricultural Response Team 63

Slides 64-66


Choking



State Agricultural Response Team 64

Fractures

- Lameness
- Swelling
- Abnormal limb position
- +/- bruising
- +/- protruding bone



State Agricultural Response Team 65


Fractures

- If a piece of bone is sticking out, wash the area with water or saline
 - Loosely place a dressing over the wound and wrap with tape
- If the animal can't be kept completely still for transport, a splint may be applied
 - Place a rigid structure along each side of the fractured limb (rolled paper, stick, pen, etc)
 - Hold with tape in multiple locations, but do not wrap too tightly

State Agricultural Response Team 66

Slides 67-69

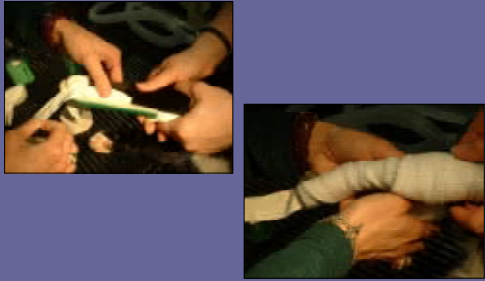
Fractures



Splinting should always include the joints below and above the fracture site. Otherwise, the splint can cause more harm.

State Agricultural Response Team 67

Fractures



State Agricultural Response Team 68

Fractures




If animal is struggling or you can transport it in a box or carrier, do not attempt to splint. Splinting can worsen a fracture.

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Slides 70-72

Puncture Wound and Lacerations



- Remove foreign object
- Wash area with saline
 - Add one teaspoon of salt to a quart of warm water
- Dry foot
- Bandage

State Agricultural Response Team 70


Wound and Lacerations

- Check ABC's of CPR
- Check for shock
- Apply sterile lube
 - To keep hair out of wound
- Clip hair around wound area
 - Clippers or razor blade
- Flush with saline
- Apply a bandage



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Near Drowning



- Check ABC's of CPR
- For unconscious animals, hold the animal upside down and allow water to come out airway (nose or mouth)
- CPR as needed
- Treat for shock (keep quiet and warm)

State Agricultural Response Team 72

Slides 73-75

Eye Injury


Foreign Objects in the Eye

- Swelling, squinting, pawing or obvious object
- Gently wash the eye with large amounts of tap water or sterile eye wash
- Inspect closely to confirm that all of the object has been removed



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Eye Out of Socket



- Flush with sterile eyewash
- Cover the eye with a moistened gauze
- Blind the opposite eye
- Do not put a leash around the animal's neck
- Get veterinary attention as quickly as possible

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Embedded Foreign Bodies

DO NOT REMOVE IMPALED FOREIGN BODIES

- Roll up gauze or other material that can be used to stabilize the object in place
- Use tape or an object that fits over the foreign body to make a brace to hold foreign body still
- If the object is long, make it shorter without removing it
- Get veterinary assistance as soon as possible



State Agricultural Response Team 75

Slides 76-78

Foreign Bodies – Fish hooks




Do not pull or cut the line!

- Push the hook through the exit wound
- Cut the barb off using a wire cutter
- Pull the hook out from the direction that it entered the skin
- Treat the resulting puncture like a wound

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Heat Stroke

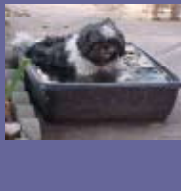
- Collapse
- Vomiting or bloody diarrhea
- Excessive salivation
- Increased heart rate
- Fast or difficult breathing
- Red mucous membranes
- Capillary refill time may be prolonged or very quick
- Body temperature 104°F or above



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Heat Stroke

- Move to cool or shaded area
- Soak in or with cool (**Not iced**) water
- Place towels around neck, head, abdomen and feet
- **Discontinue cooling once the temperature reaches 103°F**



State Agricultural Response Team 78

Slides 79-81

Snake Bite




- ABC's of CPR/Check for shock
- Keep as still and calm as possible (carry the animal)
- **Do not cut wound or suck venom**
- **Do not apply ice or a tourniquet**
- Seek medical attention as soon as possible

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Toxin Ingestion

Signs of potential toxin ingestion

- Vomiting or diarrhea
- Seizures or abnormal mental state (hyperexcitable, depressed)
- Excessive salivation
- Ulcers in mouth
- Bleeding from mouth or any body cavity



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Seizures



- Animals may have seizures from toxin ingestion or other causes
- Protect from harm due to surroundings
- **Do not put hand in the mouth or try to pull on the tongue**

State Agricultural Response Team 81

Slides 82-84

Toxin Ingestion



- Check the ABC's of CPR
- Check the mucous membrane color, capillary refill time, animal's mental state
- Check the surroundings for possible poison or toxin
- If possible, call the National Animal Poison Control Center 1-800-548-2423 or 1-900-680-0000

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Toxin Ingestion

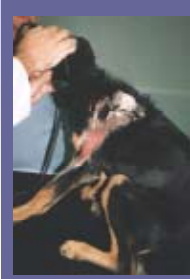
If advised to induce vomiting, give household (3%) hydrogen peroxide orally (animals only!)




