

LARGE ANIMAL RESCUE

Approved by the Statewide Training and Education Advisory Committee



Adopted by the State Board of Fire Services



STUDENT MANUAL

January 2003 Edition



LARGE ANIMAL RESCUE

O P E R A T I O N A L

S T U D E N T M A N U A L



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LARGE ANIMAL RESCUE



Operational
Table Of Contents

Table of Contents

Table of Contents.....	1
State Fire Training.....	3
Mission Statement.....	3
Fire Service Training and Education Program.....	3
Acknowledgments.....	3
Special Acknowledgments.....	4
Course Outline.....	6
Texts and References.....	7
Topic 1-1: Introduction and History.....	8
Slide Index.....	8
Horses in Service.....	14
Large Animal Rescue (LAR) Is Not New To the Fire Service.....	14
LAR as A Technical Rescue.....	15
Topic 1-2: Horse Characteristics and Behavior.....	16
Slide Index.....	16
Horse Characteristics.....	25
Horse Behavior.....	26
Topic 1-3: The Emergency Rope Halter and Lead Line.....	27
Slide Index.....	27
The Halter, a Means of Control.....	32
The Lead Line, a Means of Communication.....	32
Topic 2-1: Scene Management and Operations.....	33
Slide Index.....	33
A Unified Command.....	41
Operations.....	41
Legal Aspects.....	42
Euthanasia.....	42
Topic 2-2: Large Animal Rescue Equipment.....	43
Slide Index.....	43
Equipment Specific to LAR.....	57
Standard Equipment.....	58
Topic 2-5: Trailers and Trailer Operations.....	59
Slide Index.....	59



LARGE ANIMAL RESCUE

Operational

State Fire Training



Trailer Types	69
Trailer Operations.....	69
Fire Fighter Safety	69
Topic 2-6: Raising and Lowering Systems and Operations	71
Slide Index	71
Systems.....	86
Operations.....	86
Vertical Lifting.....	87
Topic 2-12: Water Operations	88
Slide Index	88
Large Animals Can Swim	95
The Rescue	95
Appendix A: Glossary	96
Manipulative Performance Test #1	101
Manipulative Performance Test #1	102
Manipulative Performance Test #2.....	103
Manipulative Performance Test #2.....	104
Manipulative Performance Test #3.....	105
Manipulative Performance Test #3.....	106
Manipulative Performance Test #3.....	107
Manipulative Performance Test #4.....	109
Manipulative Performance Test #4.....	110
Manipulative Performance Test #4.....	111
Manipulative Performance Test #5.....	113
Manipulative Performance Test #5.....	114
Manipulative Performance Test #6.....	115
Manipulative Performance Test #6.....	116

State Fire Training

Mission Statement

The mission of State Fire Training is to enable the California fire service to safely protect life and property through education, training, and certification.

Fire Service Training and Education Program

The Fire Service Training and Education Program (FSTEP) was established to provide specific training needs of local fire agencies in California. State Fire Training coordinates the delivery of this training through the use of approved curricula and registered instructors.

The FSTEP series is designed to provide both the volunteer and career fire fighter with hands-on training in specialized areas such as fire fighting, extrication, rescue, and pump operations. All courses are delivered through registered instructors and can be tailored by the instructor to meet your department's specific need.

Upon successful completion of an approved FSTEP course, participants will receive an Office of State Fire Marshal course completion certificate.

Acknowledgments

The State Fire Training Curriculum Development Division coordinated the development of the material contained in this guide. Before its publication, the Statewide Training and Education Advisory Committee (STEAC) and the State Board of Fire Services (SBFS) approved this guide. This guide is appropriate for fire service personnel and for personnel in related occupations that are pursuing State Fire Training certification.

Andrea Tuttle Director of CDF	John J. Tennant State Fire Marshal
Ray Snodgrass Chief Deputy Director	David B. Ebert Training and Education Chief
Steve Hutchison Division Chief Curriculum Development	Art Cota Division Chief State Fire Training



LARGE ANIMAL RESCUE



Operational

Special Acknowledgments

Special Acknowledgments

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Alicia Hamilton
Fire Service Training Specialist

Lisa Powell
Office Technician

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John Fox, Primary Developer Felton FPD	
Debra Fox, Developer Felton FPD	Greg Malloy, Developer Felton FPD

Ray Berta Ray Berta Horses	
Linda Richmond Felton FPD California State Parks Horse Patrol Santa Cruz County Horsemen's Assoc.	Steve Richmond Felton FPD CDF Deputy Chief Retired California State Parks Horse Patrol

This 2003 edition of Large Animal Rescue (LAR) represents a collaborative effort that started in 1996. We gratefully acknowledge the following individuals for their support and development of the LAR technique. We gratefully acknowledge the Board of Directors, Chief **Ron Rickabaugh**, Assistant Chief **Dave Newell**, and the fire fighters of Felton Fire Protection District for their support and assistance with the development of the LAR technique.

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- Mike Schulz
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Joe Fox

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Liz Fox

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Karl Custin

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Adobe Animal Hospital, Santa Cruz

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USAR Captain

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Adobe Animal Hospital, Santa Cruz

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Course Outline

Course Objectives: To provide the student with...

- a) Information about large animal rescue as a technical rescue
- b) Information about prey animal behavior and characteristics
- c) Information and training on emergency containment of large animals
- d) Information and training on scene management and large animal operations
- e) Information and training on large animal rescue equipment and application
- f) Information and training on horse trailers and on-road accidents
- g) Information and training on rope operations and large animals
- h) Information and training on hauling, lifting and lowering large animals
- i) Information and training on vertical lifting operations with large animals
- j) Information and training on water rescue with large animals

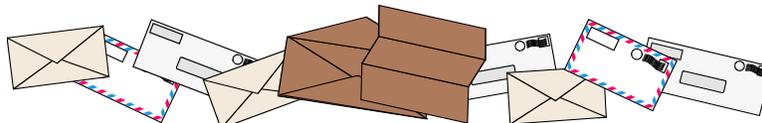
Course Content	8:00
Unit 1: Introduction to Large Animal Rescue	
1-1 Introduction And History	0:30
1-2 Horse Characteristics And Behavior	0:30
1-3 The Emergency Rope Halter And Lead Line	0:30
1-4 How To Approach A Loose Horse	0:15
1-5 How To Apply An Emergency Rope Halter	0:15
Unit 2: Operations and Equipment	
2-1 Scene Management And Operations	0:30
2-2 Large Animal Rescue Equipment	0:30
2-3 How To Apply A Rescue Strap, Forward Application	0:15
2-4 How To Apply The Vertical Lift Tie	0:15
2-5 Trailers And Trailer Operations	1:00
2-6 Raising And Lowering Systems And Operations	0:45
2-7 How To Apply A Rescue Strap, Rear Drag Application	0:15
2-8 How To Assemble A Set Of Tandem Prusik Loops To An Anchor Rope	0:15
2-9 How To Assemble A Set Of Parallel Prusik Loops To A Double Anchor Rope	0:15
2-10 How To Set-Up A Piggyback Haul System	0:15
2-11 How To Operate A Piggyback Haul System	0:15
2-12 Water Operations	0:30
Review and Exam	1:00

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- Swiftwater Rescue Field Guide, Slim Ray, Jan Atlee (illustrator), CFS Press, January 1997

State Fire Training gladly accepts your comments and suggestions for future enhancements or revisions to this document. Please forward to:

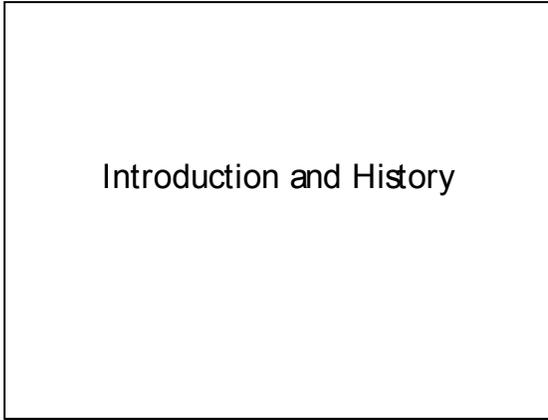
CDF/State Fire Training
Curriculum Development Division
4501 State Highway 104
Ione, California 95640-9705
or email
alicia.hamilton@fire.ca.gov



Topic 1-1: Introduction and History

Slide Index

Slide 1



Slide 2



Slide 3

Large Animals

- ◆ Large animals can be working partners
 - ◆ A means of livelihood
 - ◆ A financial investment
- ◆ Large animals can be companions
 - ◆ A priceless family member

Slide 4

Owner Demographics

- ◆ Demographics have changed
- ◆ More horse owners are urban/suburban based
- ◆ Most are recreational riders
 - ◆ May be limited in resources and experience
- ◆ More owners are transporting animals greater distances

Slide 5

International Efforts

- ◆ Sweden
 - ◆ Department maintains animal rescue ambulances
 - ◆ Has staffing trained in the emergency medical treatment of animals (ANIMEDS)
- ◆ Australia
 - ◆ Developed a vertical lift harness
- ◆ England
 - ◆ Part of basic fire fighter training
 - ◆ Many brigades have units specifically designed for LAR

Slide 6



Slide 7

- Early U.S. LAR
- ◆ Charles Anderson & John Madigan, DVM, MS
 - ◆ Invented Anderson sling for vertical lifting
 - ◆ Stephen Dey, DVM
 - ◆ Devised vertical lift tie
 - ◆ Produced trailer accident training video
 - ◆ Robert Miller, DVM
 - ◆ Articles on horse behavior and emergency handling
 - ◆ Tim Collins, Rescue Technician
 - ◆ Teaches evacuation/rescue, devised rescue strap
 - ◆ Los Angeles Fire Department
 - ◆ USAR/Special Ops respond to LAR incidents

Slide 8

- U.S. LAR Development Continued With
- ◆ Tomas and Rebecca Gimenez, PhDs
 - ◆ Developed training and response through Clemson Univ.
 - ◆ John Fox, Captain Felton Fire Protection District
 - ◆ Developed training for Felton LAR unit
 - ◆ Wrote protocols for county and OES response that led to the development of FSTEP curriculum
 - ◆ Craig Jones, Rescue Critters
 - ◆ Developed articulated and weighted horse mannequin
 - ◆ Previous U.S. LAR response efforts were isolated, individual, and not standardized

Slide 9

Training Needed To Be

Developed
Organized
Standardized

Slide 10

LARA sA Technical Rescue

- ◆ Blending of other technical rescue skills
 - ◆ Applied with an understanding of large animal behavior
- ◆ Based on standard fire service equipment and their operation
- ◆ A unified command using ICS
- ◆ Dispatched through 9-1-1 system
- ◆ Standardized training

Slide 11

The Fire Service Charter

The Protection Of
Life
Property
and the
Environment

Slide 12

Fire Service As the Primary Resource

- ◆ Fire service is well suited to the task
 - ◆ Fire fighters routinely enter high-risk situations
 - ◆ LAR blends and adapts other technical skills
 - ❖ Vehicle extrication
 - ❖ Heavy rescue
 - ❖ Swift-water rescue
 - ❖ Confined space entry
 - ◆ Technical skills can be effectively applied to LAR with an understanding of horse behavior
 - ◆ The fire service has a command system for all incidents

Slide 13

Steamer



Courtesy of CSFA Dave Hubert & Jimmy Glynn driving Brady, Major & Jim

Slide 14

Course Objectives

- ◆ LAR's relevance to the fire service
- ◆ The importance of knowing horse behavior
- ◆ Basic knowledge of horse characteristics
- ◆ How to make and use an emergency rope halter
- ◆ Scene management and on-scene operations
- ◆ Basics of horse trailers
- ◆ Basic techniques of trailer rescues

Slide 15

Course Objectives

- ◆ Basic use and application of a rescue strap
- ◆ Rope operations and large animals
- ◆ Hauling, lifting, lowering and assisting animals
- ◆ How to tie and use the vertical lift rope harness
- ◆ Sustained vertical lifting operations
- ◆ Water operations and techniques

Slide 16

LAR Training



Courtesy of Felton Fire Department

Horses in Service

It is difficult to imagine the history of this country and the history of the fire service without these four-legged partners. For about 50 years, horses valiantly fought their natural instincts while charging to blazing infernos pulling 4 and 5 tons of fire equipment. At a full gallop, these horses responded Code 3 dodging through city traffic. Their delicate legs pounded the hard cobblestones and pavement, sometimes slippery with rain, snow, or ice. Now, fire fighters can use their skills to help horses and other large animals.

