

# LARGE ANIMAL INCIDENT EMERGENCY RESPONSE GUIDE



Photos credited to: Dr. Rebecca Gimenez



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## ***Tips -Large Animal Emergencies***

- Crowd control is important to avoid injuries - to people and animals. Keep people away from the scene to prevent frightening the animals.
- Are the animals contained or loose? You will require a plan for both situations. Containing the animals is a top priority.
- Remain calm, quiet and safe - always keep an escape route open.
- In motor vehicle accidents, evaluate the livestock trailer (if trailer involved); try to identify damage extent, type and number of animals.
- Know your local contacts within your local cattleman's association or the like, with livestock expertise. Keep that list up to date.
- All animals are unpredictable and dangerous, no matter how calm they may seem.
- Accidents, stress and injuries may alter behavior significantly. You may need an expert!
- Rescue efforts require expertise, planning and coordination.
- Moving slowly with patience is always best when moving or handling farm animals.
- Winches should **NEVER** be attached to an animal as a tool for extrication!
- Lower legs, ears, tail, head and neck should **NEVER** be used as attachment points for extrication. If using legs is the **ONLY** option, it is important to provide substantial padding beneath the webbing and/or rope. The blood vessels in the legs are fragile, and are prone to compression injury. Compression injuries significantly decrease the chance of survival.

**\*\*\*A VETERINARIAN SHOULD BE CONTACTED AS SOON AS POSSIBLE TO RESPOND TO THE SCENE\*\*\***

**\*\*HAVE A DESIGNATED ANIMAL MONITOR DURING RESCUE\*\***

**\*\*NOT A SUBSTITUTE FOR TRAINING IN TECHNICAL LARGE ANIMAL EMERGENCY RESPONSE\*\***

## **Disclaimer**

This guide is not intended to be a “how to” respond to large animal emergencies. **This is not intended to be Standard Operating Procedures.** The intent of this guide is to be an additional reference for responders **trained** in Large Animal Technical Rescue. It is not a substitute for training, or learning to work with or handling large animals. Technical rescue is inherently dangerous, dealing with both humans and animals. This guide discusses response with large animal technical rescue equipment. It must be understood that there may be incidents when all referenced equipment is not available, and a trained responder may have to utilize available equipment. Responders should always follow departmental training and response procedures.

## **Liability**

If volunteer is acting within the scope of the duties assigned to them and they were following the directions provided by County supervisory staff, then the volunteer will be covered under both the County’s liability insurance (under the legal principle of “Agency”) and workers compensation programs.

Florida Statutes 125.9504 further defines benefits owed to volunteers as follows:

- (1) Meals may be furnished without charge to a regular-service volunteer serving a unit of county government or constitutional county officer if the volunteer’s scheduled service extends over an established meal period, and to an occasional-service volunteer at the discretion of the head of the unit of county government or constitutional county officer.
- (2) Lodging, if available, may be furnished temporarily, in case of an emergency, at no charge to a regular-service volunteer.
- (3) Transportation reimbursement may be furnished to a volunteer whose presence is determined to be necessary by the unit of county government or constitutional county officer. Volunteers may use county vehicles in the performance of their county duties (after a driver’s license check).
- (4) Volunteers are covered by workers’ compensation in accordance with Florida Statutes chapter 440, and Florida Statutes 125.9501-125.9506 do not limit any workers’ compensation rights or benefits.
- (5) Volunteers may be furnished such other benefits, subsistence, or reimbursement of expenses as the unit of county government or constitutional county officer considers appropriate and necessary. (Florida Statutes 125.9501-125.9506.)

## **Significance of the Incident Command System**

All emergency responders are trained on the Incident Command System. ICS creates a command and control structure for emergency responders to ensure that an incident can be handled quickly, safely and effectively. In the case of a large animal rescue, the scene has a high potential of having a large number of responders, both trained and untrained. Utilizing ICS helps to ensure control and order for the safety of responders, observers, and animals.

## ***Emergency Contact Sheet***

This contact sheet is unique to Brevard County. Availability and access to facilities and equipment may vary. This section is designed to help create a contingency plan to identify resources that may provide assistance.

Any costs for materials or services remain the financial responsibility of those having the care and custody of the animals (transporter, transportation company, animal owner, consignor, consignee or cargo insurer).

It is imperative that the financial responsibility is acknowledged prior to engaging services or for equipment.

**The list should be reviewed and updated by Emergency Management on a regular basis.**

NAME	CONTACT INFORMATION	
Livestock Veterinarian(s)		
Local Livestock Transporter		
Local Cattle Producer(s)		
Local Horse Owner(s)		
Local Sheep Producer(s)		
Local Llama/Alpaca Breeder(s)		
Local Emu/Ostrich Breeder(s)		
Livestock Holding Facilities		
Portable Corrals/Panels		
Deadstock Removal		
Tow Truck		
Agriculture Extension Office		
Solid Waste		
Other Resources		

Notes:

## ***Contacts***

Please see Appendix 9 for the Brevard County Sherriff's Office listing of known livestock owners. This list shall be updated on a yearly basis.

## **INTRODUCTION**

### ***Objective:***

- To provide basic information on the steps needed to effectively deal with a large animal emergency.
- To provide a 24/7 support network for first responders (law enforcement, fire rescue, etc.)
- To provide knowledge of livestock handling in emergency situations for improved animal well-being and for enhanced safety of those involved.

### ***This guide will cover:***

- incident needs as per assessment
- livestock handlers, veterinarians and other response team contacts, specific to Brevard
- behavior of livestock likely to be exhibited in stressful situations
- personal safety precautions when handling livestock
- means to calm, rescue, capture and temporarily confine animals
- laws, ethics, and euthanasia protocol

Florida's livestock industry is substantial.

In addition to cattle, hogs, and sheep, the livestock industry also includes poultry, deer, llamas/alpacas, and other exotic species.

Every year thousands of animals are transported on Brevard's roadways and through urban areas. While almost all of these animals reach their destination safely, there are occasions when accidents occur. This guide will support and assist those responding to these emergencies.

Health and safety of the human population is priority; however, the humane handling and well being of livestock in Brevard is also very important and should be considered.

Representatives from emergency management, the University of Florida, law enforcement, fire, animal services, and the agriculture community, created this document to promote the safe, humane handling of large animals involved in incidents requiring emergency response.

## GENERAL ANIMAL BEHAVIOR

**Large animals can seriously injure people, other animals and/or themselves if they become excited or agitated.** Understanding how an animal instinctively reacts will aid you in properly handling the animal during an emergency situation. The following are common behavior characteristics that apply to livestock in general. Species specific facts will be covered in Section 4.

- All animals are unpredictable.
- Never assume an animal is going to “be nice” - no matter how calm it may seem.
- Animals experience feelings such as fear, aggression, pain, nervousness, etc.
- Horned animals are aware they have horns or antlers and may use them in an aggressive manner.
- Moving lights (headlights, emergency lights, and flashlights) agitate animals, particularly at night. Avoid shining lights into the animals’ faces and ask emergency crews to switch off flashing lights wherever possible.
- Livestock tend to move from a dimly lit area to a brighter area, provided the light is not glaring into their eyes.
- Many animals have a wide angle of vision and are easily frightened by shadows. They will often balk and refuse to walk over a hose, puddle, shadow or change of surface, etc. Although animals have a tendency to go from dark areas to lighter areas, they will also shy away from bright sunlight if they are not used to being outdoors.
- Many animals have a strong herding instinct. Isolation is one of the strongest stressors of animals and should be avoided. They will calm more quickly if left in a herd and may also “follow the leader” when together. If possible use a wall or fence line as a guide.
- Injured or frightened animals may bite, particularly pigs and horses. All animals may kick or strike when frightened.
- Loud noise and moving or flapping objects will spook, startle, or slow an animal.
- Frightened animals are unpredictable and will react instinctively by running or fighting. Allow animals to calm down before attempting to handle them.
- **If you spook the animal, it may take approximately 30 minutes to calm them down.**
- Animals have sharp senses of smell, sight and hearing.