- 1 teaspoon per 10 pounds of body weight
- This can be repeated every 10-20 minutes for 3 - 4 doses
- Ipecac should not be used in dogs or cats

 State Agricultural Response Team 83

Burns




- Check for shock
- Flush chemical burns profusely with water
- Apply cool water or cool compresses to burned area
- Apply sterile nonstick dressing
- Do not immerse in water or ice!
- Do not apply butter or ointment!

 State Agricultural Response Team 84


Slides 85-87

Remember Emergency Triage

When presented with the situation, the animal that is **most critical** but with the **best chance** of living should be attended to first

 State Agricultural Response Team 85


Euthanasia



 State Agricultural Response Team 86

Treatment or Euthanasia

- Criteria to be included in the decision making should include
 - Pain and distress of the animal
 - Likelihood of recovery
 - Diagnostic information
 - Welfare for the animal, humane considerations


 State Agricultural Response Team 87

Slides 88-90

Euthanasia


- In some cases, sustained injuries may necessitate humane euthanasia
- Best performed by a veterinarian or under veterinary guidance
- However, such assistance may not be readily available – The person performing a physical method of euthanasia must be well trained for each technique that may be used

www.avma.org/issues/animal

 State Agricultural Response Team 88

Important Considerations


- When euthanasia is necessary, always minimize animal distress as much as possible
 - The presence of humans may be reassuring for animals accustomed to human contact (penetrating captive bolt (dogs)/exsanguination in unconscious animals may be preferred)
 - For wildlife, human contact causes fear and greater distress (gunshot may be preferred – gunshot permits the least amount of human contact)

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Aesthetic Concerns

Humane Euthanasia by Gunshot or Penetrating Captive Bolt


- Despite being humane, both are aesthetically displeasing procedures
 - Involuntary movement will occur
 - Exsanguination requires several minutes and is visually uncomfortable to observe
- These procedures should be conducted out of the public view

 State Agricultural Response Team 90

Slides 91-93


Confirmation of Death

- Death should be confirmed by evaluation of the following physical parameters over a period of several minutes
 - Lack of heartbeat
 - A pulse is normally not present under such circumstances
 - Lack of respiration
 - These may be erratic in an unconscious animal
 - Lack of blink reflex
 - Lack of movement over a period of several hours
 - The presence of "rigor mortis"

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Unacceptable Methods of Euthanasia

- The following are forbidden under Florida Law 828.12
 - Manually applied blunt trauma to the head such as a large hammer
 - Injection of any chemical substance not labeled for use as a euthanasia agent
 - Injection of air into a vein
 - Electrocution

 State Agricultural Response Team 92

Pets in Disasters



 State Agricultural Response Team 93

Slides 94-96

Where can pets go?

- Florida Pet Friendly.com
<http://floridapetfriendly.com/shelters.htm>
 - Lists shelters (by county) where people can stay with their pets if they must evacuate
 - Requirements for each shelter are also listed



State Agricultural Response Team 94

Pet Disaster First Aid Kit


- Establish a disaster first aid kit before the need arises
<http://www.canismajor.com/dog/fstaidk.html>



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Pet Identification

- Microchipping is the best way to reunite animals with their owners after a disaster situation




State Agricultural Response Team 96

Slides 97-99

Closing Thoughts

- In an emergency, your safety is of the utmost importance
- Prevention and preparation are key
- Providing animals with adequate shelter, water, and food is critical in the immediate aftermath of an emergency
- Treating injured animals may not be feasible without help from trained professionals

 State Agricultural Response Team 97

References and Helpful Resources

- HSUS Pet First Aid. Bobbie Mammato, DVM, MPH. 1997
- Small Animal First Aid Presentation, Bay Area Animal Response Team. May-li Cuypers, DVM, DACVIM. 2007



 State Agricultural Response Team 98

 **Thank You!**

SART Training Media



PowerPoint Slides

The *Emergency First Aid for Cats and Dogs* PowerPoint slides are reproduced full-size on the following pages. You can use these pages as a display or photocopy them onto plastic overhead sheets for use with an overhead projector.

Color versions of these slides can be downloaded at the SART Web site:

<www.flsart.org>.



Pets and Disaster

Emergency First Aid for Cats and Dogs



Emergency First Aid for Cats and Dogs

Prepared by

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Learning Objectives

After completing this training activity, participants should:

- Describe ways to practice Priority #1 – Prevent Injury to Yourself
- Understand the stages of rendering treatment that represent best practice, including:
 - Describe how to survey and evaluate the emergency situation
 - List appropriate handling techniques
 - List vital signs of dogs and cats and how they are measured
 - List and recognize types of trauma
 - Recognize which first aid procedures are appropriate to type of trauma



Primary Objective

- When assisting dogs and cats during an emergency situation
 - Your safety is ultimately the highest priority!!!
 - Do not endanger yourself or fellow first responders to attempt heroic rescue measures for animals



This Presentation is Intended for...

- Good Samaritans
- Emergency Medical Professionals
- First Responders
- No Matter the level of experience, remember to seek veterinary advice whenever possible!



Priority #1 -- Avoid Injury to Yourself

- Animals in emergency situations
 - Nervous, anxious, possibly injured
 - Unpredictable
 - Dangerous!!!



Avoiding Injury to Yourself

- Dogs
 - Can bite causing crushing injury
 - Can scratch causing skin injury
 - Both bites and scratches can lead to bleeding and infection



Avoiding Injury to Yourself

- **Cats**
 - Can bite causing puncture, bleeding and serious infection
 - Scratch leading to bleeding and infection
 - They are very flexible and can be difficult to restrain without getting scratched or bitten
 - If you are scratched or bitten by a cat, contact a medical professional immediately!