"Look back at our struggle
for freedom,
Trace our present day's
strength to its source;
And you'll find that man's
pathway to glory,
Is strewn with the bones of a
horse." *Anonymous*

Large Animal Rescue (LAR) Is Not New To the Fire Service

LAR in Other Countries

LAR incidents are routine responses for fire departments in some countries. The English fire department includes LAR training as part of basic fire academy. According to British Assistant Divisional Officer Roy Earl, the Hampshire Fire and Rescue Service responds to 4-5 calls per week. He states, "In England horses are like dogs in the U.S., every one has one in their backyard." Through out England, fire departments have "Delta Units," four-wheel drive flat bed trucks equipped with knuckle boom cranes that are specifically designed for large animal rescues. The Swedish fire department staffs animal ambulances and has "animeds" that respond to animal emergencies.

LAR in the United States

Early LAR

Horses and other large animals are a part of the American environment and always will be. The motorized age found horses concentrated in rural environments. Most horse owners were farmers, ranchers, and breeders, that were experienced with animal behavior and handling. When faced with a rescue situation, these owners would call their neighbor to bring a tractor and help. Owners destroyed the animal if an incident was insurmountable.

Present Day LAR

Owner demographics are changing and a new breed of horse owner is emerging in our society. These people are professionals who are turning to horses for recreation and companionship. They consider their animals to be valued members of the family. Now the interface between horses and humans has grown and horses are common sights traveling on our roadways and traversing trails in our parks. Because of the changing role of horses, and because of a higher level of professionalism and expectation in our society, firefighters are increasingly more likely to be called to the scene of a large animal rescue.

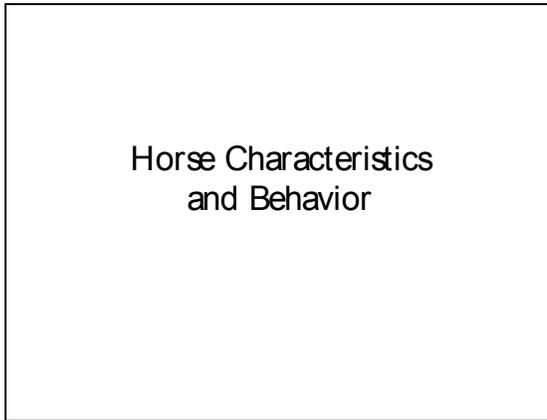
LAR as A Technical Rescue

Although the idea of large animal rescue is relatively new to the fire service in this country, the fire department can play a vital role in these types of incidents. With adaptability and flexibility, other technical rescue skills can make these responses more successful. All responders must work in "concert" with each other, guided by an understanding of horse characteristics and behavior.

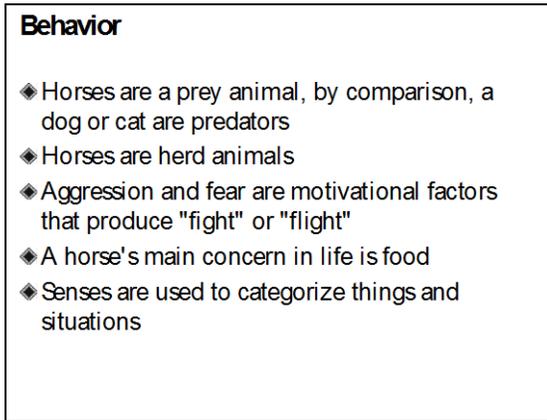
Topic 1-2: Horse Characteristics and Behavior

Slide Index

Slide 1



Slide 2



Slide 3

Hearing

- ◆ Can hear sounds at frequencies above those perceived by humans
- ◆ Lower limit
 - ◆ Horse = 55 Hz
 - ◆ Human = 20 Hz
- ◆ Optimal range
 - ◆ 1-16 kHz
 - ◆ 50 Hz – 8 kHz
- ◆ Upper limit
 - ◆ Horse = 33.5 kHz
 - ◆ Human = 20 kHz

Slide 4

Hearing

- ◆ Ears are fairly big and can swivel in all directions
- ◆ Act like a radar to pick up sound waves before the object is seen
- ◆ Turn its head if it can't turn its ears toward sound
- ◆ Communicate with position, movement and sound

Slide 5

Smell

- ◆ Nasal cavity is long
- ◆ Highly developed sense of smell
- ◆ Better sense of smell than humans
- ◆ Use smell to remember other horses, things, and places

Slide 6

Sight

- ◆ Eyes big, set on side of head
 - ◆ By turning its head slightly, can see 360 degrees
- ◆ Wide peripheral vision
 - ◆ Can see around when head is down for feeding
 - ◆ Assume they can see everything on scene
- ◆ Field of vision is mostly monocular
 - ◆ Have poor depth perception; cannot judge distance
 - ◆ Cannot determine if movement is towards them or going away
- ◆ Narrow field of binocular vision
 - ◆ Effective for long distance

Slide 7

Sight

- ◆ Excellent night vision
- ◆ Blind spots
 - ◆ Large area at the rear of the body
 - ◆ Small area under the chin
 - ◆ Can be eliminated by slight movement of the head
- ◆ See movement easily
 - ◆ Be careful of abrupt movement
 - ◆ Shape of eyeball exaggerates movement from behind
- ◆ See in color is unknown
 - ◆ Can probably see reds/blues
 - ◆ Yellow seen as white light, bright

Slide 8

Visual Field

The diagram illustrates the visual field of a horse. It shows a central 'Binocular Field' of 60-70 degrees. On either side, there are 'Monocular Fields' extending up to 215 degrees. A 'Marginal Zone' is indicated between the monocular fields, and a 'Blind Area' is shown at the rear of the horse's head.

Courtesy of Tomas Gimenez, P.H.D.

(Rev. 08/03)

Slide 9

Reading A Horse

- ◆ Read a horse to anticipate its behavior
- ◆ Pay attention to the
 - ◆ Ears: position and movement
 - ◆ Eyes: expression
 - ◆ Head: elevation and movement
 - ◆ Stance: leg posture and position
 - ◆ Tail: movement and posture

Slide 10

Signs Of A Calm Horse

- ◆ Ears
 - ◆ Moving
- ◆ Eyes
 - ◆ Normal, soft
- ◆ Head
 - ◆ Lowered
- ◆ Stance
 - ◆ Relaxed
 - ◆ Back leg may be bent
- ◆ Tail
 - ◆ Relaxed, down



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Slide 11

Signs Of An Alert Horse

- ◆ Ears
 - ◆ Upright, forward
- ◆ Eyes
 - ◆ Wide open, whites showing
- ◆ Head
 - ◆ Upright, tall
- ◆ Stance
 - ◆ Tail upright
 - ◆ Sprint positioned
- ◆ Tail
 - ◆ Swishing or flicking, flagged



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Slide 12

Signs Of An Excited Horse

- ◆ Sprint position
- ◆ Body collected
- ◆ Hindquarters loaded
- ◆ Eyes tense



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Slide 13

Safety

- ◆ Safety of humans comes first
- ◆ All large animals are different, be alert
 - ◆ Highly sensitive, emotional animals
 - ◆ Mishandled horses may not trust humans
 - ◆ Ask owner about potential behavior problems
- ◆ These are prey animals
- ◆ The main defense is flight
 - ◆ Flight is a horse's main defense, a situation can change instantly, in a blink of an eye

Slide 14

Things To Be Aware Of

- ◆ Rear Legs
- ◆ Front legs
- ◆ Hooves
- ◆ Head

Slide 15

Things To Be A ware Of

- ◆ Rear legs - kicking legs
 - ◆ Can extend and kick back up to 6 feet
 - ◆ Can kick with both legs, or one
 - ◆ Can kick forward 2-3 feet
- ◆ Front legs - striking legs
 - ◆ Can strike forward 2-3 feet, down, hard
 - ◆ Can strike back 2-3 feet
 - ◆ Can rear up on hind legs and strike down

Slide 16

Things To Be A ware Of

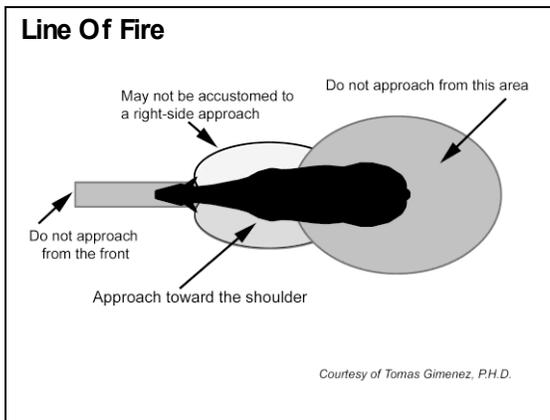
- ◆ Hooves
 - ◆ May have steel shoes, greater impact
 - ◆ Unshod hooves, may be sharp
 - ◆ Cloven hooves can be sharp
- ◆ Head
 - ◆ Horses can bite
 - ◆ Can swing with wide range of motion
 - ◆ Can raise and lower head quickly

Slide 17

Positioning

- ◆ Stay in safety/neutral zones or out of the line of fire
- ◆ You can be pushed by the head, hind end, front end and stepped on
- ◆ Stay alert, don't be distracted
- ◆ Support personnel must be alert, attentive to animal handler, don't cause a distraction
- ◆ Need room to move and feel comfortable, don't confine

Slide 18



(Rev. 08/03)

Slide 19

Approach

- ◆ Keep eye contact with the horse
- ◆ Talk to the horse in a calm voice
- ◆ Body language
 - ◆ Be relaxed, confident, alert, and ready
 - ◆ Horse will sense if you're tense
 - ◆ Natural easy walk
 - ◆ Non-threatening posture
- ◆ Approach from the side to a neutral position
- ◆ Gain and maintain physical contact
- ◆ Direct and support the horse as softly as possible

Slide 20

Halters

- ◆ A means of control
- ◆ Types
 - ◆ Leather: Subject to rot
 - ◆ Nylon web: Metal fittings can fail
 - ◆ Rope or "cowboy": Have knots to aid in control

Slide 21

Lead Lines

- ◆ Means of communication
- ◆ Used to direct and support the horse
- ◆ Conventional lead lines may be too short for a rescue situation

Slide 22

Containment

- ◆ Enclosures
 - ◆ Most horses will respect enclosures
 - ◆ Cattle might not
- ◆ Horse handlers
- ◆ In horse trailers
- ◆ Pastures or paddocks adjacent to scene
- ◆ Vehicles

Slide 23

Attitude

- ◆ May convey
 - ◆ Cooperation
 - ◆ Exhaustion
 - ◆ May appear to have given up
 - ◆ Panic
 - ◆ Flight or fight

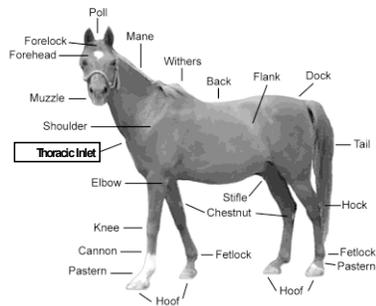
Slide 24

Sedation Or Chemical Restraint

- ◆ Sedated horse may be more tolerant
 - ◆ Can still react violently if over stimulated
- ◆ Certain sedatives may cause unpredictable behavior - watch out!
- ◆ Stimulation may reverse effects of sedation
- ◆ Vet will determine if horse should be sedated, the level, and will monitor the effects

Slide 25

Parts Of The Horse



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To effectively resolve an incident involving a large animal or horse, it is first critical to understand the animal and what motivates it. Safety relies on an understanding of how these animals think, their physical characteristics and what reactions we can expect. An understanding of this will help with scene management and the safe application of technical skills. While the focus of this lesson is on horses, the information is applicable to other large prey animals with a herd social structure such as cattle, sheep, llamas, and deer.

Horse Characteristics

Horses are prey animals and a food source for predators. For centuries, survival has relied upon a keen sensory system, instantaneous reactions, and the security that comes with a herd social structure.

Senses

Hearing

The horse has 10 muscles that control each ear and allow full movement. The ears are able to move independently of each other. Like radar, the ears work together to triangulate sound long before the eyes can see the source of the sound. When a sound is located, the head will turn to allow the eyes to confirm what the ears have heard.