## PROPER LIVESTOCK HANDLING

### Enhancing the Safety of the Human & Animal

- If you don't have to handle the animals... **DON'T**
- Take your time. The old saying is: "If you make an animal feel you have all day, it will take ten minutes. If you make it feel that all you have is ten minutes, it will take all day."
- If animals have escaped from an enclosed area, such as a fence, with minimal effort, their herding instinct will tell them to go back where they came from and allow you to herd them back into the enclosure.
- Do not chase animals; let them move at their own pace. Give them space!
- Always have an escape route.
- Stay alert as you may have to move quickly.
- **Never turn your back on an injured or frightened animal.**
- Announce your presence but keep noise to a minimum, as animals have sensitive hearing. Advise emergency crews to, wherever possible, switch off engines and place generators at a comfortable distance from animals.
- Always move slowly and quietly around livestock. Do not shout, yell or wave your arms wildly at the animals.
- All personnel not required to deal with animals should stand clear for their own safety before animals are moved.
- Unless absolutely necessary, do not approach an animal from directly in front. Animals such as horses may strike with their front legs. All animals may view this as an aggressive move. If you must, use a board, such as a spinal board, to create a barrier between an animal and yourself.
- Barriers, such as livestock panels, or a board, can also be used to corral animals such as sheep, goats and pigs.
- Never walk up behind an animal, whether it is standing up or lying down. It may startle causing a panic reaction resulting in possible injury to personnel. Animals have very accurate aim when kicking.
- Make sure an animal knows you are there, and speak softly while approaching.
- Be confident - animals sense fear and hesitation and may take advantage of it.

## Flight Zone

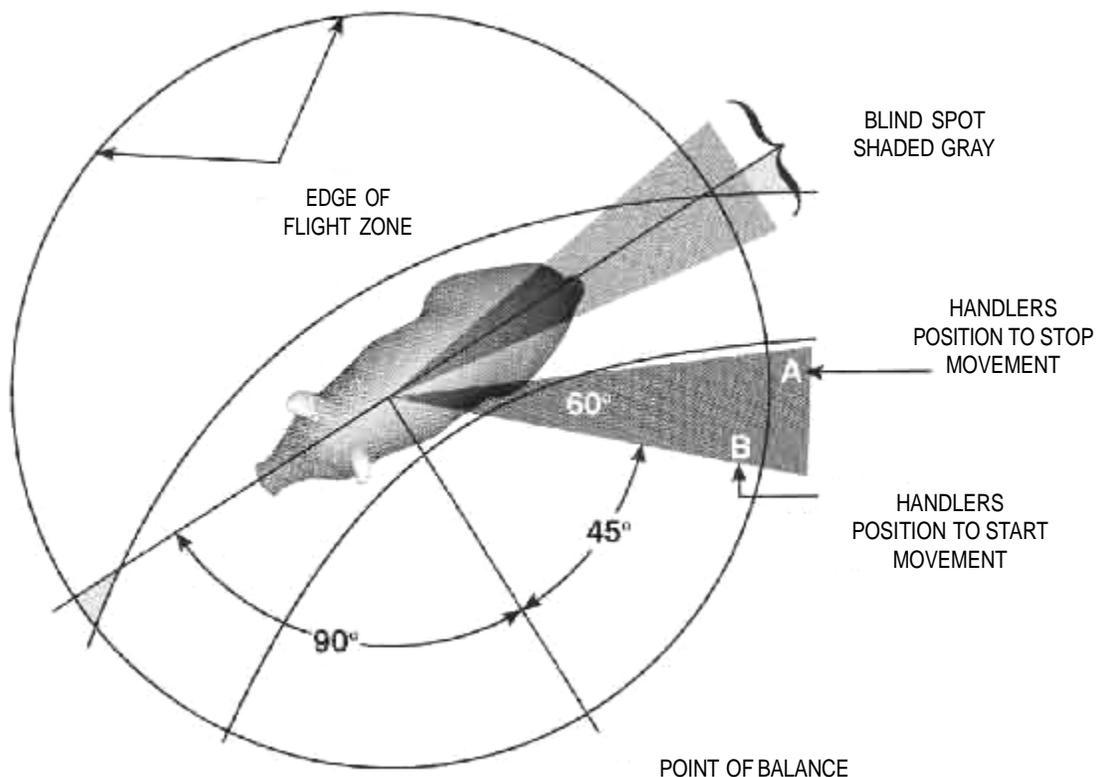
Livestock can be quite happy together in close confines. However, like most people, they need their space. Individually, most animals display a protective area or “flight zone” that varies in size with each animal. Certain people and/or animals, such as a non-threatening herd mate, may freely enter this flight zone. Some people and/or animals, however, will cause a reaction when they get close to the perimeter of the flight zone.

All animals involved in an emergency situation, such as an accident, will have a large flight zone. Sight is the main sensory factor used by the animal in this zone. Approach an animal calmly and slowly and continue to announce your presence. Entering the flight zone too suddenly (surprising the animal) or too quickly will make the animal bolt or move in an unpredictable way. If too much pressure is applied they will turn back on you, and may charge or bite - back off when the animal is not responding in the way you wish.

***Here’s what may happen when you enter an animal’s flight zone.***

- the animal will be happy to see you
- it will move away
- it will run away
- it will remove you from its zone

### Flight Zone and Point of Balance



## **SPECIES SPECIFIC BEHAVIOR AND HANDLING**

Always use extreme caution when dealing with males and with female animals with young. In general, all intact (non-castrated) males of each species are typically more aggressive than female, (unless the female has young with her) or altered (castrated) members of the species.

It is recommended that experienced animal handlers should handle aggressive animals.

Animals, like humans, have their own personalities and the below should just be used as a guideline.

### **Cattle**

- Cattle may stampede if frightened. Their instinctive reaction to danger/fear is to flee.
- All bulls should be considered very dangerous and unpredictable.  
EXTREME CAUTION MUST BE USED WHEN DEALING WITH THEM.
- Cattle may charge or kick when frightened. Give them space.
- Cattle use their heads as protection, and will swing them using their weight to shove other animals (or humans) out of the way.

### **Horses**

- Horses can strike and kick with both their front and rear feet. An injured or trapped horse that is lying down and appears quiet can snap into violent action at any moment, attempting to free itself. Stay away from legs at all times and always approach a downed animal from the spine side. Never approach via the belly, back or front legs.
- Horses that have been handled frequently will respond well to human contact. They can usually be led to safety by a halter and calmed with gentle talking and petting.
- Always approach a standing horse on the left side. Talk to them in a calm, quiet manner while you approach.

### **Pigs**

- Adult pigs may be **extremely** dangerous. They should be handled with a great deal of caution - their comparative smaller size can be deceiving. Adult male pigs may have tusks and while they may not look impressive and barely peek out between the lips, they can be long and razor sharp. The pig strikes by throwing its head upwards and these tusks can cause deep stab wounds, even through boots. You should use a shield (e.g. plywood or spinal board) when working with them to protect yourself. They can bite, and you should never turn your back on an adult pig, especially if it is injured.
- Pigs will squeal for no reason at all. Squealing is not necessarily an indication that they are in distress.
- Pigs are naturally curious and try to investigate everything. Pigs often chew or bite in a non-aggressive manner while exploring.
- The more distractions there are (including people), the slower and more difficult moving they will become. They need to be simply "guided" in the

direction you want them to go and let them find their way. They may follow a lead pig. Pigs cannot be chased with much success. Let them move at their own speed and, in case of balking, do not beat the pigs at the rear of the crowd. Avoid “singling out” and moving an individual pig. Move them in pairs or groups because they are much calmer when they have skin to skin contact with a herd mate.