Survey and Evaluate the Emergency



Survey the Emergency Situation

- Avoid becoming a victim; always survey for potential hazards
 - Oncoming traffic
 - Downed power lines
 - Hazardous materials
 - Dangerous or venomous wildlife



Survey the Emergency Victim

- Approaching an Injured Dog or Cat



- Approach very slowly
- Approach softly as to avoid startling the animal
- Lower your body so that you are not towering over them – standing at full height could be interpreted as a threat
- Do not make direct eye contact with the animal or stare directly



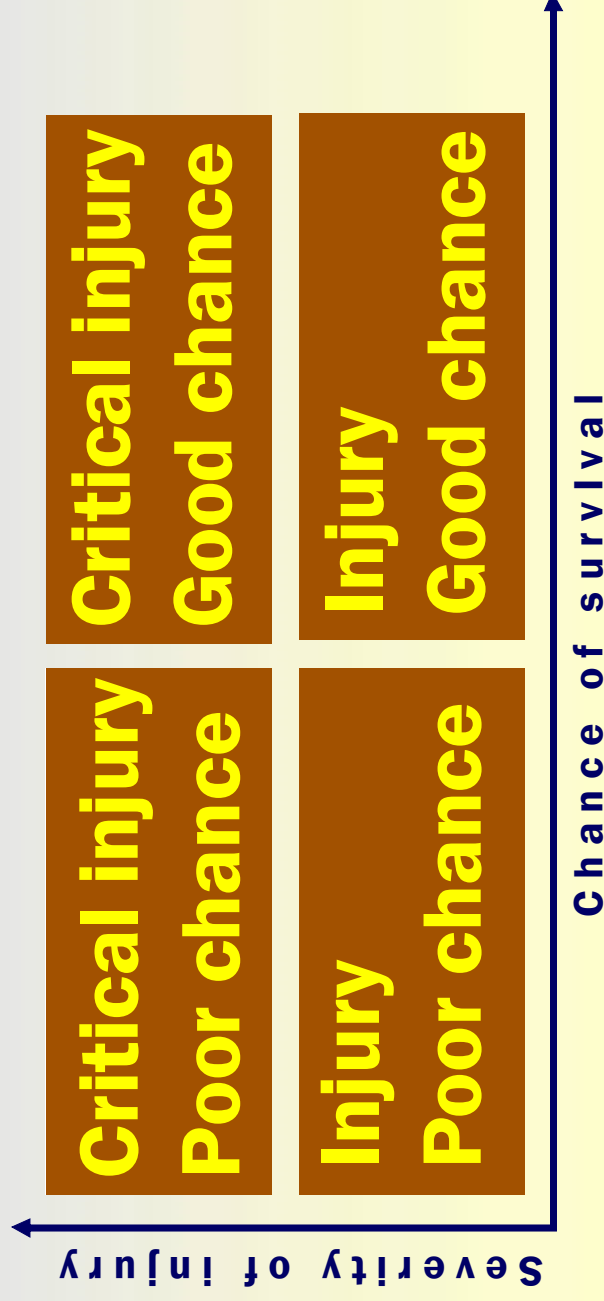
Survey the Emergency Victim

- Keep an eye on the animal's posture and expressions
 - Face, ears, tail, fur and body
- Allow the animal to smell the back of your hand
 - WATCH for reactions carefully
 - Never make quick or sudden movements



Emergency Triage

- When presented with the situation, the animal that is most critical but with the best chance of living should be attended to first



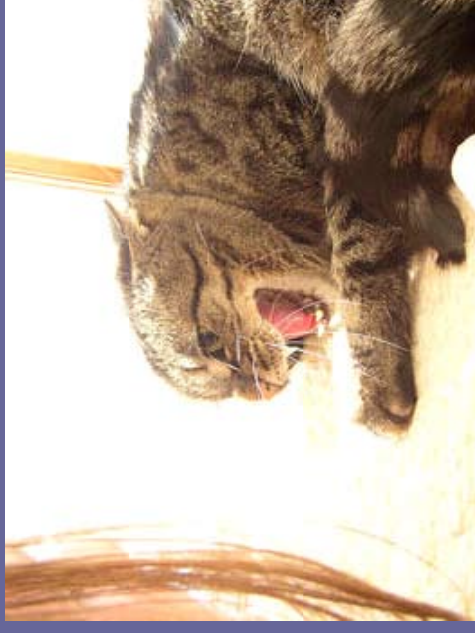
Warning Signs -- Dogs

- **Body Language Signs**
 - Growling
 - Hair standing up (back, shoulders)
 - Snarling
 - Tail may be wagging or tucked under the body
 - Ears straight back
- **Submission**
 - Dog crouches and assumes submissive posture (lays down with belly exposed), may urinate or lick profusely
 - A fearfully submissive dog can become a biting dog if you force the situation



Warning Signs -- Cats

- Body Language Signs (Aggressive/Fearful)
 - Ears flattened
 - Salivating or spitting
 - Back may be arched
 - Hair is standing on end
 - Hissing