Eyesight

The relatively large eyes of the horse allow distance in the field of vision. The placement of the eyes, on the side of the head, allows wide scope of vision. Each eye works independently of the other and by turning the head, the horse is able to view a panorama of nearly 360°. There are narrow blind spots directly behind the tail and under the chin. Because of the side placement of the eyes, the horse's vision is mostly monocular. Binocular vision is limited to a narrow field directly to the front of the horse, where the eyes are able to converge. While the horse is well equipped to scan the landscape for predators, depth perception is poor and limited to the narrow field of binocular vision. The horse's eyes adjust slowly to light. After an abrupt change in light, eyesight may be unclear for about 15 minutes.

Smell

The horse's sense of smell is highly developed. Their long nasal cavities function much better than a human's to process smell. Horses may react to unfamiliar smells with apprehension, flight, or fight.

Body

The horse's large, muscular body lends itself to speed with long, thin legs that can cover ground quickly in escape. When trapped, the horse's body is well equipped to fight off predators with kicking and striking hooves, a 150 pound head that can be used as a weapon, and teeth that can tear and crush. The large body is difficult for predators to access and bring down.

Horse Behavior

Social Behavior

Horses live in a herd environment controlled by the alpha mare and protected by the stallion. The alpha mare is responsible for mobilizing the herd in times of danger. Constantly on alert, she demands the utmost respect and regard from herd members. The alpha mare will not hesitate to drive belligerent horses from the herd, leaving them vulnerable to predators. An effective punishment, the disciplined horse will seek forgiveness and attempt to rejoin the herd for safety. Herd members establish a complex hierarchy or pecking order that helps the herd function in an orderly way by reducing struggles over food, water, and shelter. By living peacefully among themselves, horses save energy to protect themselves from predators.

Defensive Behavior

Horses respond to frightening things or situations with "flight" if possible. If they are cornered or trapped, they may respond with their second line of defense, "fight." Because the horse can react instantaneously, rescuers who are working with the horse to apply rescue equipment must learn the "line of fire" and how to work in safe/neutral zones, maintaining proper position with the horse at all times.

A horse or other prey animal that is trapped will usually lie quietly conserving strength. At the first chance of escape, the horse will react instantly and aggressively to free itself.

Interaction with Humans

Horses have an ability to form a team relationship with humans. This relationship is strongest when the human provides the support and leadership that would normally come from a herd environment. Mark Rashid defines herd leadership more clearly when he describes the two types of leadership in a herd.¹ The first type is provided by the alpha mare, who controls the herd with good position and timing. The second type of leadership is provided by older horses that are calm, experienced, and give support to those that willingly follow them. The human can emulate both of these types to convey reassurance and to direct the horse.

Rescuers who understand horse behavior and characteristics will realize they must adjust their own behavior on the scene of a LAR to accommodate these sensitive creatures with calm, slow movement and low voices. The horse is acutely aware of everything in its surroundings. Normal incident tasks such as opening salvage covers, lighting flares, or setting up rope systems may cause the horse to react. Rescuers must be conscious of their actions and their impact on the horse and the horse handler. If the horse becomes agitated, they should slow or stop their activity thus allowing the animal to settle and give the handler a chance to regain control.

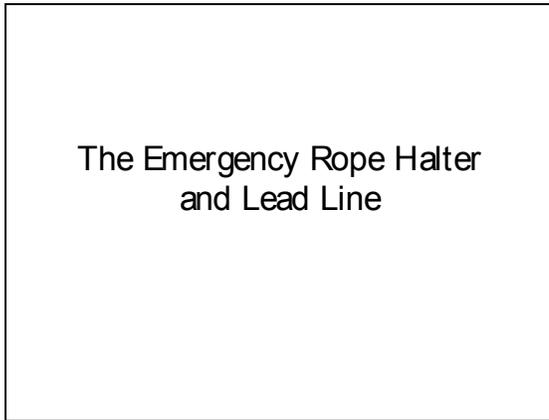
An understanding of animal behavior is extremely important. Knowledge of the "Line of Fire" and neutral zones will help rescuers to maintain proper position for handling the horse and applying rescue equipment. Remember - *the neutral zone is not static.*

¹ "Challenging the "Alpha Theory," Mark Rashid

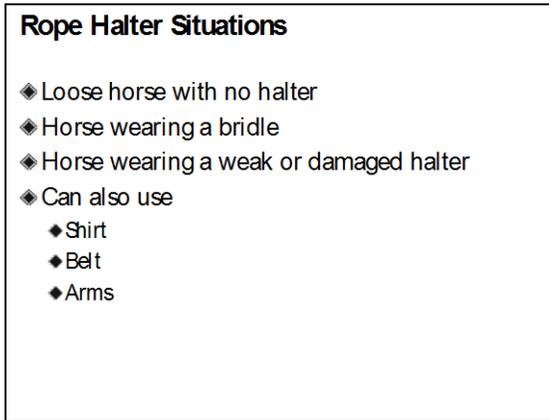
Topic 1-3: The Emergency Rope Halter and Lead Line

Slide Index

Slide 1



Slide 2



Slide 3

Rope Halter Criteria

- ◆ Readily available material
- ◆ Easy and quick to assemble
- ◆ Will fit any size animal
- ◆ Will work on different types of animals
- ◆ Easy to remove
- ◆ Applied in standing or recumbent positions

Slide 4

Equipment Needed

- ◆ Rope, ½-inch diameter or larger
- ◆ 20 to 25 feet long (minimum)



Slide 5

Application

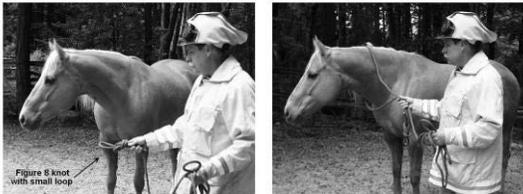


Figure 8 knot with small loop

- ◆ Slowly run the loop over the withers and under the neck
- ◆ Gain control of the horse

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Slide 6

Application



- ◆ Feed the middle part of the rope thru the loop, forming a second loop.
- ◆ Gain control of the horse.

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Slide 7

Application



- ◆ Move the new loop over the nose
- ◆ Shug the two loops up

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Slide 8

Lead Rope Tie

- ◆ When the lead rope is too short
 - ◆ Longer lead allows
 - ❖ More space for the handler to direct and support the horse
 - ❖ More leverage for the handler
- ◆ When the lead line is weak or damaged
- ◆ If the halter clip could break
- ◆ If the halter clip could injure the horse or handler

Slide 9

Attachment

- ◆ Rope, ½-inch or larger
- ◆ 15 foot minimum length

Slide 10

Application



- ◆ Pass one end of the rope thru the halter ring or loop 14 to 18 inches

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Slide 11

Application



- ◆ Wrap the loose end around the standing section of rope 2½ times

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Slide 12

Application



- ◆ Feed the mid section of the running section of the rope thru the loop at the halter ring

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Slide 13

Application



- ◆ Push the wraps up and tighten
- ◆ To release the knot, pull on the tag line

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The Halter, a Means of Control

Control of the animal in a large animal rescue is imperative, especially if the animal is a horse. In some situations, such as a trail incident, or an incident involving a loose horse on the roadway, there may not be a halter available. It is useful for responders to know how to fashion a halter out of a length of rope. The safety of the handler as well as other responders on scene depends on control of the horse. A halter and lead line allows the handler to control, direct, and support the horse. As a last resort, a belt, shirt, or even arms may restrain a horse until a rope becomes available, providing the animal is co-operative. The success of a large animal rescue may depend on this simple but important piece of equipment.

Situations When an Emergency Halter May Be Necessary

If the horse or animal is not wearing a halter, use the rope found on any engine or rescue truck to make an emergency rope halter.

If the horse is wearing a bridle, replace the bridle with a halter. Bridles have a metal mouthpiece or bit that could harm the horse's mouth in a rescue situation. Usually the reins that attach to the mouthpiece are not very strong and could break with pulling.

The horse may be wearing a halter that is weak or damaged from the accident. Using a halter in this condition could lead to a secondary disaster if the halter comes loose and the horse bolts.

Animal Control Officers often carry a variety of halters. However, they may only have a few sizes. An emergency halter will fit a pony or a draft horse, a camel or a llama.

Criteria for an Emergency Halter

The halter should be easy to assemble and quick to assemble out of easily available materials. It should be easy to put on, and easy to remove. This particular application, recommended by equestrian Ray Berta, includes a lead line that is long enough to stay out of the line of fire while still directing the horse. Materials are simply 20-25 foot lengths of ½-inch rope. Soft cotton rope is ideal, but kernmantle will substitute.

Replacement Halter

Replace the emergency rope halter as soon as possible with a manufactured halter. If the emergency halter is the only halter available for rescue operations, it must be monitored carefully. It may have a tendency to slip down the nose of certain animals. If it slips below the bony structure onto the cartilage of the nose, it may constrict the nasal passages and compromise the airways.

The Lead Line, a Means of Communication

If there is a halter on scene, it may be wise to replace the conventional lead line with a 20-25 foot length of rope. Most lead lines are only 6-8 feet long. The conventional length does not allow the handler enough line to achieve distance from the animal. Distance gives the handler a broader view to read the animal and anticipate its movement. This allows the handler to maintain proper positioning outside of the line of fire. As well, extra lead line length gives the handler leverage to control, support,

and direct the animal. Responders should know how to safely tie off a longer lead line. This particular application, devised by John Fox, has a tag line that can be pulled for easy removal.

Topic 2-1: Scene Management and Operations

Slide Index

Slide 1

Scene Management and
Operations

Slide 2

Protocols for Large Animal Rescue

- ◆ What is the nature of the incident?
- ◆ Is the rider(s) injured?
- ◆ How many horses are involved? Any injuries?
- ◆ Is the owner present and capable of making decisions concerning the welfare of the animal?
- ◆ Has a veterinarian been notified?
- ◆ Notify animal control and law enforcement if necessary

Slide 3

Who Is In Command?

- ◆ Animal control
- ◆ Law enforcement
- ◆ Fire department
- ◆ Veterinarian
- ◆ Owner

Slide 4

Animal Control

- ◆ Has legal authority in incidents involving animals
- ◆ They assume responsibility of the animal if the owner is not present
- ◆ Transportation of large animal(s)
- ◆ Housing and care of the animal(s) after the incident

Slide 5

Law Enforcement

- Highway Patrol, Sheriff, Police, Park Ranger
- ◆ May share legal authority with animal control
 - ◆ Often are first on-scene
 - ◆ Responsible for traffic control or road closure
 - ◆ May be needed for crowd control and scene access
 - ◆ May be needed to dispatch animal control

Slide 6

Fire Department

- ◆ The primary resource
- ◆ Provides
 - ◆ Staffing
 - ◆ Equipment
 - ◆ Communication
 - ◆ Technical skills
- ◆ Can access additional resources

Slide 7

Large Animal Veterinarian

- ◆ The medical authority
- ◆ Mobile
- ◆ Best qualified to assess the condition of the animals
- ◆ Equipped with medication
 - ◆ Chemical restraints
 - ◆ Sedatives and pain killers
 - ◆ IV fluids
 - ◆ Euthanasia solution
- ◆ May not be used to a "team" situation
- ◆ May not be trained in heavy rescue/extrication

Slide 8

The Owner

- ◆ Best resource
- ◆ May be your biggest problem
- ◆ The final authority...
 - ◆ The owner has final responsibility and authority for disposition of the victim

Slide 9

O n-scene

- ◆ Quiet approach
- ◆ Low light levels
- ◆ Don't rush in
- ◆ Establish an ICP
- ◆ Scene size-up
- ◆ Attend to human injuries first
- ◆ IC establishes operation and safety zones, staging areas
- ◆ IC designates team leaders

Slide 10

Team Leaders

- ◆ Operations
- ◆ Safety Officer
- ◆ Animal Handler
- ◆ Extrication Officer
- ◆ Information Officer
- ◆ Containment Leader
 - ◆ In situations where there are loose or multiple animals

Slide 11

O perations

- ◆ Directs all rescue operations
- ◆ Considers the unpredictable movements of the animal
- ◆ Establishes safety areas
- ◆ Establishes adequate workspace
- ◆ To accommodate operational needs
- ◆ Determines the need for and requests additional resources