- Stress can cause pigs to die due to a heart attack. They may not be used to extensive physical exercise.
- Injuries are difficult to detect unless very obvious. Pigs should all be handled as if they have sustained possible injury.
- Pigs don’t like stepping up or down. If possible, attempt to make a ramp when there is a change in elevation.
- Pigs are sensitive to heat and cold. They may overheat in warm weather easily and should be dealt with quickly. Pigs can be cooled by misting them with cool water - do not pour cold water on them or soak them as the shock may be fatal. Fans can also be used to blow air onto the animals to lower temperatures in the trailer.
- Pigs frighten easily. Indoor pigs may be sensitive to light and may not go into bright light such as sunlight or headlights. Their instinct is to turn back into their shelter.

### **Poultry**

- Poultry are frightened by close contact with people.
- Birds may initially react with hysteria, suddenly fly about, squawk and try to hide. If several birds are loose and one becomes panicked, the others will usually follow suit.
- If crates or cages have spilled and birds are still inside, they should be up-righted immediately. Birds may suffocate quickly.
- Birds are also easily affected by heat and cold and may require cooling or protection from the elements (i.e. wind). Fans or water misting may be used to cool the birds. If the accident occurs in the summer it would be beneficial to place the birds in a shaded area, with fans on the load if possible.
- Do not chase birds or cause them to fly. Handled calmly they can usually be herded.

### **Sheep/Goats**

- Sheep are usually passive and easily herded as a group. Individuals separated from a group will attempt to re-join by jumping over or through a person. Sheep are more cooperative if handled gently and quietly.
- Sheep will instinctively “pile” up or bunch up in a tight group. They may suffocate when this occurs.
- Sheep that have just been shorn (shaved) are more susceptible to hypothermia.
- Sheep and goats will charge when frightened or when they feel threatened. Do not turn your back on them.
- Do not lift sheep by their horns or fleece.

**Llama/Alpaca**

- Llamas are extremely heat sensitive. Trailers should not be crowded and adequate ventilation must be provided.
- Llamas can strike out with their front feet; caution should be used while approaching them.
- Llamas are known to “spit”; precautions should be taken to prevent bacteria laden saliva coming in contact with your eyes.
- Llamas may lie down and be reluctant to move as a defense mechanism.
- Llamas do not like to be petted.
- You cannot blindfold a llama. They will freeze on the spot.

**Ostrich/Emu (Ratites)**

- Ratites can be extremely dangerous as they have a powerful forward kick with sharp talons.
- Ratites are attracted to bright or shiny objects (i.e. eyes) and will attempt to peck.
- Ratites are very fragile, and can be injured easily.
- Ratites panic quickly. Handle them calmly and carefully.
- A suggested handling method is to put a hood over the ratite’s head, place one hand on its neck just below the head, and the other hand on the rump area, and use your body to put pressure on the rump and steer it from behind.

CAUTIONARY NOTE: A situation may arise where moving livestock is impossible without risking the health and safety of yourself or other personnel at the scene. Be prepared for such a situation. If safe, competent handling and/or sedation are not options, euthanizing the animals is more prudent than risking injury or death to humans.

## TRAILER ACCIDENTS

It is recommended that rescuers avoid entering a trailer whenever possible.

- A temporary containment facility should be located or created before animals are released from a trailer (i.e. paneled corral, directly onto another truck, or even created with police tape for certain species such as horses). A nearby fenced field may be used for containment.
- If you are presented with a situation where the trailer and/or bedding are on fire, do not release animals from the trailer until a plan for containment is established. Loose animals will pose a serious risk to passing vehicles etc.
- Live animals should be removed from a trailer before it is righted.
- The ideal way to remove an animal from a trailer is through the existing doors, but this is not always possible.
- To decide the optimum method of extrication, first evaluate the trailer and the condition of the animals.
  - (a) Position of trailer - on side, roof or upright, on right or left side
  - (b) Position of animals - lying down, pinned or trapped, tied or loose
- If the animals are uninjured and standing calmly in the trailer, leave them alone until it is necessary to move them.
- No person should enter a trailer to check or treat animals until a rescue plan is established and the trailer is stabilized.
- If you are unable to use existing doors, access to animals can be achieved through the roof.
- The structural integrity of a trailer must not be jeopardized, or the trailer may collapse on the animals and rescue personnel:
  - (a) Ascertain the design of the trailer (i.e. angle haul, multi deck, dividers, etc.)
  - (b) Determine what material the trailer is made of - most new trailers are a combination of fiberglass and/or aluminum with steel supports. Older trailers are usually all steel.
  - (c) Ensure that the trailer has been stabilized before proceeding with any rescue attempt.
  - (d) Try to determine which direction gates will swing when opened. Animals may be held in place by a closed gate. To avoid injury, use caution when opening.
  - (e) Check to be sure the animals do not have any limbs trapped. Horses may need sedation before dismantling the trailer they are in. **(This must be done by a licensed veterinarian).**
  - (f) Ensure that animals inside will not be injured while cutting into the trailer.
  - (g) Cut the hole only wide enough for one animal at a time to get out.

- (h) Don't cut the hole out completely, you may wish to use the attached metal as a wall, or door.
- (i) Bend the cut edges out to prevent the animals getting cut while exiting the trailer.

### **MAKING THE CUT (IN A MULTIDECK TRAILER)**

**Note: When using cutting equipment, always assign a person to assess the animals in the trailer, and how they are responding to the noise and vibrations. The cutting tool should be turned on at a distance from the trailer.**

The first cut should be made to the roof of the trailer. This will allow unloading of the top deck first in multideck trailers. **DO NOT** cut the access to create a fold down ramp. The material is slippery and the animals will slip and fall, or may even refuse to walk on it. It will also become a safety hazard to responders. The opening should be approximately 3 feet wide by 5 to 6 feet high. For smaller animals such as goats and sheep, the height can be smaller.

Start at the bottom of the door, having the saw travel along the framing at about 2 inches above floor (the side of the trailer that the animals are now standing on) level.

The opening should begin at the inside aspect of the rib, traveling across the bottom and cutting through one rib, then the next rib, and turning the saw to cut upward inside the rib. Cutting on the inside of the rib preserves structural stability and also creates smoother edges.

The cut is continued up the rib to approximately the same height as a door in a home. The saw is then turned and a cut is made across the top toward the starting rib.

The cut is stopped and the exit access has now been created. Once containment is established, most uninjured animals will exit on their own.



Photo: L.C. Shearer, Iowa State University

**\*\*To cover the sharp, cut edges and avoid injury to human and animal, use a cut pool noodle, or an old firehose to cover the edge\*\***

**\*\*When entering the trailer always approach a downed animal from the spine side. Never approach via the belly, back or front legs. You will get hurt\*\*.**

## **ADDITIONAL MULTI DECK TRAILER UNLOADING OPTIONS (IF APPLICABLE)**

### **Unloading the “Doghouse”**

This compartment is located on the rear, right side of the top deck of most trailers. When a trailer overturns, this compartment can open and animals can be trapped. Dependent upon which side the trailer overturns, another exit may need to be cut, and a temporary ramp set up to allow animals to exit.