Handling and Transportation



Handling Techniques

- **Gloves**
 - Thick gloves may cause a loss of dexterity with small animals
 - Latex or vinyl gloves should be worn at all times when handling injured animals
- **Dogs: Leashes (leather, nylon or canvas – no chain-link)**
 - Make a large loop by passing the end you normally connect to the collar through the hole in the handle
 - Standing just behind the animal or to the side, drop the loop over the neck and tighten



Handling Techniques



- **Cats: Towels or Blankets**
 - Be aware of cat's position at all times
 - Drop towel while standing well over cat
 - Grasp scruff of neck and wrap towel around cat's body
- **Cats or Small Dogs: Boxes**
 - Cats will often crawl into them for comfort
 - Then you can use the towel technique
 - This may also work for small dogs



Handling Techniques -- Muzzles

- May be dangerous to muzzle these situations:
 - Vomiting
 - Coughing
 - Having difficulty breathing



- Muzzles may be necessary to treat injured animals
 - Use soft nylon or leather
 - There are pre-made muzzles for cats and dogs with short noses



Making a Home-Made Muzzle

If needed you can make a muzzle that can be used for dogs with the exception of those with short noses.

1. Start with 18” of material, such as gauze, stocking, neck-tie, soft rope or a piece of soft cloth
2. Make the beginnings of a knot into a loop that can be placed over the animal’s nose

Note: Keep enough space between you and animal’s mouth so that the animal can’t turn and bite you.



Making a Home-Made Muzzle

3. Tighten the loop down on top of the nose, but not so tight that the animal can't breathe
4. Pull the ends of the material down each side of the face, cross under the chin and bring the ends back behind the ears
5. Tie the loose ends back behind the ears

Note: For short-nosed dogs and cats, after steps 1-5, take one end of the loop and pass it under the nose loop and tie to the other end around the neck to secure onto the nose



Restraint Techniques -- Dog

- **Headlock – Dog Standing**
 - Stand or kneel with your chest at dog's side
 - Place forearm under the dog's neck and bring the arm up the other side of the neck (around the head)
 - Lock your forearm under your head
 - Place the other arm over or under the animal's belly



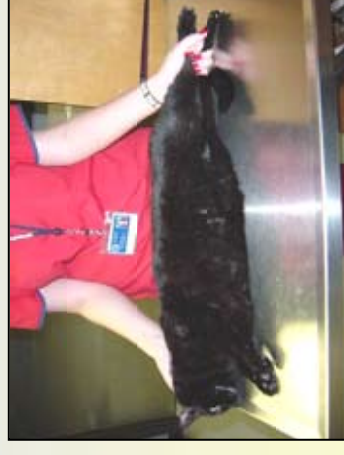
Restraint Techniques -- Dog

- Lying on their side
 - Stand with your body beside dog, facing dog
 - Reach over dog and then back under dog; take hold of legs closest to your body
 - Slowly pull the legs up and around the dog, forcing to lay on its side. As the animal drops toward the ground, take care not to let the head hit the floor
 - Hold front and hind legs straight out, thus preventing animal from standing
 - Use forearm closest to animal to push neck to the ground



Restraint Techniques -- Cat

- **Lying on their side**
 - The same technique as for the dog with some variation
 - Instead of pushing the neck toward the ground with the forearm, grasp the loose skin behind the neck (the scruff) and hold firmly
- **Scruff in a sitting position**
 - Grasp and hold firmly a large amount of the scruff
 - Using the other hand, hold the cat's body in a sitting position



Warning: Some cats are better managed with minimal restraint. They can actually become harder to handle if restrained.



Carrying and Transporting -- Dog

- **Small (less than 25 pounds)**
 - Dog can be carried in box or carrier
 - Alternatively, the dog can be carried in a person's arms
 - Cradle the dog with your arms
 - Place your hand around the dog's front legs, with two or three fingers between the legs
 - Hold the legs as you walk
 - Keep the injured side against your body
- **Large (25 pounds or more)**
 - Place one arm under or around the neck
 - Place the other behind the rear legs or under the belly if you suspect a hind-limb injury



Carrying and Transporting -- Cat

- **Box or carrier**
 - Ideal way to transport a catThey frighten easily and may jump away from you
- **Arms**
 - Use the small dog technique
 - Alternatively, grab the scruff and support the cat's body with your other hand



Zoonoses

- Zoonoses are diseases of animals transmissible to humans
 - Ringworm
 - Scabies
 - Rabies
- Be mindful of these while aiding animals in emergency situations
- In general, CPR is not likely to cause human illness



Vital Signs of Dogs and Cats



Normal Vital Signs

- Heart Rates and Pulses
 - Heartbeat can be felt on the left side of the chest just behind the bend in the left elbow
 - If you place your hand over this area, you should be able to feel and count heartbeats



Normal Vital Signs

- Heart Rates and Pulses:
 - Femoral or inner thigh pulse**
 - Place two fingers as high as possible on the inside of either back leg (use light touch)
 - Feel for pulse in middle of leg about half way between front and back of leg (there is a small recess where the blood vessels run)



Normal Vital Signs



- **Just below the wrist (carpus)**
 - Locate the area just above middle pad on underside of either front paw
 - Lightly place middle and index fingers at this point and feel for pulse
- **Just below the ankle (hock)**
 - Locate the area just above middle pad on underside of either rear paw
 - Lightly place middle and index fingers at this point and feel for pulse