Slide 12

Safety Officer

- ◆ Responsible for
 - ◆ Safety of all rescue personnel
 - ◆ Proper and safe use of rescue equipment
 - ◆ Use of appropriate PPE
 - ◆ Proper safety practices
- ◆ Oversees all operations including monitoring all safety and work areas

Slide 13

Animal Handler

- ◆ Interfaces with owner to obtain information
- ◆ Makes initial contact with animal
- ◆ Interfaces with the veterinarian
- ◆ Inspects the trailer/situation and advises IC of veterinarian's orders or actions
- ◆ Monitors animal's status during operations
 - ◆ Advises IC if event is escalating in risk

Slide 14

Extrication/Haul Team Officer

- ◆ Responsible for set-up and implementation of all animal extrications
- ◆ Sets up haul teams and haul systems

Slide 15

Information Officer

- ◆ Contact person for all news media personnel

Slide 16

Containment Officer

- ◆ In situations where there are loose or multiple animals
- ◆ Organizes personnel and equipment to capture and contain loose animals
- ◆ Coordinates animal handlers
- ◆ Responsible for control of animals until they are turned over to responsible party

Slide 17

Trailer Accidents

- ◆ Stop traffic (if possible)
- ◆ Check for loose animals
- ◆ Keep distractions to a minimum
- ◆ Establish open working and safety zones
- ◆ Keep personnel calm
- ◆ Stage extra personnel and equipment
- ◆ Access the trailer
- ◆ Determine trailer's structural integrity
- ◆ Determine operations; prepare contingencies

Slide 18

Trail Accidents

- ◆ Gain control of the animal
- ◆ Determine level of animal's injuries
- ◆ Determine appropriate rescue system
- ◆ Establish working and safety zones
- ◆ Establish escape routes
- ◆ Establish locations to reset hauling system
- ◆ Determine operations; prepare contingencies

Slide 19

Operations (On- and Off-road)

- ◆ Consult with on-scene vet and owner to determine plan of action
- ◆ Coordinate operations and timing
- ◆ Establish communications
- ◆ Review established areas of operation
- ◆ Carry-out operation
- ◆ Consider legal aspects

Slide 20

Legal Considerations

- ◆ Owner has authority to resolve animal's fate
- ◆ Animal control assumes authority if owner is not present
 - ◆ May be shared with law enforcement
- ◆ Some animals are insured - FND OUT!
- ◆ Notify insurance company of imminent euthanasia

Slide 21

Euthanasia

- ◆ A "good" death
- ◆ A gentle death
 - ◆ Free of pain and suffering
- ◆ Preferably by injection
- ◆ Possible by firearm

Slide 22

Safety

- ◆ Safety of the rescuers is a priority
- ◆ May not be possible to manage risk at a reasonable level
 - ◆ If the rescue is too dangerous, decline the assignment
- ◆ Euthanasia may be the only option

Large animal rescues may occur on-road or off-road with convenient access or remote access. Any incident that involves a large animal requires special considerations. Scene management and operations are easier and more efficient if protocols are pre-established between the appropriate agencies. A LAR information sheet can help the dispatcher collect helpful information to contact the appropriate agencies and call for additional resources. Provide dispatch with a resource list of several local veterinarians to ensure response.

A Unified Command

A LAR incident will normally be a unified command situation. These multi agency responses, usually involve fire, animal control, veterinarians, the owner(s), and possibly law enforcement. Each agency has their respective responsibilities. Because of this, an incident management system is very important. The veterinarian is the medical authority and must be included in any rescue decisions. The owner has the ultimate authority. If the owner is not capable of making decisions, the animal control officer will assume authority.

Scene Size-up

Scene size-up is similar to other incidents, with some exceptions. The approach should be silent, without lights and sirens if possible. Upon arrival, an over-all scene size-up is in order. The incident commander should request additional resources as soon as possible. Stay back, look, and listen, if things are still and quiet. Do not open any doors or windows at a trailer accident. At a trail accident, look at the situation from a distance. Any intrusive action or quick movement may incite an adverse reaction from the animals resulting in further injuries. Animal control will begin planning for after-incident care, especially if the owner is incapacitated. This may include the request of extra trailers for transport or shelter for the animal if its home is not local.

Scene Entry

The proper action at this type of incidents is similar to a hazardous material incident; isolate and deny entry. Because accessing the interior of the trailer or approaching the down animal may excite them, having an initial plan is advisable. With a plan, equipment and staffing in place, the first contact is the veterinarian and a person knowledgeable of both the animal and extrication techniques

Operations

While LAR scene management is similar to the more conventional incidents, operations and scene set-up must remain flexible to accommodate the volatile nature of a large animal rescue. Lights, noise, and the movement of the rescuers can have a dramatic impact on the animal victim. The physical set up of the scene is critical and must include adequate and organized space for operations. Contingency plans may be necessary to accommodate the volatility and unpredictability of the situation. The veterinarian may use chemical restraint to make the animal more controllable. As the technical resource, the fire department will address concerns for the safety of rescue personnel and determine if the risk is manageable. In certain situations, the fire department may decline to undertake undue risk.

Guided by an Understanding of Horse Characteristics and Behavior

An understanding of horse characteristics, behavior, and the safety of personnel should guide operations, at all times.

Legal Aspects

Legal aspects and insurance issues may affect the decisions and strategies of the unified command. Many large animals are valuable property and are insured. The fire department does not have the legal authority to determine the fate of the animal victim. This decision lies with the owner or other legal authority and may result in euthanasia. If euthanasia is inevitable, make all reasonable attempts to notify the insurance company prior to the act.

Euthanasia

Euthanasia must only be performed by a veterinarian or person trained in this procedure. If the animal is suffering, attempt to distract it by offering it food and reassurance through calm, gentle contact. In the case of a delayed response from the veterinarian, establish voice contact for further direction.

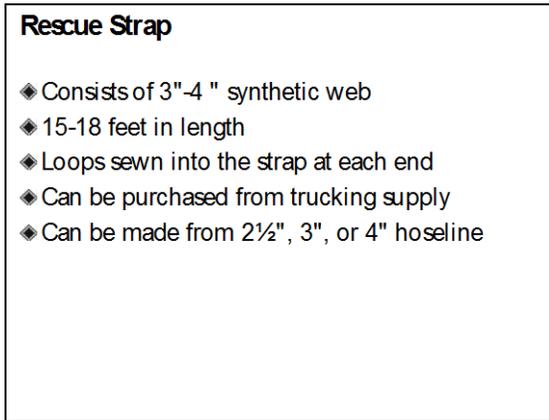
Topic 2-2: Large Animal Rescue Equipment

Slide Index

Slide 1



Slide 2



Slide 3

Rescue Strap Application

- ◆ Needs to be done respecting the line of fire
- ◆ The line of fire changes when the animal is recumbent
- ◆ The line of fire has dimension
- ◆ An experienced handler should be at the head
- ◆ Rescuers must work from the back

Slide 4

Line of Fire – Recumbent Horse

Experienced Handlers Only

Working Zone

Danger Zone
Do Not Enter

Copyright Large Animal Rescue Co, 2000 Courtesy of Joe Fox

(Rev. 08/03)

Slide 5

Skeletal Structure

Courtesy of Hosam Rostom & www.uppsgyof.com/vet_services/horse_anatomy

Labels include: Skull, Scapula (shoulder blade), Vertebrae, making up backbone (lower in Arab horse), Pelvis, Sacrum, Hip joint, 1st coccygeal vertebra, Tailbone (part of backbone), Femur, Tibia, Patella, Stifle joint, Tibia, Olecranon, Tarsus (hock) bones, Splint bone, Fibula, Navicular bone, Fetlock joint, Skull, Horns, Thoracic inlet, Humerus, Sternum, Ulna, Radius, Carpus (knee) bones, Cannon bone, Long pastern bone, Short pastern bone, Phalanx.

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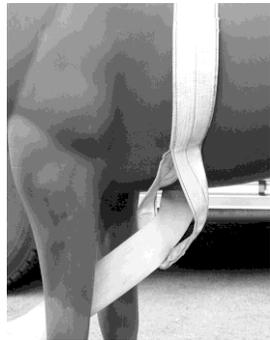
Slide 6

Rescue Strap, Forward Application

- ◆ Maintain proper position out of the line of fire
- ◆ Circle strap around girth area until first loop arrives behind near leg below the shoulder
 - ◆ Pressure is applied to the skeletal structure
 - ◆ Structure is substantial
- ◆ Second loop is fed through first loop to create a larksfoot
- ◆ Free end is brought through the front legs for attachment to rope system

Slide 7

Rescue Strap, Forward Application



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Slide 8

Rescue Function

- ◆ Assisting a large animal
 - ◆ Up a steep hill
 - ◆ Out of the mud
 - ◆ Out of water, ice
 - ◆ Out of a swimming pool

Slide 9

Rescue Strap, Front Lift Application

- ◆ The rescue strap is placed in the forward location with the larksfoot at the withers
- ◆ Rescue function
 - ◆ Only used to assist to upright position
 - ◆ Not used to vertically lift
 - ◆ This is used to assist the animal to a standing position

Slide 10

Rescue Strap, Rear Application

- ◆ The rescue strap is placed over the back just forward of the hip
- ◆ The loop ends are placed through the back legs and exit as a pair towards the tail
- ◆ Pull is to the hips
 - ◆ No pressure on the belly
 - ◆ Intestines are not protected by the ribs

Slide 11

Rescue Strap, Rear Application



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Slide 12

Rescue Function

- ◆ Extrication of large animal from confined space
 - ◆ Trailer
 - ◆ Barn collapse
 - ◆ Stuck between two trees

Slide 13

Lubricants

- ◆ Can be used in conjunction with rescue strap to extricate the animal out of a confined space
- ◆ Can be applied to the rescue strap to ease application on recumbent animals

Slide 14

Thin Diameter Rope

- ◆ Can be tied to the end of the rescue strap to apply at a safe distance
 - ◆ Stay out of the line of fire
- ◆ Can be tied to the end of the rescue strap to feed under the animal

Slide 15

Pike Poles and Snake Tongs

- ◆ Can be used as an extension of the arm to facilitate application

Slide 16

Vertical Lift Tie Materials

- ◆ 1-inch soft cotton rope
 - ◆ Seats well in application
 - ◆ Produces big knots; Less comfortable for victim
 - ◆ Some are not rated; Requires inspection and maintenance
- ◆ 2-inch polyester web tie
 - ◆ Can slip off
 - ◆ Knots lie flat against the victim; More comfortable
 - ◆ Most are rated; Low maintenance

Slide 17

Vertical Lift Tie Materials

- ◆ 1" wildland hoseline tie
 - ◆ Readily available
 - ◆ Good substitute for conventional materials
 - ◆ Bulky knots
 - ◆ May not be rated

Slide 18

Vertical Lift Tie Application

- ◆ Find center of rope and fold in half
- ◆ Holding center at horse's withers, measure down to the sternum and tie an overhand knot
- ◆ Place the loop over the horse's neck
- ◆ Situate knot at the sternum below the thoracic inlet

Slide 19

Vertical Lift Tie Application



Photos Courtesy Of
Felton FD

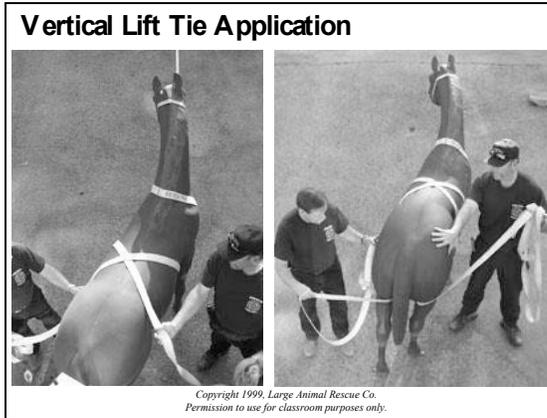
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Slide 20