### **Unloading the Neck/Nose**

Most trailer designs will not allow the animals to be unloaded through the initial hole cut in the roof. Many trailers have a panel between the neck and the top deck. Rather than remove the divider panel, cut an access hole in the trailer’s neck area.

### **Unloading the Back End and Lower Deck**

This area can be accessed at the rear of the trailer. In a straight haul trailer, the back end is cut open for unloading. In a pot-bellied trailer (multideck), the back end compartment should be emptied first. If the trailer is overturned on its left side, most likely a cut will not need to be made. When on its left side, the roller door of the trailer will be at ground level, and can be removed for unloading. If the trailer is overturned on its right side, a cut will need to be made. The hinges on the alley sort gate may need to be cut separately, because they are welded to the inside of the panel, requiring multiple cuts, through the back panel and alley gate.

### **Unloading the Belly**

Once the back end of the trailer has been unloaded, the belly (or pot) can be unloaded. The belly is separated from the other compartments by panels, and may need to be cut and secured to allow for unloading.

## **WHAT TO AVOID**

- Avoid cutting through the bottom of the trailer or through the solid top deck floor. This is time consuming often causes irreparable damage to the trailer.
- Avoid cutting the opening larger than needed
- Avoid cutting too many openings
- Avoid using winches or tow trucks to tear the trailer apart
- Avoid uprighting the trailer with animals still inside!

# BREVARD COUNTY "ANIMAL TRANSPORT INCIDENT" ASSESSMENT

INFORMANT: \_\_\_\_\_ PHONE: \_\_\_\_\_

LOCATION OF INCIDENT: \_\_\_\_\_

DATE/TIME OF INCIDENT: \_\_\_\_\_

**TRANSPORT CO.**

- CONTACTED
- PHONE NO.: \_\_\_\_\_

**AGE GROUP**

- YOUNG
- INTERMEDIATE
- MATURE

**EXPENSE AUTHORITY**

- CONTACTED
- PHONE NO.: \_\_\_\_\_

**QUANTITY**

- KNOWN
- UNKNOWN
- NUMBER: \_\_\_\_\_
- ESTIMATE: \_\_\_\_\_

**DRIVER**

- FUNCTIONAL
- NON-FUNCTIONAL

**CLASSIFICATION**

- SLAUGHTER
- REPLACEMENT
- BIO-SECURITY CONCERN

**VEHICLE TYPE**

- FARM TRAILER
- GOOSENECK
- TRAILER
- 1/2 TON PICKUP
- STRAIGHT TRUCK
- SEMI TRAILER
- POT TRAILER (multideck)

**DESTINATION**

- FARM
- SLAUGHTER PLANT
- AUCTION MARKET
- OTHER

**VEHICLE CONDITION**

- OPERABLE
- NON-OPERABLE

**SECURITY STATUS**

- CONTAINED
- ESCAPED
- TIED \_\_\_\_\_
- LOOSE \_\_\_\_\_

**ACCIDENT RESULT**

- UPRIGHT
- ON-SIDE  L  R
- ROLLED

**HEALTH STATUS**

- UNINJURED
- INJURIES
- DEAD
- UNKNOWN

**ACCIDENT SITE**

- URBAN
- RURAL
- ON ROAD
- DITCH
- OTHER \_\_\_\_\_

**EXTRICATION**

- YES
- NO

**ANIMAL TYPE and NUMBER**

- CATTLE \_\_\_\_\_
- HORSES \_\_\_\_\_
- PIGS \_\_\_\_\_
- SHEEP \_\_\_\_\_
- OTHER \_\_\_\_\_

**POSSIBLE NEEDS**

- TRANSPORT
- PERSONNEL
  - VET
  - SPECIALISTS
- EQUIPMENT
  - FENCING
  - GATES
  - LIGHTING
  - TOW TRUCK
- SPECIAL \_\_\_\_\_
- DEADSTOCK

Comments: \_\_\_\_\_

Date: \_\_\_\_\_ Emergency Contact: \_\_\_\_\_

## TEMPORARY CONTAINMENT

In the event of a motor vehicle accident, containment structures must be in place before extraction.

Security and containment at the scene of an incident are critical to the safety of bystanders, responders, and animals involved.

### Considerations:

- If on roadway, consider closing the roadway.
- Injured livestock should be contained and treated as soon as possible.
- Assess surrounding area; is natural or manmade containment available?
- Environmental dangers: containment area should be safe for animals and responders to prevent further injury.
- Allow sufficient space for animals within the containment area.

**In regards to a trailer accident;** if animals have escaped before responders arrive on scene, a containment area should be established and the loose animals should be contained before a secondary accident occurs.

If the animals are still contained in the trailer, temporary containment should be established before any cutting or unloading occurs. In most instances, livestock panels serve as suitable temporary containment.

Take advantage of animals' herding instinct, and unload them in small groups, if at all possible. Isolation will create panic and increased danger to animals and responders. Animals will become and tend to remain calm if they can stay together as a herd.

## ***DECISION ABOUT RE-LOADING INJURED OR COMPROMISED ANIMALS***

Any animal that is unable to stand up on all of its legs by itself is not fit for transport and should be considered for humane euthanasia.

In the case of slaughter animals, such an animal will NOT pass for human consumption. Its carcass will likely be condemned at the meat plant. There is nothing to be gained by re-loading and transporting such an animal.

In the case of other animals, such as horses used for pleasure and competition or valuable pure-bred animals, the owners may strongly disagree with a decision to euthanize the animal. The owner or designee may want to have the animal treated by a licensed veterinarian. In the absence of the owner and/or their designee, loading and transport of a non-ambulatory animal to a suitable place where additional care can be provided requires a veterinarian recommendation.

**Note: At all times, the comfort and safety of the animal must be considered. At the same time, do not disregard your own safety or the safety of other personnel at the scene!**

## MUD AND UNSTABLE SURFACES

Mud and unstable surfaces are considered to be dangerous

Unstable ground rescues pose hazards to both animals and rescuers. It is vital in these rescue scenarios that responders have the proper training and equipment. Timing is important. An animal trapped in water or an unstable surface such as mud, are at a risk of drowning, hypothermia or asphyxiation, as well as the threat from rising tide or water currents.

Mud creates a strong suction, or vacuum effect on the trapped animal, creating a force on the animal making it almost impossible to move. **Deploying excessive force using winches and vehicles is not an acceptable form of extrication, and is likely to cause asphyxiation, decapitation, nerve damage and facial and skull injuries. Head, neck, tail and legs are not acceptable attachment points for extrication.**

### Equipment Recommendations for Mud Rescue

- Sheets of plywood or flat board (EMS backboards can also be utilized)
- Fire hose (when inflated with air, can be used as a flotation device, or to rest the head, to keep the animal's head above the surface)
- A source of compressed air or water to utilize to inject air or water into the mud lance to counteract the suction effect
- Water hose/source for use with Nikopolous needle
- Nikopolous needle (to facilitate the placement of webbing and/or rescue rope)
- Mud lance (to inject water or air into the mud to break the suction)
- Vertical lift equipment
- Strop guide
- Rescue rope

### Procedure for Mud Rescue

*This procedure can be utilized for both large and small animals*

1. Personnel should approach the animal by standing on plywood sheets and should have individual taglines to a safety buddy on safe and stable ground.