Normal Heart Rate

Dog	Small, miniature, or toy breed (30 pounds or less) Medium to large breed (over 30 pounds)	100 - 160 bpm
Cat	Puppy (until one year old)	120 - 160 bpm
		160 - 220 bpm

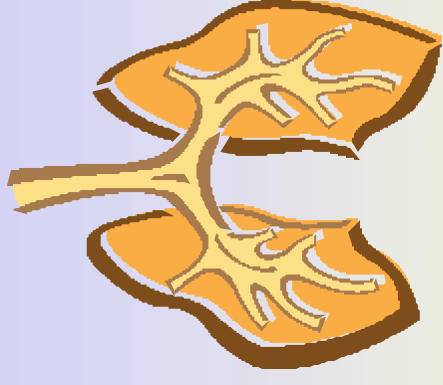
* bpm – beats per minute



State Agricultural Response Team

Breathing Rate

- Dogs
 - 10-30 breaths/minute
 - Up to 200 pants per minute
- Cats
 - 20-30 breaths/minute
 - Up to 300 pants per minute



Panting



Worry if a cat is panting!!



Body Temperature

- Use a pediatric rectal or digital thermometer
- Lubricate the thermometer with a water-based lubricant or petroleum jelly



Body Temperature

Normal body temperatures are:

Dogs 100.0 - 102.8 °F

Cats 100.5 - 102.5 °F

Temperatures under **100°F** and over **104°F** should be considered an emergency



Mucous Membrane Color

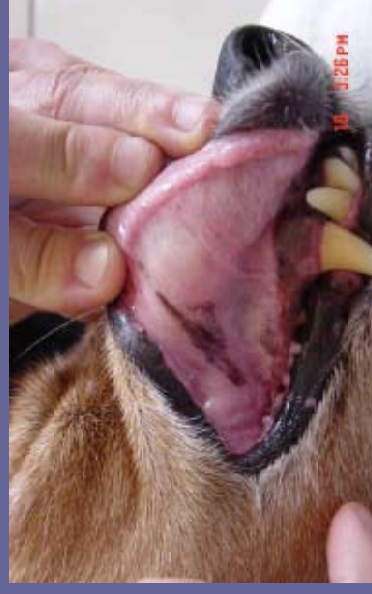


- Looking at the color of the oral tissues is a good way to determine if the animal is getting oxygen
- If the dog is pigmented, you can use the membranes in the lower eyelid by gently pulling it down
- The normal color is pink!
- Blue, pale, yellow, brick red or brown mucous membranes is an emergency



Capillary Refill Time

- This is the time that it takes for the gums to return to their normal pink color after you press them
- As you press, the membrane should turn white
- Then it should only take 1-2 seconds for pink color to return
- This is a good way to assess circulation
- If capillary refill time is more than 3 seconds, it is an **emergency**



Hydration

Pull up on the skin at the back of the animal's neck



It should go back into place immediately (1-2 seconds)



If not the animal is likely dehydrated.



First Aid for Dogs and Cats



Recognizing an Emergency

- Trauma (Falls, hit by vehicle, gun shot, other punctures/cuts)
- Difficulty breathing
- Seizures
- Excessive bleeding (cannot be stopped by applying pressure)
- Snake bites
- Heat stroke or hypothermia
- Poisoning
- Shock
- Burns
- Drowning
- Unconsciousness
- Others



Survey the Emergency Victim

ABCs of CPR

Airway Is there an open airway?

Breathing Is the animal breathing?

Circulation Is there a heartbeat and a pulse?



Survey the Emergency Victim



Survey the Emergency Victim

- Mucous Membrane Color ?
- Capillary Refill Time ?
- Any evidence of bleeding ?
- Animal's level of consciousness ?



Cardiopulmonary Resuscitation

- Method to treat an animal that is not breathing and/or has no heartbeat
- It involves rescue breathing (mouth-to-nose resuscitation) *and* chest compressions
- The ABC's or basic principles (airway, breathing and circulation) must be followed

Warning: CPR does not always work even when performed by an experienced veterinarian. If your attempt fails, know that you did everything that you could to save an animal's life.



Establish an Airway



- Check to see if the throat and mouth are clear of foreign objects
- To clear the airway, gently tilt the head back and extend the neck
- Pull the tongue between the front teeth
- Use your finger to remove any material or liquid from the airway

Do not put your finger into the mouth of a conscious animal; you will be bitten



Establish an Airway



Breathing

- If the animal is breathing, let them continue on their own. If not, then do the following:
 - Medium and large dogs (over 30 pounds): seal animal's mouth and lips by placing your hands around its lips
 - Gently hold the muzzle closed
 - Cats and small dogs (under 30 pounds): your mouth will seal the mouth and lips – no need to seal with hands
 - Place your mouth over the animal's nose and forcefully exhale
 - Give 4-5 breaths rapidly, then check if animal is breathing
 - Continue up to 20 minutes. After each breathing session, check if the animal can breath without assistance