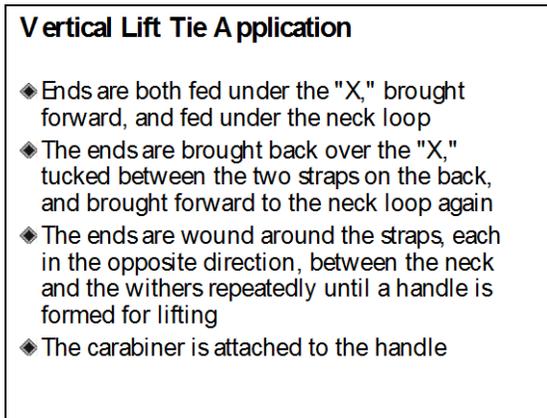
Vertical Lift Tie Application

- ◆ With one person working on each side of the horse and holding a rope end, feed running ends of the rope through the front legs and up to the withers
- ◆ Exchange ends forming an "X" behind the withers
- ◆ Ends are brought down to the inside of each hind leg and exit in between the hind legs
- ◆ The ends are brought up and joined with an overhand knot above the tail

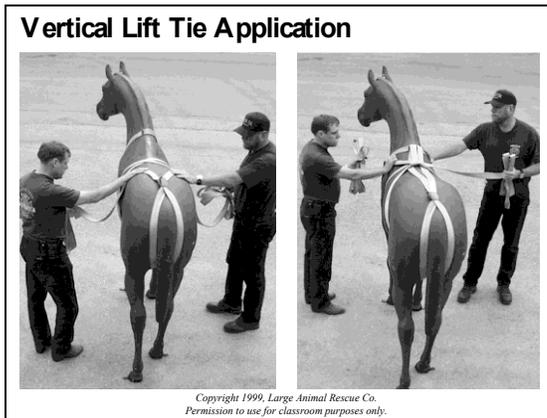
Slide 21



Slide 22



Slide 23



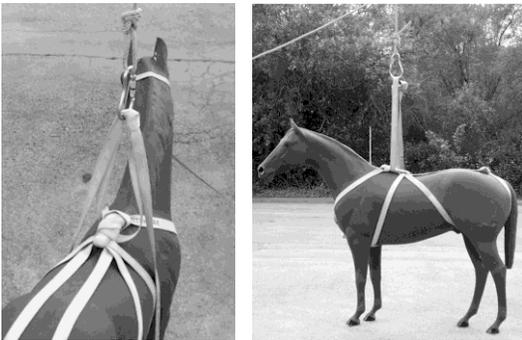
Slide 24

Rescue Function

- ◆ Assist a large animal to its feet
- ◆ A low lift for a short duration (10 minutes)
 - ◆ Out of a hole, ravine, etc.
 - ◆ Out of a swimming pool

Slide 25

Vertical Lift Tie



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Slide 26

Vertical Lift Tie Considerations

- ◆ Advantages
 - ◆ Lifts the animal from the center of gravity
 - ◆ Captures each quarter of the animal
 - ◆ Does not require any mechanical devices or hardware
- ◆ Cautions
 - ◆ May cause pain or discomfort
 - ◆ May incite thrashing
 - ◆ May damage nerves and delicate tissues on the inside of the upper rear legs

Slide 27

2 Strap Vertical Lift Materials

- ◆ 2 lifting straps
 - ◆ 4"-5" wide
 - ◆ 12-14 feet long
- ◆ Chest strap
 - ◆ 4"-5" wide
 - ◆ 2-3 feet long
- ◆ Lifting bar

Slide 28

2 Strap Vertical Lift Application

- ◆ Chest strap is fed under the chest and joined at the back
- ◆ Second strap is fed under the animal
 - ◆ At rear of animal and in front of rear legs
- ◆ Chest strap is attached across front of chest
 - ◆ Attached to front lifting strap on both sides
- ◆ Both lifting straps are attached to lifting bar
 - ◆ The lifting bar is attached to the haul system

Slide 29

2 Strap Vertical Lift Application



*Photo Courtesy Of
Tomas Gimenez, PhD*

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Slide 30

Rescue Function

- ◆ Assist a large animal to its feet
- ◆ A low lift for a short duration (10 minutes)
 - ◆ Out of a hole, ravine, etc.
 - ◆ Out of a swimming pool

Slide 31

2 Strap Vertical Lift Considerations

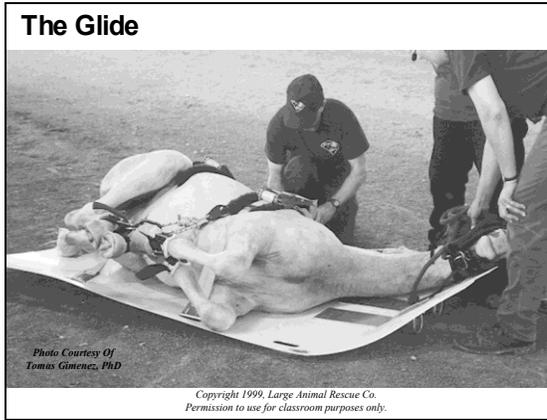
- ◆ Advantages
 - ◆ Easy and relatively quick to apply
- ◆ Cautions
 - ◆ Requires the bar to keep the straps separated
 - ◆ Requires a chest strap to keep the front strap from slipping back
 - ◆ For short, low lifts less than 10 minutes
 - ◆ Applies pressure to the internal organs
 - ◆ Rear strap may act as a bucking strap

Slide 32

The Glide

- ◆ A backboard for large animals
- ◆ Materials
 - ◆ High density polymer material
 - ◆ Metal fittings
 - ◆ Web straps with ratchets
 - ◆ Shaped like a sled
 - ◆ Slip-sheet
 - ◇ To go over minor ground obstructions
 - ◇ To go into a stock trailer or horse ambulance
 - ◆ Hobbles

Slide 33



Slide 34

Rescue Function

- ◆ A means of moving a recumbent horse
 - ◆ A distance
 - ◆ Up a hill
 - ◆ Into a trailer
- ◆ Generally requires sedation
- ◆ Hobbles are optional

Slide 35

The Anderson Sling

- ◆ Materials
 - ◆ Polyester web
 - ◆ Adjustable buckles
 - ◆ Metal frame
 - ◆ Helicopter package

Slide 36

The Anderson Sling



Photo Courtesy Of
Tomas Gimenez, PhD

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Slide 37

Rescue Function

- ◆ High vertical lift
- ◆ Sustained lift (lift longer than 10 minutes)
- ◆ Helicopter lift
 - ◆ The only harness tested and military approved for helicopter rescue
 - ◆ Special training required for helicopter use

Slide 38

Head Protection

- ◆ Rescue Function
 - ◆ Head protection for sedated animals
 - ◆ Confined spaces
 - ◆ Hauling recumbent animals
 - ◆ Offers more protection for the animal and the rescuers
- ◆ Alternate Head Protection
 - ◆ Blankets
 - ◆ Coats
 - ◆ Shirts

Slide 39

Miscellaneous Equipment

- ◆ Ear plugs
 - ◆ Nylon stockings stuffed with cotton
- ◆ Blindfolds
 - ◆ Towel, shirt, jacket, etc.
- ◆ Short lengths of soft cotton rope
- ◆ Throw line
- ◆ Pike pole, boat hook, or snake tongs

With training and improvisation, standard equipment carried on almost any engine or rescue truck, can be adapted for LAR. Depending on the terrain, injuries, and other considerations, equipment designed specifically for LAR may be required. LAR incidents usually involve moving of the animal. When selecting equipment, the size, weight, and injuries of the animal are considered. Identify and list any local resources for special LAR equipment ahead of time. A glide or Anderson Sling may be available through a local horse sanctuary, veterinarian clinic, or animal control agency. If your agency responds to a high number of LAR incidents, consider purchasing special equipment for your LAR complement. If budgets are restricted, make an appeal to local horse groups who may be willing to donate funds for LAR equipment.

Equipment Specific to LAR

The Rescue Strap

The most valuable tool available for LAR is the rescue strap. This strap, developed by Timothy Collins of Santa Barbara consists of a 16-18 foot length of 3-4 inch polyester web with loops sewn into each end. The strap in a forward application to assist an animal, lift the front end or do a forward drag. In the rear application it allows for a rear drag out of a trailer or out from under a collapsed structure. Applied properly, the strap applies pressure to the skeletal structure of the animal rather than the soft tissues. The strap's simple design allows its use on any sized animal. The rating of these straps is usually about 12,000 pounds.

The Vertical Lift Tie

Some rescues require the vertical lifting of the animal out of a situation. Prey animals are not comfortable with vertical lifting because it robs them of their ability to flee. The "scruff reflex" will cause the legs to scramble as they leave the ground. Once out of contact with solid footing, the animal will assume a limp position similar to that of a baby kitten when carried by its mother. The instant the hooves touch ground upon lowering, the legs will again scramble frantically for solid footing. Rescuer safety is especially important during these operations and rescuers must stay completely out of the line of fire for lifting and lowering. Dr. Stephen Dey developed a vertical lift tie for large animals. This tie is adaptable to any size animal. The tie captures the four quarters of the animal and lifts at the animal's center of gravity. It is useful in low, short, 10 minutes or less, vertical lifts such as out of a swimming pool or a hole.

The Anderson Sling

For those situations where an extended or high vertical lift is required, the Anderson sling is the only sling available. This sling, designed for helicopter lifting of large animals, is currently the only sling that is military rated for this purpose. Also used in clinical situations, it allows lifting of a recuperating animal for extended periods, months if necessary. The Anderson sling is especially valuable for lifting injured animals in a LAR situation. Special training is necessary to learn proper application of this complex harness.

The Rescue Glide

Movement of a recumbent animal is difficult especially in rough terrain or up a steep incline. The Rescue Glide is a molded sheet of high density plastic that serves as a backboard for large animals. Ratcheted web straps and hobbles help to hold the animal in place on the glide. Sedation of the animal is usually necessary for this operation. The front of the glide has attachment points for a haul system. Slip-sheets, allow the rescue glide to move over obstacles, rough terrain, or up steep inclines. The slip-sheets can also serve as an improvised ramp for pulling a packaged animal into a trailer for transport to a veterinary facility.

Miscellaneous Equipment

Some simple devices can make the application of rescue equipment easier and safer. When dealing with a recumbent animal or an animal in a confined space such as a trailer, rescuers can use a standard pike pole, snake tongs, or extendable boathook to reach into the danger zones. Lubricant carried by veterinarians can ease the sliding of straps under a recumbent animal. Earplugs and blindfolds will help calm an animal. Short, 25-30 foot lengths of small diameter rope have several uses in these rescues. When looped around the hooves, a length of soft rope helps to roll an animal over. This same rope can be used to pull up the hooves of the animal for removal from a tight location. Lengths of regular rope are used for holding doors open, pulling a rescue strap under an animal or making an emergency rope halter.

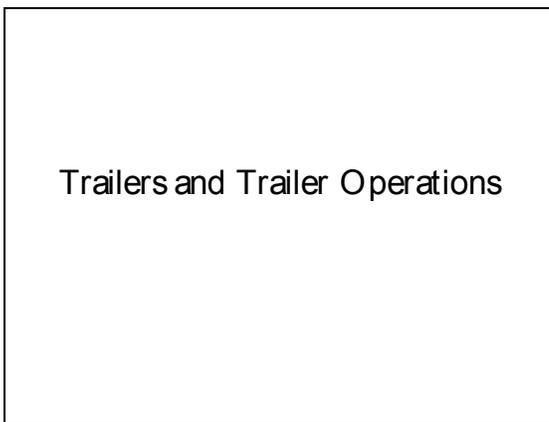
Standard Equipment

Every fire engine carries a standard complement of equipment that can be adapted for LAR operations with training and improvisation. A rescue strap can be made from a length of 2½" or 3" hoseline. A vertical lift tie can be made with 1-inch single jacket wildland hoseline. Utility rope can be used to make an emergency rope halter or as an aide to apply a rescue strap. Pike poles are useful for reaching into dangerous areas.