2. The designated animal handler should approach the animal and place a halter on the animal's head. **The halter and/or leash is to be used for guidance and physical restraint only, and should not be used as an attachment point for pulling.** Sedation should be considered with caution, and should only be utilized under the direction of a veterinarian, and if the animal is struggling to a point where it worsens its entrapment, or threatens its safety. To keep the animal's airway above water or mud, an inflated inner tube can be tied under the head, attached to the halter or collar, to stay in place and support the head to allow for breathing.
3. For deep mud entrapments, the Nikopolous needle can be used to thread a small diameter rescue cord under the animal at the level of immediately behind the foreleg. A section of webbing can be attached to the end of the small cord and pulled underneath the animal by reversing the path of the Nikopolous needle.
4. If the animal is trapped near the surface of the mud, a strop guide can be utilized, by threading it underneath the animal. Rescue cord or webbing is attached to the free end of the guide, and the guide is pulled in reverse to thread the rescue cord or webbing under the animal's body, behind the forelimbs or in front of the hind limbs.
5. The webbing can be attached as appropriate for the slip, drag or lift methods.
6. A mud lance or PVC pipe assembly can be preloaded with air or water and inserted into the mud next to each leg of the animal (**without injuring the animal**). Air or water is forced into the mud to break the suction while rescuers exert forces necessary to lift, pull or drag the animal out of the mud. It is important to note that if possible, rolling the animal into lateral recumbency (on its side) increases the body surface area in contact with the mud and facilitates dragging the animal across the surface. Placing the animal on a rescue glide, a tarp or sheet of plywood may assist in this effort.

Nikopolous needle; Courtesy: Kelli Shepherd, Technical Large Animal Emergency Rescue



## LIVESTOCK INJURY & PAIN ANALYSIS

*It is very important that a veterinarian be contacted immediately to respond to the scene, to assist with injuries and medical response.*

### Large Animal Patient Assessment

Begin with a visual assessment of the animal, so this information can be reported to the veterinarian over the phone, or when they arrive on scene. **Patient assessment needs to begin upon arrival at the scene.**

- Demeanor of the animal? Demeanor can indicate severity of injury or shock
- Rapid or labored breathing? This can indicate fear, shock, chest trauma, stress or other conditions
- Respiratory rate? Determined by observing chest expansion or nostril flare
  - Normal vital signs of a **horse are 8 to 16** respirations per minute
  - Normal vital signs of a **cow are 8-16** respirations per minute
  - Normal vital signs of a **dog are 10-30** respirations per minute
  - Normal vital signs of a **cat are 20-30** respirations per minute
  - Normal vital signs of **sheep are 12-15** respirations per minute
  - Normal vital signs of a **pig are 15-30** respirations per minute
  - Normal vital signs of a **goat 12-15** respirations per minute
  - Normal vital signs of a **chicken 12-37** respirations per minute
- Shivering or sweating? This indicates environmental stress (pigs do not sweat)
- Weight bearing? Non weight bearing or favoring a limb indicates soft tissue or bone injury
- The presence of blood, open wounds, visible bone or impaled objects should be noted. If blood is observed, it should be determined if the animal is actively bleeding. If the animal is bleeding actively, note the rate of bleeding, i.e. trickle, arterial spray, moderate flow, etc.)

***All of these observations are critical when determining how quickly the animal needs medical attention and treatment.***

- **Evaluate and decide:**
  - (a) no immediate treatment necessary
  - (b) treat animal where it is
  - (c) move animal to another location
  - (d) humanely destroy the animal

Photo courtesy: Dr. Rebecca Gimenez



- **A veterinarian should be called when:**
  - (a) requested by the owner;
  - (b) sedation of the animal is required;
  - (c) an animal that is unable to walk without assistance must be transported from the accident scene (See Section 10);
  - (d) the animal should be euthanized (See Section 10).
- If an animal is injured but can move, work slowly and quietly around it. If it has a halter on, be very careful while leading it. Walk slowly and talk calmly. If it is loose, walk calmly to its side and do not yell or chase it.
- In trailer entrapments, it is strongly recommended that severely injured animals be euthanized in the trailer. **This is for safety of responders and bystanders!**
- To calm animals which may be struggling, stand at the animal's spine, place a blanket over its eyes, leaving the nostrils exposed and press down lightly on the neck with your knee. If the animal is in an enclosed space, no one should go in to hold the animal down until the space is opened and rescuers can do it safely. **It is important to note that if an animal is going to be extricated by any form of drag, the downside portion of the body must be protected, to include the downside eye.**
- An animal that needs to be moved for treatment or euthanasia should be moved the shortest distance possible. **If dragging is the ONLY means of rescue, a sled should be used.** A spinal board or tarp may be an effective sled. Ensure it is strong enough to handle the weight of the animal you intend to move. The calming method previously covered can be used when moving an animal on a sled.

## Overexertion

Photos courtesy: Ron Melancon

An entrapped animal can suffer from extremes of physiological stress. In most cases, there are increased demands on the animal's cardiovascular, respiratory, musculoskeletal, nervous and thermoregulatory systems. These demands can induce illness, injury and death. Complications can develop in hours, or take days to present. One common complication is renal (kidney) failure. While the animal is entrapped, it struggles, which causes sweat induced loss of body water and muscle stress. If the animal is not able to drink, it cannot replenish fluids. Myoglobin and other products of muscle breakdown are released from damaged muscle cells into the bloodstream, where they circulate into the kidneys. Myoglobin accumulates in the kidneys, leading to failure. If possible, a veterinarian may be able to administer IV or subcutaneous fluids.



## Hyperthermia (heat exhaustion/heat stroke)

Stressed, struggling and exhausted animals that need technical rescue or extraction, specifically in a overturned livestock trailer, are at a high risk of developing hyperthermia, especially during the warmer months in Florida. No air flow and the crowded and often crushing conditions do not allow the animal to properly thermoregulate. Shade should be provided as soon as possible. This can be accomplished with the use of tarps, blankets or other shade type materials. If possible, without further harm or stress to the animal, misting, spraying or sponging the animal with water will assist with cooling. In the case of trapped animals, fans can be placed to increase ventilation and air flow, to assist with cooling while responders work to extricate.



Photos courtesy: Ron Melancon

## Bleeding

These wounds can be dealt with by applying direct pressure. Open wounds should be kept as clean as possible. Internal bleeding can result in severe shock or death. Signs of internal bleeding are listlessness, unconsciousness, very cold legs or a blue tinge to the pink skin inside the lips or tongue. The animal should be kept warm and still until a veterinarian can attend.

## Fractures and Dislocations

**If bone fractures or dislocations are suspected, a veterinarian should be called immediately.** With fractures, an animal may not be able to use the limb, it may move awkwardly, limp severely, or the limb may be pointing in the wrong direction. With dislocations (a limb that is out of its normal joint) the injury may result in the loss of use of the limb, a swelling of the joint or the affected area will not move easily and appear to be “locked.” The limb can also look longer or shorter than the corresponding limb on the other side.

If a veterinarian has been called, large animals are best left where they are until the veterinarian arrives. If the animal is able to walk, try to get it to a safe area until it can be attended to.

A fractured spine can be extremely painful. The animal will usually not be able to rise completely, and there may be no movement in the hind legs. With a less severe spinal fracture, an animal may be up and moving normally, or have a “swaying” in its hindquarters.

## **Loss of Consciousness**

Loss of consciousness may occur from a skull fracture, a brain hemorrhage, suffocation, drowning, shock or electrical shock. Until the animal can be attended to, make sure it is lying on its side and can breathe properly.

## **Suffocation**

In vehicular accidents, suffocation may result from the piling of animals against the front, rear or sides of a trailer. Roll-overs may result in the suffocation of animals on the bottom of the pile-up. Smoke inhalation in a fire will also suffocate an animal – even hours after a “successful” rescue, due to lung damage. Remove live, mobile animals from the pile as soon as possible. Some of the animals underneath may recover. Do not attempt to revive those that do not recover on their own.