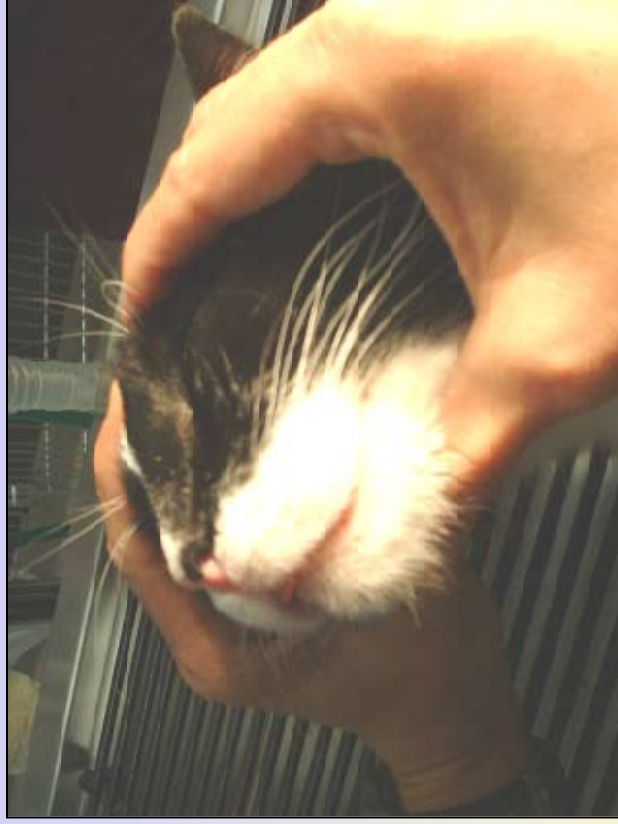
Artificial Breathing



Artificial breathing for
medium or large dogs



Artificial Breathing



Artificial breathing for
small dogs and cats



Breathing Rates

Use the following breathing rates:

Small dog or cat: 20 – 30 breaths per minute

Medium or large dog: 20 breaths per minute

Note: If you have access to oxygen for a distressed animal, use it.



Circulation – Small Dog or Cat

If no pulse or no detectable heartbeat, perform chest compressions

- Lay animal on its right side
- Kneel next to animal with chest facing you
- Place palm of one of your hands over animal's ribs at point where elbow touches chest
- Place other hand around back of and underneath animal
- Compress chest $\frac{1}{2}$ - 1 inch (elbows should be locked)
- Alternate with breaths
 - 5 compressions for each breath and check for a pulse
 - If more than one person, each take a position and alternate at 3 compressions for each breath, then check for pulse



Cardiac Compressions



Cardiac Compressions

- **Medium to Large Dogs (30 – 90 pounds)**
 - Stand or kneel with the animal's back towards you
 - Extend arms at the elbows and cup your hands over each other
 - Compress the chest at the point where the left elbow lies when pulled back to the chest
 - Compress about 1-3 inches with each compression
- **Alternate with breathing**
 - If alone, do 5 compressions for each breath, then check for pulse
 - If two people, perform 2 – 3 compressions for each breath, then check for a pulse



Cardiac Compressions



Cardiac Compressions

- **Giant Dogs (Over 90 pounds)**
 - Use the same technique for medium to large dogs
 - If alone, do 10 compressions for each breath, then check for a pulse
 - If two people, do 6 compressions for each breath, then check for a pulse

Note: Do not assume there is no heart rate or pulse because an animal is not breathing. Always check for a heartbeat before starting chest compressions.



Shock

Shock results from decreased blood and oxygen flow to tissues and organs. Symptoms include:

- **Increased heart rate**
 - Pulse may be bounding or, in later stages, weak
- **Increased respiratory rate**
- **Delayed capillary refill time**
- **Decreased body temperature/cool feet**
 - If in septic shock (infection), temperature may be elevated
- **Weakness**
- **Disorientation**
- **Rescue workers must focus on stopping bleeding, warming the animal and the ABC's**



End Stage/Terminal Shock

- When the body can no longer compensate for decreased oxygen and blood to vital organs
- Cardiac arrest likely to occur soon
 - Assess ABC's of CPR
 - Control bleeding
 - Warm animal
 - Elevate hind end slightly (unless broken back is suspected)



Bleeding

- Check ABC's of CPR
- Apply direct pressure with gauze or cloth
- Add more cloth if material gets soaked
- **Do not wipe**
- Secure with tape



Bleeding Pressure Points

If previous techniques are not working, use bleeding pressure point technique

- Pressure points are areas from where the blood vessels travel
- Apply firm and even pressure to appropriate pressure points

Site of bleeding	Pressure point
Forearm	Armpit
Hind limb	Inner thigh
Head	Lower jaw Place three fingers at the base of the lower jaw on the same side and below where bleeding is occurring
Neck	Groove next to windpipe Place three fingers in groove next to wind pipe (round and hard) on side of neck where bleeding is occurring



Bleeding Points

- When using pressure points, you must release pressure every 10 minutes (for a few seconds)
 - Prevents permanent damage to limb
- When using head and neck pressure points, take care not to obstruct breathing



Choking

- Open animal's mouth and sweep from side to side to see if object can be dislodged
- If animal is small enough, suspend animal by the hips with head hanging down
- If animal is bigger, place your arms around animal's waist
- Close your hands together to make a fist just behind first rib
- Compress the abdomen by pushing up 5 times
 - Alternate with performing 5 breaths (any air around the object is better than none)
- As a last resort, administer a sharp blow to the back between the shoulder blades
 - Then repeat abdominal compressions



Choking



Fractures

- Lameness
- Swelling
- Abnormal limb position
- +/- bruising
- +/- protruding bone