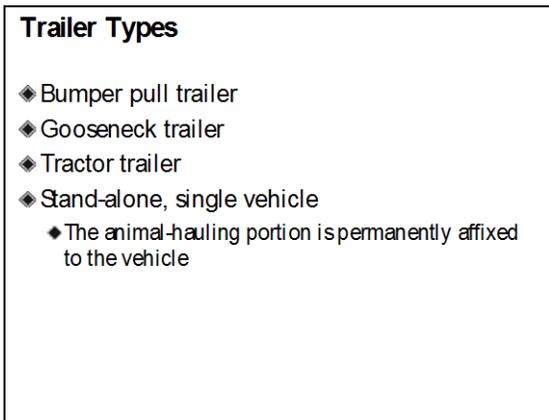
Topic 2-5: Trailers and Trailer Operations

Slide Index

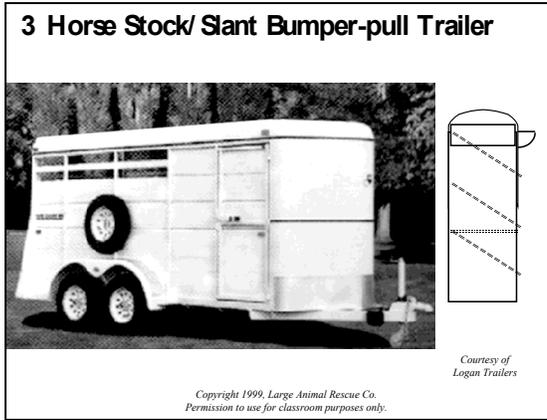
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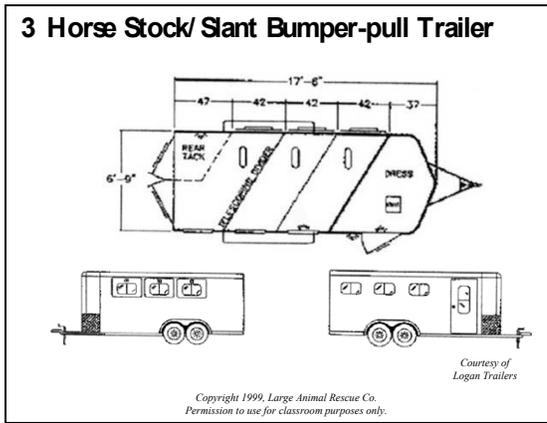
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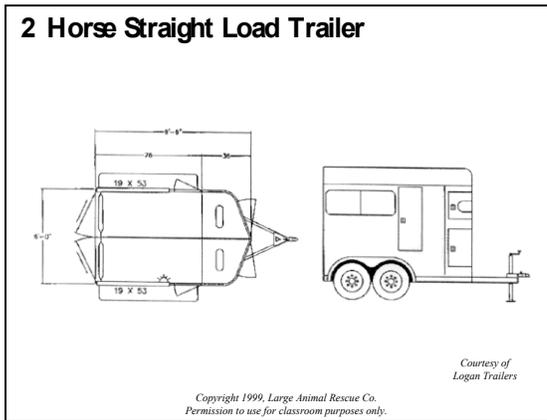
Slide 3



Slide 4



Slide 5



Slide 6

3 Horse Stock/ Slant Gooseneck Trailer



Courtesy of
Logan Trailers

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Slide 7

Trailer Configurations

- ◆ Straight or side-by-side load: 2- and 4-horse
 - ◆ With or without tack room
- ◆ Slant load: 2-, 3-, or 4-horse
 - ◆ Without tack room
 - ◆ With front or rear tack room
- ◆ Trailer floor plans vary
 - ◆ Rear load, side load, rear load/side unload
 - ◆ Design of trailer will dictate extrication

Slide 8

Trailer Configurations

- ◆ Stock
 - ◆ Rear or side load
- ◆ Trailers with living quarters
 - ◆ May contain propane tanks, appliances, people
- ◆ Special trailers, truck/trailer combinations
 - ◆ Represent high value animals
 - ◆ Expect an attendant to be in trailer with animals

Slide 9

Trailer Construction

- ◆ Frame
 - ◆ Steel, aluminum, square steel tubing
- ◆ Roofing
 - ◆ Steel, aluminum, fiberglass
- ◆ Siding
 - ◆ Steel, aluminum, fiberglass, wood, rubber matting
- ◆ Floor
 - ◆ Wood, aluminum, rubber matting on floors

Slide 10

Trailer Weights

- ◆ Standard trailers
 - ◆ 2-horse trailers: 3,550 pounds
 - ◆ 3-horse trailers: 4,400 pounds
 - ◆ 4-horse trailers: 5,000 pounds
- ◆ Stock trailers
 - ◆ 12 foot: 3,200 pounds
 - ◆ 14 foot: 3,400 pounds
 - ◆ 16 foot: 4,050 pounds
 - ◆ 18 foot: 4,800 pounds

Slide 11

Door Configurations

- ◆ Door style may indicate floor plan
- ◆ Doors can help or hinder extrication
- ◆ 2- and 4-horse, side-by-side
- ◆ Step up 2-door, open top
- ◆ Step up 4-door, 2 on bottom, 2 on top
- ◆ Ramp, 2-door on top
- ◆ Ramp, 4-door, 2 on top, 2 in the middle

Slide 12

Door Configurations

- ◆ Stock trailers
 - ◆ Single one-piece swing gate
 - ◆ Single one-piece swing gate with a sliding single width door
 - ◆ Sliding door
 - ◆ Ramp side door with top door

Slide 13

2 Horse Side-by-side Gates

5-Piece Rear Gate Step-In Rear Gate

3-Piece Tall Ramp

Courtesy of Logan Trailers

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Slide 14

Slant Load Trailer Gates and Doors

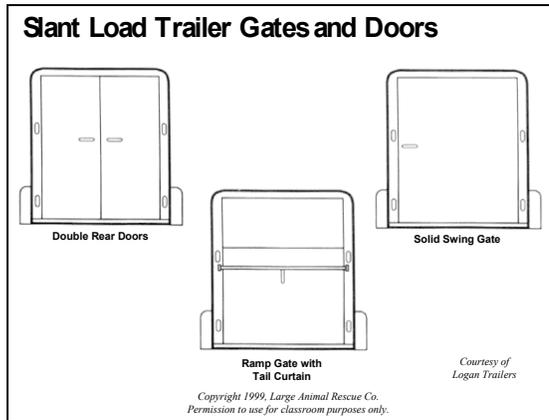
Solid Swing Gate Solid Swing Gate

Rear Tack

Courtesy of Logan Trailers

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Slide 15



Slide 16

Dividers

- ◆ Can complicate extrication
- ◆ Some are fixed in place, others are movable
- ◆ Single bar
- ◆ Single bar with triangle gusset on the top
- ◆ Quarter-height
- ◆ Half-height, full-height, or stud gate
- ◆ Movable dividers can be unpinned or unlatched
- ◆ Fixed dividers

Slide 17

Stock Trailers

- ◆ Have no dividers
 - ◆ Animals are generally loose
 - ◆ May be tied
- ◆ May have a mixed load of different animals
 - ◆ Generally in a mixed load, a wall will separate the animals

Slide 18

Trailer Operations

- ◆ All operations involving large animals have the potential to change in an instant
- ◆ Position, timing and communication are essential
 - ◆ Operations must be orchestrated
- ◆ A trailer operation that involves large animals requires careful scene management

Slide 19

Considerations

- ◆ People in living quarters
- ◆ Propane tanks, cooking appliances
- ◆ Number of animals in the trailer
- ◆ Physical condition of the animals
- ◆ Structural integrity of the trailer
- ◆ Physical location of the accident and extenuating circumstances
- ◆ Legal aspects

Slide 20

Trailer Uprighting Extrication Operations

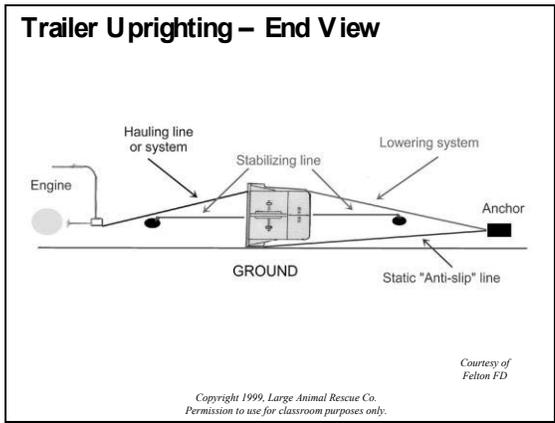
- ◆ On-scene veterinarian may sedate the animal to assist with operations
- ◆ Operations must be preplanned and executed within the “window of opportunity” that various levels of sedation allow
- ◆ Upright of the trailer with the animals inside
 - ◆ Greater safety for the rescue workers
 - ◆ Less chance of injury to the animals
 - ◆ Greater safety for motorists near the scene because the animals are contained

Slide 21

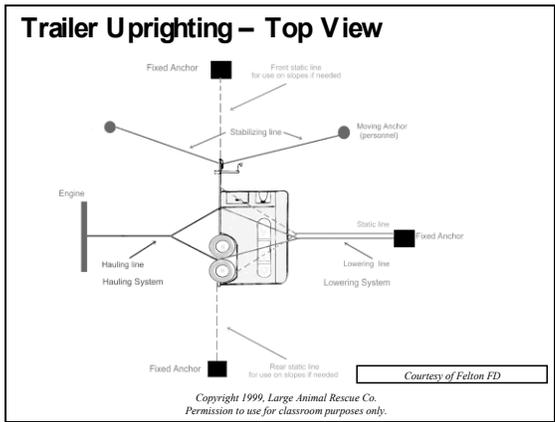
Uprighting Criteria

- ◆ Adequate space to safely complete operation
- ◆ Animals positioned so upright evolution will allow return to standing position
- ◆ Minor injuries, vet verifies that upright will not cause further injury
- ◆ Lifting equipment appropriate for size and weight of trailer and allows safety margin
- ◆ Trailer in sound condition without structural damage that could jeopardize the operation or create safety problem

Slide 22



Slide 23



Slide 24

Extrication Using the Doors

- ◆ Safer for the rescuers and easier on the animals
- ◆ Horses could be hanging by tether to trailer
- ◆ Identify style of doors
- ◆ Determine extrication operations
 - ◆ How will the doors be opened?
 - ◆ Do doors need to be removed?
 - ◆ Is there a center post? How will it be removed?
 - ◆ Can animal(s) stand up and walk out?

Slide 25

Extrication Using the Doors

- ◆ Two or more animals complicate operations
 - ◆ They will want to get out at the first opportunity
 - ◆ Provide one handler per animal
 - ◆ Position or orientation of the animals may complicate the operation
 - ◆ Animal may need to be sedated
- ◆ Establish a clear working zone for the rescuers and the extricated animal(s)
- ◆ If the animal(s) are not able to back out, rescue straps will be needed

Slide 26

Extrication Using the Doors

- ◆ Operations and safety officers must be positioned to see the vet, handlers, animal and team leaders at all times
- ◆ Extrication personnel must have escape routes
- ◆ "One-in, one-out" option
- ◆ Consider usage of backboards and salvage covers to slide animal over metal edges
- ◆ Open doors slowly

Slide 27

Extrication By Roof Removal

- ◆ Consider the construction and structural integrity
- ◆ Determine what will be cut and in what order
- ◆ Determine the tool to be used and a back-up tool
- ◆ Consider noise created by removing roof
- ◆ Extrication team works with vet

Slide 28

Extrication By Roof Removal

- ◆ Determine hand signals
- ◆ Cutter has backup person to monitor operations and assist with escape
- ◆ Place the duct tape over sharp edges or points
- ◆ Consider a backboard or salvage cover to smooth extrication

The transportation of large animals on the roadways is an everyday event. Owners and their animals travel for business, competition, and pleasure. On-road accidents will involve law enforcement, fire, animal control, the large animal veterinarian, and the owners or animal guardians in a unified command in order to resolve the situation and re-establish traffic flow. Proper technique will lessen the risk that a loose animal could pose to other motorists. The successful resolution of an on-road incident relies upon good incident command, inter-agency cooperation, communication, and knowledge of trailers, their configurations, and their construction. Strategies should remain flexible to accommodate the volatile and unpredictable nature of the incident.

Trailer Types

Animal transports vary considerably in design and construction. The type of trailer, including the number and location of doors, windows, tack rooms, size, and materials will determine extrication operations. Heavy, spring-loaded gate doors are particularly hazardous when opened if the trailer is on its side or upside down. A large animal transport may indicate a multi-animal incident with the possibility of human attendants inside the animal space. Fire danger increases with trailers that have living quarters because of the likelihood of propane tanks and appliances. Fixed dividers will complicate extrication efforts because it is necessary to unbolted them or cut them for removal.

Trailer Operations

When determining trailer operations, the unified command must consider the least intrusive, safest method.