## **Burns**

When animals have been exposed to fire or electric shock, they can have burns of varying degrees. Burns cause extreme pain. The greatest immediate danger with burns is shock and later infection. After getting the animal to a safe zone and calming it, **cool** (not cold) water should be gently poured over the burned area for approximately 10-15 minutes. The burn should then be covered with a clean cloth and a veterinarian should treat the burn as soon as possible. When burns are extensive (covering most of or the entire body) or severe (deep down to bones and muscles), a veterinarian should be called immediately.

## **Amputation**

In the case of an amputation, a veterinarian should be called immediately.

## **Electric Shock**

Electric shock may result in shock, burns, fractures or death.

## **EUTHANASIA**

Euthanasia - humane death that occurs without pain and distress

It is important to remember that animals are property, and are therefore owned. If an animal needs to be euthanized, this can only happen in one of two ways:

- **WITH the consent of the animal owner or designate**
- **BY way of a veterinarian**
- **BY the owner or designee**

Proper procedure for euthanasia:

- Allow animal to calm down if necessary.
- The point of penetration is in the diagrams on the following pages. **The point between the eyes is not the appropriate point of entry.**
- A 22-caliber firearm is sufficient for most cattle, pigs and horses. The muzzle should be held approximately 2 inches from point of entry, not flush with the skull.
- Make sure the animal is dead before walking away from it. Check for vital signs - pulse, breathing, etc. An animal will “wiggle” for 2-3 minutes following death.

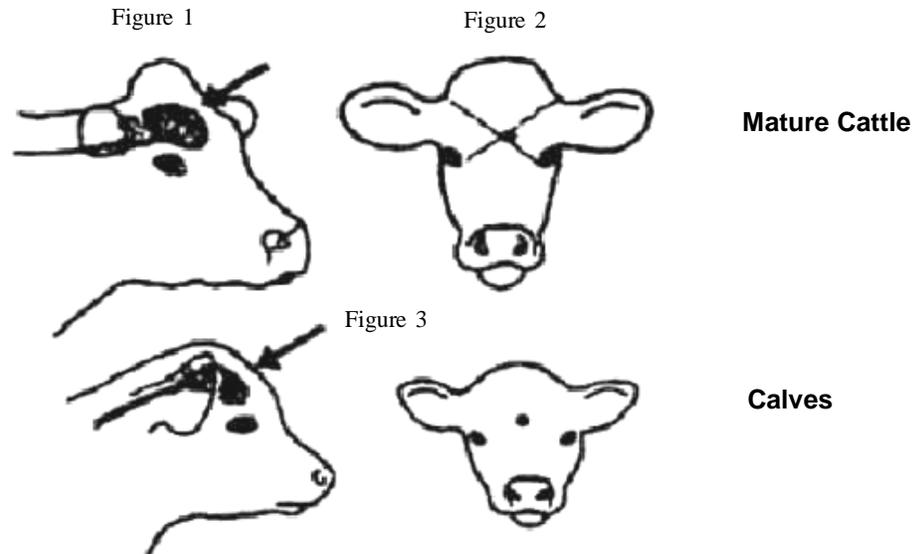
The following diagrams and information describe how to properly euthanize specific animals. To ensure euthanasia is performed properly it is very important to learn the appropriate point of penetration.

**Only a veterinarian or other extensively trained individual should perform euthanasia.**

The following information and diagrams are taken from the Recommended Codes of Practice for the Care and Handling of Farm Animals. Poultry recommendations have been adapted from the Centre for Animal Welfare, College of Agricultural and Environmental Sciences, University of California, Davis.

**APPENDIX 1**

# Guidelines for humane killing of cattle by firearms

**Cattle****Mature Cattle**

The head should be secure in a chute or by halter and shank to a solid structure. Food can be placed in front of the animal. The firearm is held at right angles to the skull and aimed at a point 2/3 of the way up the forehead at a point intersecting imaginary lines drawn between the back of the ears and the corners of the eyes (Figures 1 and 2). It may be easier to shoot slightly to the side of the ridge that runs down the center of the face.

**Calves**

Calves can be handled in the same manner as mature cattle but the aim of the firearm should be squarely on the mid lines of the forehead slightly lower than in the mature cattle (Figure 3).

Source: Longair, J. (A), Finley, G., Laniel, M-A., Mackay, C., Mould, K., Olfert, E.D., Rowsell, H., and Preston, A. 1991, Guidelines for euthanasia of animals by firearms. Can. Vet. J. 32: 724-726 December.

**APPENDIX 2**

# Guidelines for humane killing of deer by firearms



Figure 1



Figure 3

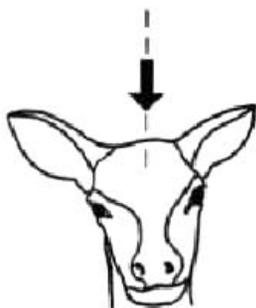


Figure 2



Figure 4

**Deer without antlers**

Secure the head with a halter. Food can be offered (placed) in front of the animal. The aim of the firearm should either be from behind or from the front as described in the humane killing of deer with antlers or from the top of the head at a point high up on the head equal distance from the eyes and ears (Figures 1 and 2).

**Deer with antlers**

If the animal has antlers, the approach should be from the rear and the aim directed between the base of the horns towards the mouth (Figure 3). Alternatively, the firearm can be aimed from the front just above the eyes on the midline, shooting towards the spine (Figure 4).

Source: Recommended Code of Practice for the Care and Handling of Farmed Deer (Cervidae) (1996).

**APPENDIX 3**

# Guidelines for humane killing of horses, mules and donkeys by firearms



Figure 1



Figure 2

The animal must be adequately restrained to ensure proper placement of the shot. The muzzle of the firearm must be placed close to the animal's head, above the eyes, pointing in the required direction (Figure 1). The optimal distance from the muzzle to the head is 3 to 5 cms (1 - 2"). The bullet or shot should enter the skull at the point where imaginary lines crossing from each to the opposite ear intersect (Figure 2). The direction of the shot should be down towards the withers (Figure 1).

Adapted from: Longair, J. (AI), Finley, G., Laniel, M-A., Mackay, C., Mould, K., Olfert, E.D., Rowsell, H., and Preston, A. 1991, Guidelines for euthanasia of animals by firearms. *Can. Vet. J.* 32: 724-726 December.

**APPENDIX 4**

# Guidelines for humane killing of pigs

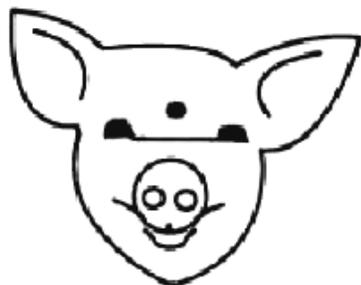


Figure 3-1 Site of shooting



Figure 3-2 Direction of aim

**Blow to the head**

The best method of killing a piglet (under 3 weeks of age) quickly and painlessly, is to strike the animal on the top of its head with a heavy, blunt object, such as a hammer. The blow must be administered swiftly, firmly, and with absolute determination.

**Overdose of anesthetic**

Under some circumstances, you may have to ask a veterinarian to euthanize a pig with an overdose of an anesthetic. These drugs are strictly controlled and must be administered by a veterinarian. The meat from animals killed in this manner cannot be used for human food or animal food. Therefore the disposal of the carcass presents a problem.