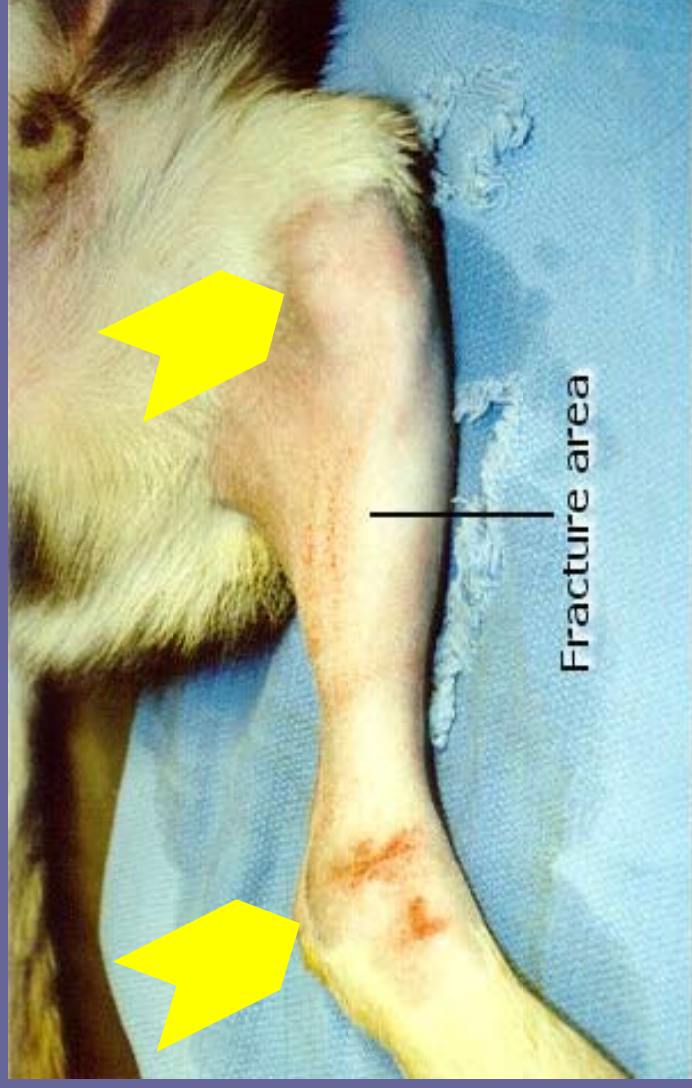


Fractures

- If a piece of bone is sticking out, wash the area with water or saline
 - Loosely place a dressing over the wound and wrap with tape
- If the animal can't be kept completely still for transport, a splint may be applied
 - Place a rigid structure along each side of the fractured limb (rolled paper, stick, pen, etc)
 - Hold with tape in multiple locations, but do not wrap too tightly



Fractures



Splinting should always include the joints below and above the fracture site. Otherwise, the splint can cause more harm.



Fractures



Fractures



If animal is struggling or you can transport it in a box or carrier, do not attempt to splint. Splinting can worsen a fracture.



Puncture Wound and Lacerations



- Remove foreign object
- Wash area with saline
 - Add one teaspoon of salt to a quart of warm water
- Dry foot
- Bandage

Wound and Lacerations

- Check ABC's of CPR
- Check for shock
- Apply sterile lube
 - To keep hair out of wound
- Clip hair around wound area
 - Clippers or razor blade
- Flush with saline
- Apply a bandage



Near Drowning



- Check ABC's of CPR
- For unconscious animals, hold the animal upside down and allow water to come out airway (nose or mouth)
- CPR as needed
- Treat for shock (keep quiet and warm)



Eye Injury

Foreign Objects in the Eye

- Swelling, squinting, pawing or obvious object
- Gently wash the eye with large amounts of tap water or sterile eye wash
- Inspect closely to confirm that all of the object has been removed



Eye Out of Socket



- Flush with sterile eyewash
- Cover the eye with a moistened gauze
- Blind the opposite eye
- Do not put a leash around the animal's neck
- Get veterinary attention as quickly as possible

Embedded Foreign Bodies

DO NOT REMOVE IMPAIRED FOREIGN BODIES

- Roll up gauze or other material that can be used to stabilize the object in place
- Use tape or an object that fits over the foreign body to make a brace to hold foreign body still
- If the object is long, make it shorter without removing it
- Get veterinary assistance as soon as possible



Foreign Bodies — Fish hooks



Do not pull or cut the line!

- Push the hook through the exit wound
- Cut the barb off using a wire cutter
- Pull the hook out from the direction that it entered the skin
- Treat the resulting puncture like a wound

Heat Stroke

- Collapse
- Vomiting or bloody diarrhea
- Excessive salivation
- Increased heart rate
- Fast or difficult breathing
- Red mucous membranes
- Capillary refill time may be prolonged or very quick
- Body temperature 104°F or above



Heat Stroke

- Move to cool or shaded area
- Soak in or with cool (**Not iced**) water
- Place towels around neck, head, abdomen and feet
- **Discontinue cooling once the temperature reaches 103°F**



Snake Bite



- ABC's of CPR/Check for shock
- Keep as still and calm as possible (carry the animal)
- **Do not cut wound or suck venom**
- **Do not apply ice or a tourniquet**
- Seek medical attention as soon as possible