Bringing a tipped trailer upright with the animals left inside is a way to avoid the risk of loose animals on the roadway. This method is also safer for the emergency responders because it involves minimal contact with the animals. The large animal veterinarian and a member of the extrication team will determine if the situation is appropriate for this technique. They will consider the structural integrity of the trailer and the condition and position of the animal(s) inside.

If the trailer is not a good candidate for upright, the next choice is to open the doors and walk the animals out. This approach will require one animal handler per animal.

Extrication of stuck or trapped animals should involve as little cutting of the trailer as possible. The rescuer may have to calm the victim during an extrication operation by covering the eyes and inserting earplugs. The veterinarian may use sedatives to calm the animal, especially in a multi-animal incident. Start noisy equipment at a distance to allow the animal to gradually adjust to the sound. Good scene management should allow a clear working area with adequate space for control of each animal following extrication.

Fire Fighter Safety

Fire fighter safety in an incident involving an animal transport or horse trailer depends on basic knowledge of vehicle extrication and rescue systems skills applied with an understanding of horse behavior.

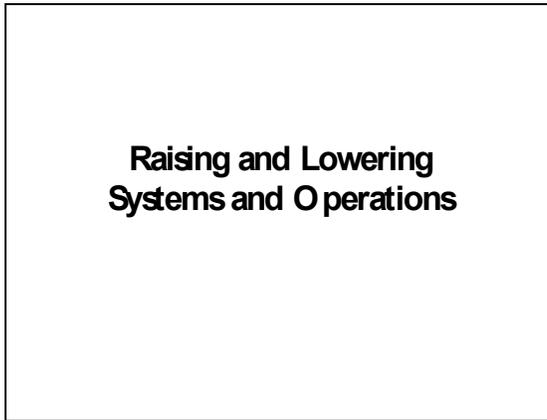
- Avoid standing near windows or doors that can be suddenly kicked open by the animal inside
- Use caution when opening or cutting spring loaded gate doors.
- Use caution when cutting the spring loaded roof members found on older trailers.
- Stay out of the line of fire.
- Remember, the recumbent line of fire has dimension; the head can rise up suddenly and hurt you.

Proper personal protective equipment includes full turnouts for staff that is operating rope systems and extrication equipment. Fire fighters involved with the animal victim(s) should wear brush gear to allow mobility.

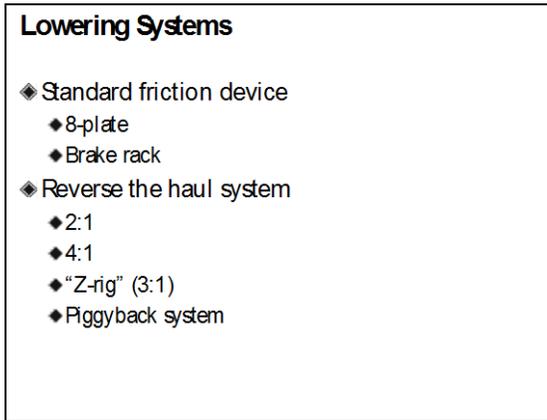
Topic 2-6: Raising and Lowering Systems and Operations

Slide Index

Slide 1



Slide 2



Slide 3

Raising or Hauling Systems

- ◆ Rope systems
 - ◆ Manufactured rope systems
 - ❖ Commercial premade system
 - ◆ Premade
 - ❖ Assembled prior to incident
 - ◆ 2:1
 - ❖ For every 2 feet of pull, load moves 1 foot
 - ◆ 4:1
 - ❖ For every 4 feet of pull, load moves 1 foot
 - ◆ Z-rig (3:1)

Slide 4

Raising or Hauling Systems

- ◆ Heavy equipment
 - ◆ Winch
 - ◆ Tow truck
 - ◆ Crane
 - ◆ Tractors, backhoes, bucket loaders
 - ◆ Helicopters

Slide 5

Anchor

- ◆ Fixed anchors, appropriate to victim's weight
 - ◆ Natural anchors
 - ❖ Trees
 - ❖ Rocks
 - ◆ Artificial anchors
 - ❖ Vehicles
 - ❖ Buildings
 - ❖ Picket systems
- ◆ Extended anchor line with a piggyback haul system

Slide 6

Piggyback Haul System

- ◆ Either a haul system is attached to an extended anchor rope, "piggybacked" or an extended haul rope is attached to a fixed hauling system, piggybacked
- ◆ Allows repositioning or re-extending of the haul system without disconnecting the load
 - ◆ Useful in long haul situations

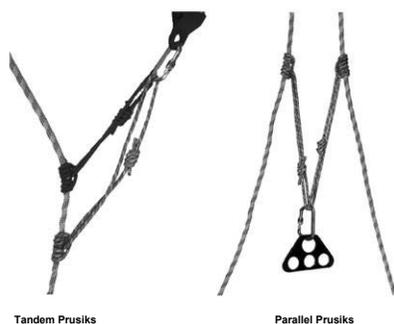
Slide 7

Equipment

- ◆ 200 - 300 feet of rope
- ◆ Two anchor plates
- ◆ Carabiners (as needed)
- ◆ Long load transfer
- ◆ Haul system, 2:1, 4:1, or other
- ◆ Two sets of double prusik loops
- ◆ Cut-away section

Slide 8

Equipment

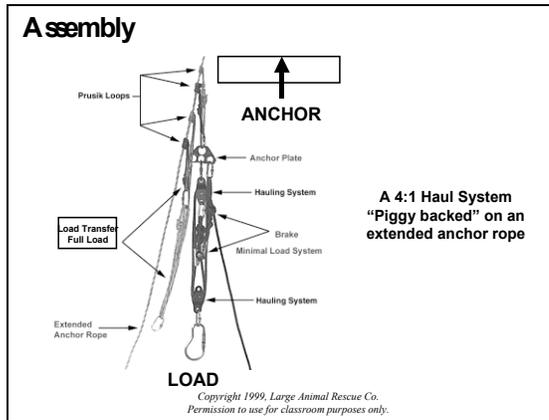


Tandem Prusiks

Parallel Prusiks

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Slide 9

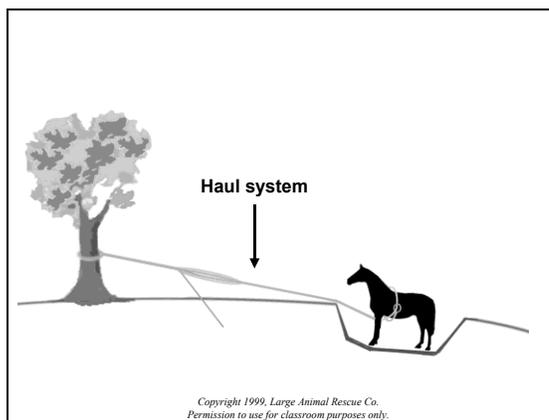


Slide 10

Short Haul Operations

- ◆ Short haul is within the working length of the system
 - ◆ Animal moved only a short distance
 - ◆ Haul system is attached to the anchor and the animal
 - ◆ No anchor rope or extended haul line is needed
 - ◆ Ample room for personnel to operate in safely

Slide 11

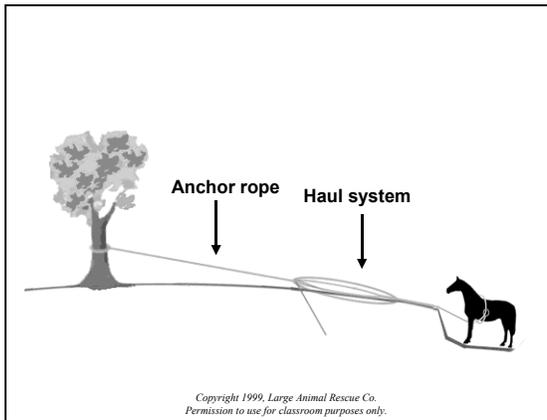


Slide 12

Short Haul Operations

- ◆ Short haul with no in-line anchor within the working length of the haul system
 - ◆ Animal moved only a short distance
 - ◆ No close in-line anchor
 - ◆ Requires an anchor rope
 - ◆ Lots of room for personnel to operate in safely

Slide 13



Slide 14

Short Haul Operations

- ◆ In-line anchor within working length of system
 - ◆ Put halter and long lead on animal, gain control
 - ◆ Separate safety zones for animal and personnel
 - ◆ Establish anchor with adequate room at the top
 - ◆ System is assembled and extended to the animal
 - ◆ Cut-away section is put in place
 - ◆ When handler is ready, system is attached
 - ◆ At handler's command, haul begins

Slide 15

Short Haul Operations

- ◆ In-line anchor *not* within working length of system
 - ◆ Put halter and long lead on animal, gain control
 - ◆ Separate safety zones for animal and personnel
 - ◆ Establish path to be taken by the animal
 - ◆ Establish in-line anchor
 - ◆ System is assembled and extended to full working length near the animal

Slide 16

Short Haul Operations

- ◆ In-line anchor is not within working length of the system (*continued*)
 - ◆ Cut-away section is put in place
 - ◆ Extend anchor line to the top of the haul system
 - ◆ System is attached/piggybacked to anchor rope
 - ◆ When handler is ready, system is attached
 - ◆ At handler's command, haul begins

Slide 17

Short Haul Operations

- ◆ Fixed anchor rope, repositioning piggyback haul system
 - ◆ Put halter and long lead on animal, gain control
 - ◆ Establish separate safety zones for personnel and animal
 - ◆ Establish path to be taken by the animal with rest points
 - ◆ Find an in-line anchor
 - ◆ Attach anchor rope to anchor and extend it towards the animal

Slide 18

Short Haul Operations

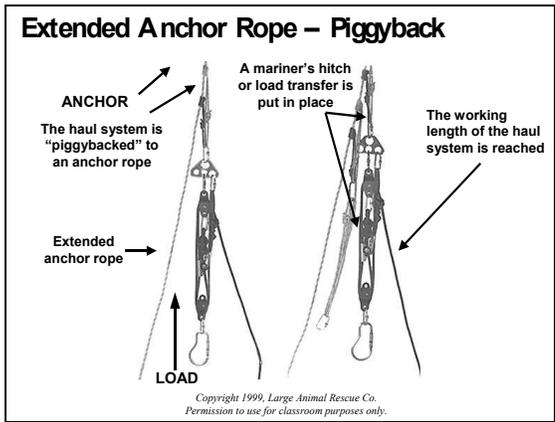
- ◆ Fixed anchor rope, repositioning piggyback haul system (continued)
 - ◆ Extend the system to full working length from the animal towards the anchor
 - ◆ Cut-away section is put in place
 - ◆ Attach the haul system to the anchor rope
 - ◆ When the handler is ready, the haul system is attached to the animal
 - ◆ At handler's command, haul begins

Slide 19

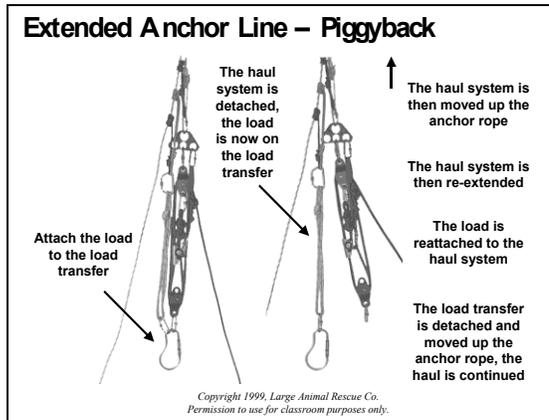
Short Haul Operations

- ◆ Fixed anchor rope, repositioning piggyback haul system (continued)
 - ◆ Haul team signals handler to stop before working distance of system is exhausted
 - ◆ After animal settles, handler signals for transfer to proceed
 - ◆ Animal is transferred to load release
 - ◆ At handler's command, haul system is tightened, and load release is detached
 - ◆ Operation resumes
 - ◆ Repeat steps as necessary

Slide 20



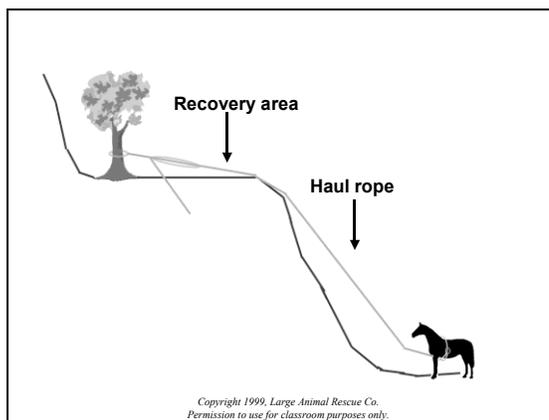
Slide 21



Slide 22

- ### Long Haul Examples
- ◆ Haul distance is several times the working length of the haul system
 - ◆ The animal needs to be moved a long distance
 - ◆ The haul system is attached to the anchor
 - ◆ An extended haul line is piggybacked to the haul system
 - ◆ There is plenty of room for the haul team and animal recovery