**Firearms**

Shooting an animal should only be done by persons well versed in handling firearms and licensed to use firearms. Safety must be considered. To avoid the possibility of a bullet ricocheting off concrete floors and walls, take the pig outdoors. Restrain the pig with a noose around its upper jaw. The person holding the restraining rope or snare should stand in front of the pig and behind the person with the gun.

The site of shooting is on the mid-line of the forehead, one finger's width above eye level (Figure 3-1). In most cases, the barrel of the firearm should be 3-5 cm (1 1/4 - 2") from the head if using a rifle, pistol, or 0.410-gauge shotgun or up to 25 cm (10") if using a larger gauge shotgun or rifle. The aim should be well up into the skull (Figure 3-2).

A 0.22 caliber rifle or 0.410ga. shotgun are only appropriate for animals under 24 weeks of age. Older animals require a more powerful firearm.

Source: Recommended Code of Practice for the Care and Handling of Farmed Animals – Pigs (1993).

**APPENDIX 5**

# Guidelines for humane killing of sheep by firearms



Figure 1

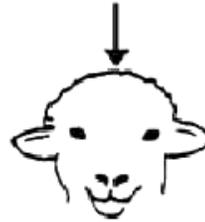


Figure 2



Figure 3



Figure 4



Figure 5

Figures 1 and 2: Without horns. Figures 3-5: With horns

## Sheep and goats without horns

The head should be secured with a halter, and food offered to the animal. The aim of the firearm should be from behind or from the top of the head at a point high up on the head an equal distance from the eyes and ears (Figures 1 and 2).

## Sheep and goats with horns

If the animals have horns, the approach should be from the rear and the aim directed between the base of the horns towards the mouth (Figure 3). Alternatively the firearm can be aimed from the front just above the eyes on the mid line, shooting towards the spine (Figure 4). Goats are treated as per horned sheep (Figure 5).

Source: Longair, J. (AI), Finley, G., Laniel, M-A., Mackay, C., Mould, K., Olfert, E.D., Rowsell, H., and Preston, A.  
1991, Guidelines for euthanasia of animals by firearms. Can. Vet. J. 32: 724-726 December.

**APPENDIX 6**

# Poultry Euthanasia Sheet

## Poultry

The method chosen should minimize the pain and distress experienced by the bird. However, the choice of techniques may be limited in certain environments. In all cases, proper restraint can help to decrease the bird's fear and distress. When possible, poultry should be held gently in an upright position with their wings closed to prevent flapping. Being carried upside down by the legs should be minimized. Covering the eyes with a hand or a piece of cloth exerts a calming effect, as does holding the bird in contact with the handler's body.

Appropriate training of personnel is important to ensure that poultry are euthanized appropriately. Untrained personnel in an emergency situation can use some methods, while others, such as cervical dislocation, require skill and training to carry out correctly.

### Method: Cervical Dislocation

If carried out near the head area, dislocation of the neck vertebrae from the cranium damages the lower brain region, causing rapid unconsciousness. In order to be humane, dislocation must cause severance of the brain from the spinal cord and carotid arteries. This is best achieved using a stretching motion rather than by crushing the vertebrae. Training of personnel is critical. Small birds can be dislocated by applying a rotational movement to the neck. Adult poultry should be held by the shanks with one hand, and the head grasped immediately behind the skull with the other hand. The neck is then extended and dislocated using a sharp downward and backward thrust. The necks of larger or heavily muscled birds like broiler breeders, turkeys, geese, ratites, and waterfowl are extremely difficult to dislocate.

It is therefore recommended that other methods be used for birds weighing more than 6.5 pounds. Flapping and other body movements may persist for several minutes after cervical dislocation, although if the vertebrae have been properly dislocated these are reflex reactions. Securing the bird's wings prior to performing the dislocation can prevent involuntary flapping. If large numbers of birds are to be euthanized cervical dislocation is not an appropriate method because personnel performing the procedure rapidly become fatigued due to the physical effort required.

### Confirmation of Loss of Consciousness and Death

Confirmation of death is critical regardless of the method chosen. The cessation of reflexes in the head area can be used to confirm loss of consciousness:

- Lack of response to a hard pinch delivered to the comb, wattles, or snood
- Lack of blink reflex when the eye is touched and fully dilated eye pupils

The following signs can be utilized to confirm death:

- Cessation of respiration
- Cessation of heartbeat

**APPENDIX 7**

## **Emergency Ratite Euthanasia: Emus, Ostriches**

If the bird can be safely restrained, a veterinarian can administer a lethal injection and euthanize the bird. Ratites have powerful legs and sharp talons, only knowledgeable handlers should attempt to restrain a conscious bird. Some kind of capture pole with a noose to hold the upper neck is required for safe restraint of ratites.

Emergency euthanasia of ratites may be performed by gunshot to the brain at close range. It may be safer to aim the firearm from behind or from the top of the head at a point high up on the head. This will keep the ratite from moving its head toward the firearm. Ratites bob their heads and move their necks frequently. Approaching a ratite from behind will also keep the person discharging the firearm out of the kicking range of the bird. It is not safe to have someone attempt to hold or restrain a bird that is to be shot.