Toxin Ingestion

Signs of potential toxin ingestion

- Vomiting or diarrhea
- Seizures or abnormal mental state (hyperexcitable, depressed)
- Excessive salivation
- Ulcers in mouth
- Bleeding from mouth or any body cavity



Cat Fanciers' Association: CFA Health Committee



Seizures



- Animals may have seizures from toxin ingestion or other causes
- Protect from harm due to surroundings
- Do not put hand in the mouth or try to pull on the tongue

Toxin Ingestion



- Check the ABC's of CPR
- Check the mucous membrane color, capillary refill time, animal's mental state
- Check the surroundings for possible poison or toxin
- If possible, call the National Animal Poison Control Center 1-800-548-2423 or 1-900-680-0000



Toxin Ingestion

- If advised to induce vomiting, give household (3%) hydrogen peroxide orally (animals only!)
- 1 teaspoon per 10 pounds of body weight
 - This can be repeated every 10-20 minutes for 3 - 4 doses
 - Ipecac should not be used in dogs or cats



Burns

- Check for shock
 - Flush chemical burns profusely with water
 - Apply cool water or cool compresses to burned area
 - Apply sterile nonstick dressing
- **Do not immerse in water or ice!**
 - **Do not apply butter or ointment!**



Remember Emergency Triage

When presented with the situation, the animal that is most critical but with the best chance of living should be attended to first



Euthanasia



Treatment or Euthanasia

- **Criteria to be included in the decision making should include**
 - Pain and distress of the animal
 - Likelihood of recovery
 - Diagnostic information
 - Welfare for the animal, humane considerations



Euthanasia

- In some cases, sustained injuries may necessitate humane euthanasia
- Best performed by a veterinarian or under veterinary guidance
- However, such assistance may not be readily available – The person performing a physical method of euthanasia must be well trained for each technique that may be used

www.avma.org/issues/animal



Important Considerations

- When euthanasia is necessary, always minimize animal distress as much as possible
 - The presence of humans may be reassuring for animals accustomed to human contact (penetrating captive bolt (dogs)/exsanguination in unconscious animals may be preferred)
 - For wildlife, human contact causes fear and greater distress (gunshot may be preferred – gunshot permits the least amount of human contact)



Aesthetic Concerns

Humane Euthanasia by Gunshot or Penetrating Captive Bolt

- **Despite being humane, both are aesthetically displeasing procedures**
 - Involuntary movement will occur
 - Exsanguination requires several minutes and is visually uncomfortable to observe
- **These procedures should be conducted out of the public view**



Confirmation of Death

- Death should be confirmed by evaluation of the following physical parameters over a period of several minutes
 - Lack of heartbeat
 - A pulse is normally not present under such circumstances
 - Lack of respiration
 - These may be erratic in an unconscious animal
 - Lack of blink reflex
 - Lack of movement over a period of several hours
 - The presence of “rigor mortis”



Unacceptable Methods of Euthanasia

- The following are forbidden under Florida Law 828.12
 - Manually applied blunt trauma to the head such as a large hammer
 - Injection of any chemical substance not labeled for use as a euthanasia agent
 - Injection of air into a vein
 - Electrocution



Pets in Disasters



Where can pets go?

- **Florida Pet Friendly.com**

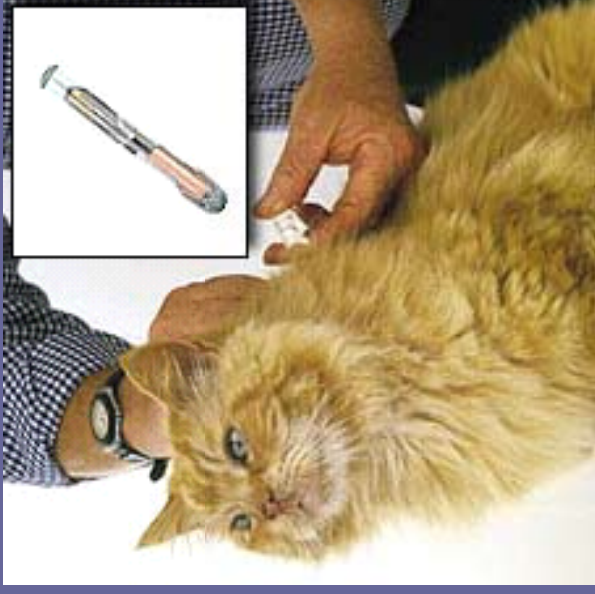
<http://floridapetfriendly.com/shelters.htm>

- Lists shelters (by county) where people can stay with their pets if they must evacuate
- Requirements for each shelter are also listed



Pet Identification

- Microchipping is the best way to reunite animals with their owners after a disaster situation



Peachtree Corners Animal Newsletter



Closing Thoughts

- In an emergency, your safety is of the utmost importance
- Prevention and preparation are key
- Providing animals with adequate shelter, water, and food is critical in the immediate aftermath of an emergency
- Treating injured animals may not be feasible without help from trained professionals



References and Helpful Resources

- HSUS Pet First Aid. Bobbie Mammato, DVM,MPH. 1997
- Small Animal First Aid Presentation, Bay Area Animal Response Team. May-li Cuypers, DVM, DACVIM. 2007





Thank You!

SART Training Media