**APPENDIX 8**

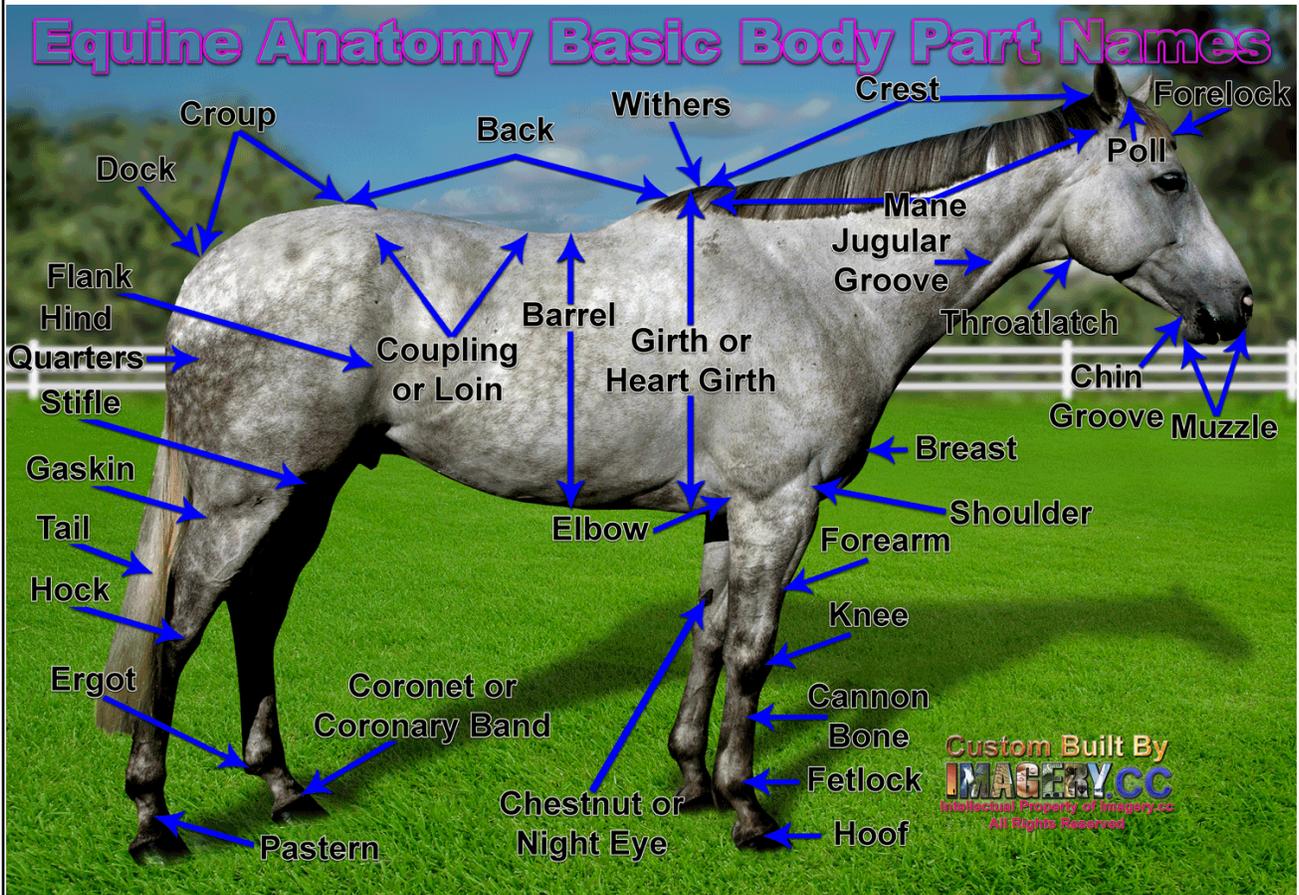


Photo Courtesy of: <http://equestrianoutreach.com/EOWebArtFolder/Eq%20Info%20-%20Illustrations/EABodyParts.gif>

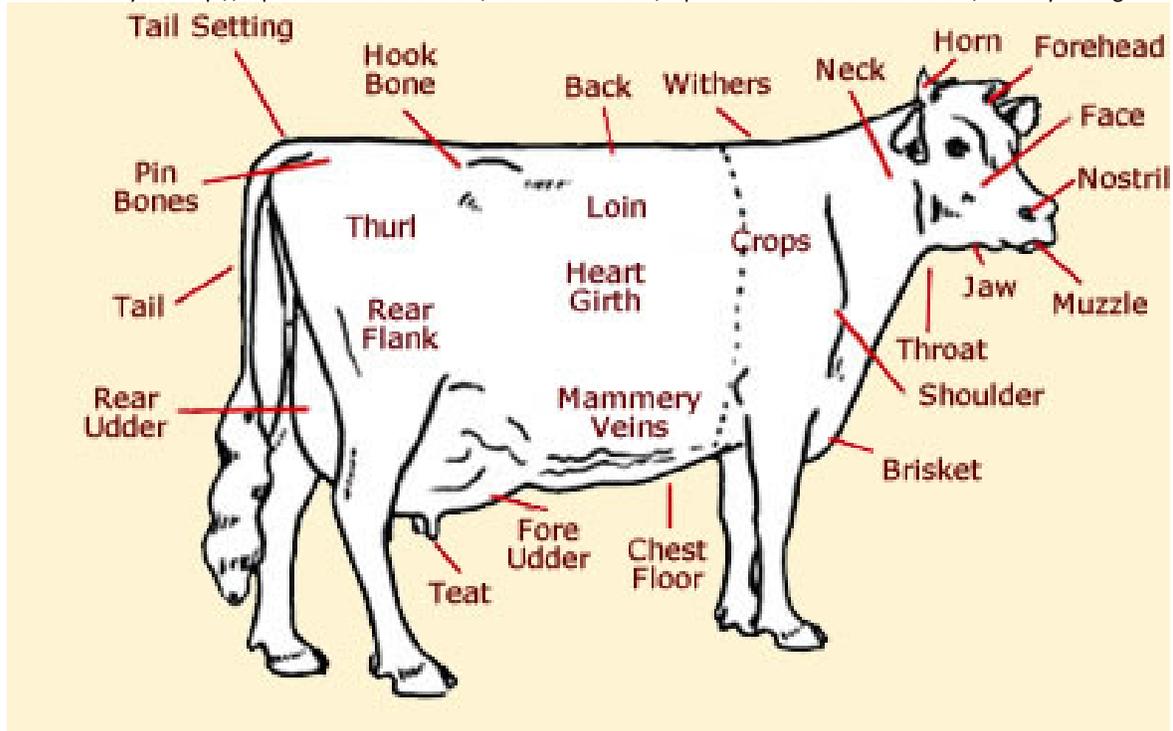


Photo courtesy of: [http://www.animalcorner.co.uk/farm/cows/cow\\_anatomy.html](http://www.animalcorner.co.uk/farm/cows/cow_anatomy.html)

***APPENDIX 9***

**COUNTY LIVESTOCK CONTACTS**

**APPENDIX 10****DISPATCHER DECISION TREE**

- Type of incident?
- Are there vehicles involved?
- If yes, what how many and what type? (car, tractor trailer, etc.)
- Are the vehicles upright and on wheels?
- Rolled? If rolled, to the left or right? Jackknifed?
- Are there animals loose?
- Is there fire involved?
- Are there hazardous chemicals involved?
- Number of victims?

**APPENDIX 11****TRAILER EXTRICATION TOOLS****Best tools for cutting a trailer**

- Reciprocating saw: this type of saw can efficiently cut apart the rood and the back end of a Commercial trailer liner. The blade must be constantly lubricated. This type of saw produces minimal noise
- Circular saw with an adjustable metal cutting blade: This type of saw provides the most rapid cutting action and can be used on the back end and roof of a trailer. It is very important to ensure that when using this saw, that you do not cut the animals contained.

**Tools that successfully cut the trailer (but are not recommended)**

- Air chisel: the air chisel will cut the roof, but will most likely not be effective on the ribs of the roof or back panels. The air chisel is also very loud, which elevates stress levels and could induce a panic response from the contained animals.
- Chop saw: this saw is very large and difficult to handle for overhead cuts. Two people are required to stabilize and lift the saw, which increases the chance of injury. This saw cuts deep, and could injure or kill animals contained.
- Cutters: these tools cut aluminum, but create a jagged edge, increasing potential of injury

**Tools that will NOT successfully cut a trailer**

- Hydraulic spreaders (Jaws of Life): they are designed to spread and not cut. They will not create sufficient openings.
- Cutting torches: they melt aluminum and will burn the animals
- Rescue circular saw (K-12): this saw will jam on aluminum, plywood, and rubber. It will also spark, creating the possibility of fire.

## **ACKNOWLEDGEMENTS AND REFERENCES**

- Ontario Farm Animal Council, [www.ofac.org](http://www.ofac.org)
- Ontario Humane Transport Working Group
- Alberta Farm Animal Care Association (AFAC) – *Livestock Emergency Response Course*
- Jennifer Woods, Reflected J Livestock Consulting – Livestock Emergency Response Course Creator
- Canadian Agri-Food Research Council – Recommended Code of Practice for the Care and Handling of Farm Animals – Transportation
- Dr. Martin Appelt, Canadian Food Inspection Agency
- Jim Paterson, Canadian Food Inspection Agency
- Jeremy Locke Ontario Society for the Prevention of Cruelty to Animals
- Craig Richardson, Ontario Ministry of Agriculture and Food
- Tom Luckhart, Luckhart Transport LTD.
- Lisa Pederson, North Dakota State University
- Dr. Temple Grandin, Assistant Professor of Animal Science, Colorado State University
- Dr. Rebecca Gimenez, Technical Large Animal Emergency Rescue, [www.tlaer.org](http://www.tlaer.org)
- Large Animal Technical Rescue, Participant Guide, August 2011
- <http://www.rancocasvet.com/library.html>

### **Book Reference and Contributions:**

Gimenez, Rebecca and Tomas, May, Kimberly (2008). *Technical Large Animal Emergency Rescue*. Iowa: Wiley-Blackwell.

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