Slide 23

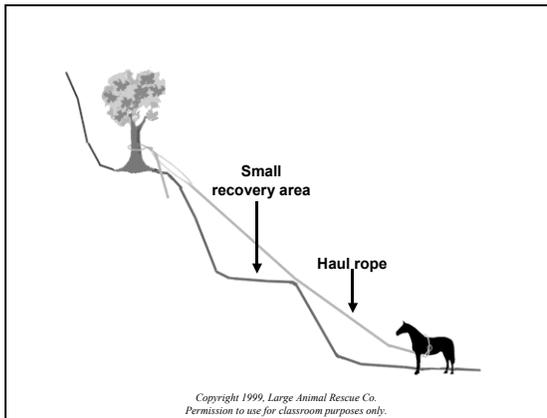


Slide 24

Long Haul Examples

- ◆ Where haul team and haul system need to be kept a long distance from animal
 - ◆ The animal needs to be moved a long distance
 - ◆ The haul system is attached to the anchor
 - ◆ Extended haul line is piggybacked to the system
 - ◆ There is not enough room for the haul team and the animal in the recovery area
 - ◆ For safety reasons, the haul team is separated from the recovery area

Slide 25



Slide 26

Long Haul Operations

- ◆ Fixed haul system, piggybacked haul rope
 - ◆ Put halter and long lead on animal, gain control
 - ◆ Establish safety zones for animal and personnel
 - ◆ Establish path for animal with rest points
 - ◆ Find an in-line anchor
 - ◆ Attach a haul system to the anchor
 - ◆ Extend system to full working length

Slide 27

Long Haul Operations

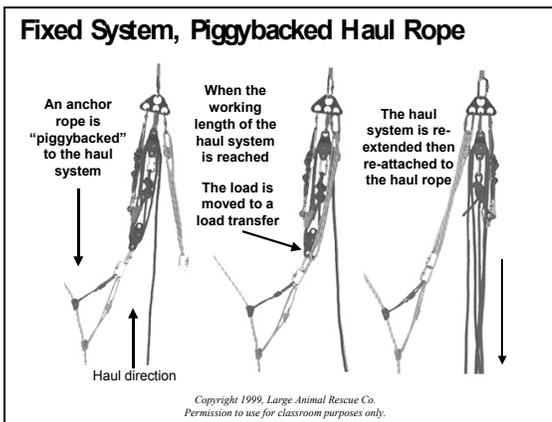
- ◆ Fixed haul system, piggybacked haul rope
(continued)
- ◆ Run end of haul rope from system down to animal
- ◆ Cut-away section is put in place
- ◆ Attach haul system to haul rope
- ◆ When handler is ready, attach system to animal
- ◆ Haul begins at handler's command
- ◆ Haul team signals handler to stop before working distance of system is exhausted

Slide 28

Long Haul Operations

- ◆ Fixed haul system, piggybacked haul rope
(continued)
- ◆ After animal settles handler signals for transfer to proceed
- ◆ Animal is transferred to the load transfer
- ◆ Haul system is re-extended to its full length and re-attached to the anchor rope
- ◆ Operation resumes
- ◆ Repeat steps as needed

Slide 29



Slide 30

Basic Haul Applications Review

- ◆ Short haul with an in-line anchor
- ◆ Short haul with no in-line anchor
- ◆ Long assist requiring a mechanical advantage
- ◆ Long haul that requires a 4:1 mechanical advantage

Slide 31

Haul Considerations

- ◆ Weight and size of the animal
- ◆ Position and situation of the animal - accessibility
- ◆ Physical condition of the animal
 - ◆ Injuries
 - ◆ Level of exhaustion
 - ◆ Cooperation
- ◆ Terrain
 - ◆ Availability of in-line anchors
 - ◆ Distance and angle of haul
 - ◆ Access for heavy equipment
 - ◆ Vegetation

Slide 32

Rope System Considerations

- ◆ Limited working distance
- ◆ Requires appropriate equipment
- ◆ Requires sufficient staffing
- ◆ Offers more control over operations
- ◆ More versatile for remote or difficult terrain
- ◆ Offers a higher level of operational safety

Slide 33

Hauling or Lifting Systems Considerations

- ◆ Use is limited by access
- ◆ Allow long hauls without repositioning
- ◆ Do not require an anchor
- ◆ System lag time needs to be considered
- ◆ Haul speeds are fixed
- ◆ Lowering speeds are fixed or free wheeling
- ◆ Some systems can not be reversed easily
- ◆ Systems operated by nonfire personnel may cause communication problems

Slide 34

Haul System Review

- ◆ Choose proper haul system
- ◆ Remember load is alive
- ◆ Operation must be flexible
- ◆ Choose an anchor
- ◆ Attach animal to the system LAST

Slide 35

Vertical/ High Angle Lifting Systems

- ◆ Rope systems
 - ◆ Are limited by the working length
 - ◆ Require an anchor overhead
 - ◆ Have very limited horizontal movement

Slide 36

Vertical/ High Angle Lifting Systems

- ◆ Cranes
 - ◆ Restricted to situations with adequate access
 - ◆ Have long working length
 - ◆ Have good lateral movement
 - ◆ Operator is generally in view of operation
 - ◆ Facilitates communication
 - ◆ Noise is limited

Slide 37

Vertical/ High Angle Lifting Systems

- ◆ Helicopters
 - ◆ Are versatile in all directions
 - ◆ Only a few helicopters are licensed for live animal operations
 - ◆ Specialized equipment is required
 - ◆ Communications with pilot can be difficult
 - ◆ Noise can be a problem
 - ◆ Limited on scene time
 - ◆ High risk for all participants
 - ◆ Not suited for certain environment

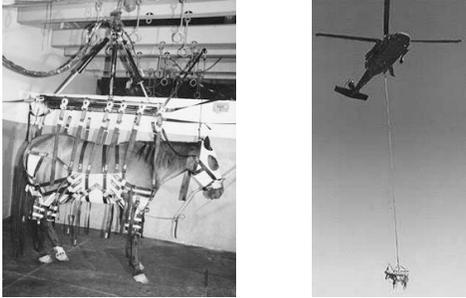
Slide 38

Vertical/ High Angle Lifting Slings

- ◆ The Anderson Sling
 - ◆ Currently the only Mil Spec large animal sling
 - ◆ Certified for helicopter use
 - ◆ Can support the animal adequately and comfortably for extended periods of time

Slide 39

The Anderson Sling



Courtesy of CDA Products

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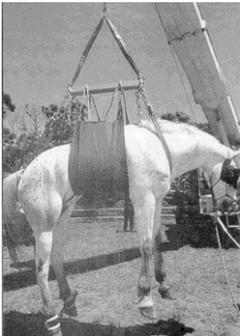
Slide 40

Vertical/ High Angle Lifting Slings

- ◆ Australian FD lifting harness
 - ◆ Supports the bulk of the animal's weight at the rib cage
 - ◆ Two straps run from the chest support on both sides of the neck to the lifting bar
 - ◆ Two straps run from the chest support rearward between the rear legs, up at the tail to the lifting bar
 - ◆ Several slings are maintained at airports across the country

Slide 41

Australian FD Lifting Harness



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Slide 42

Vertical/ High Angle Lifting Slings

- ◆ Emergency vertical lifting slings
 - ◆ Use only if the Anderson sling is not available
 - ◆ Vertical lift tie
 - ◆ 2-point sling
 - ◆ Both limited to 10 minute lifts
 - ◆ Both limited to low level lifts
 - ◆ Both have a potential to injure the animal
 - ◆ Both may be precarious applications
 - ❖ May fall off with kicking or thrashing
 - ❖ Balance is critical

Slide 43

Vertical Lift Tie



Courtesy of Felton FD

Two Point Sling



Courtesy of Tomas Gimenez, PhD

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Slide 44

Vertical/ High Angle Lifting Operations

- ◆ Assign positions
- ◆ Establish safety zones
- ◆ Animal handler consults with vet to establish level of sedation/tranquilization
- ◆ Determine system and strategy of operation
- ◆ Establish communication signals
- ◆ The animal handler gives commands on lifting, rest, etc.

Incidents such as off-road accidents, trailer accidents, and structure collapses usually require the mechanical advantage of rope systems and ample personnel. The reactivity of horses coupled with their lack of depth perception can land them into difficult situations. Horses can go over the side of a steep ravine, fall into holes or trenches, become stuck in the mud, or lodged in between trees. This same reactivity will dictate that rescue strategies be flexible and adaptable. These incidents call for the merging of Rescue Systems 1 skills together with an understanding of horse behavior and characteristics.

Systems

Rope systems must be heavier and more flexible than normal to accommodate the weight, size, and behavioral characteristics of large animals. While standard systems serve as the basis for LAR rope operations, they must be used with the knowledge that a 1,000 lb victim can be unpredictable and may put a tremendous load on the system in an instant. Rope systems ranging from simple 2:1 to the more complicated 4:1 give a mechanical advantage that enables a small group of people to move a large animal. Combinations of these systems allow movement of the animal laterally, upwards, or downwards.

Difficult terrain or lack of anchors may make it necessary to either piggy back a system to an anchor rope or piggy back a haul rope to a fixed haul system. This technique has two advantages. The first is that the system and haul team can be located a safe distance from the animal. The second advantage is that a system of limited length, such as a 4:1, can be set and reset over an unlimited distance, allowing rescuers to take advantage of remote anchors.

Heavy equipment, such as cranes, tractors, and helicopters are a good resource for incidents that occur in accessible areas. Heavy equipment has greater capacity to lift or move heavy loads and require fewer personnel for operations. Certain pieces of heavy equipment, such as mechanical winches, have a lag time that may complicate operations.

Operations

Position, timing, and communications are critical to rescuer safety during lifting and lowering operations. All systems and personnel must be in place before applying rescue straps and ties. During an extrication, assist, or lift, the assigned Animal Handler gives the commands. A rescuer assists the animal handler and communicates animal/animal handler needs to the haul team. This assistance allows the handler to focus on directing and supporting the animal.

Working zones and safety zones will vary with different incidents. These zones need to be defined and clearly understood by all on scene. Some situations will dictate that the haul team be remote from the recovery area for safety reasons. Other situations will have adequate room for safe operation of the rope systems. Contingency plans are essential as the situation can change from moment to moment. The IC and safety need to be alert at all times.

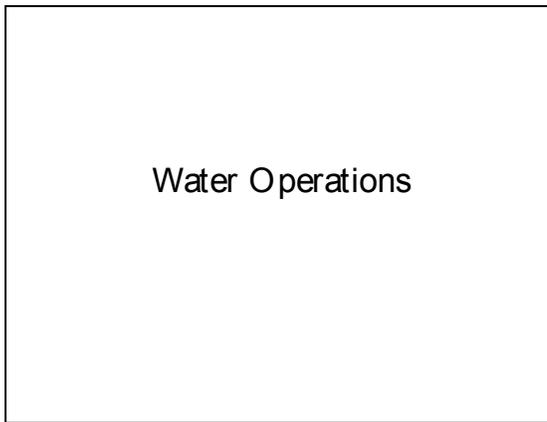
Vertical Lifting

When vertical lifting a large animal, rescuers should consider the types of anchors available, the type of terrain, injuries to the animal and available equipment. There must be an overhead anchor in order to carry out a vertical lift with a rope system. When there is no overhead anchor, rescuers may be able to transport the animal to an overhead anchor by using the glide. If this is not possible, then rescuers must resort to heavy equipment such as cranes, tractors, or helicopters. Most heavy equipment is limited to areas with vehicle access. Helicopters can gain access if weather conditions permit and if the prop wash will not be too dangerous. Whether a crane, tractor, or helicopter is used for vertical lifting, the only harness approved for high and sustained lifts of over 10 minutes in duration is the Anderson Sling. Improvised harnesses could cause injury or death of the animal and put the rescuers at extreme risk.

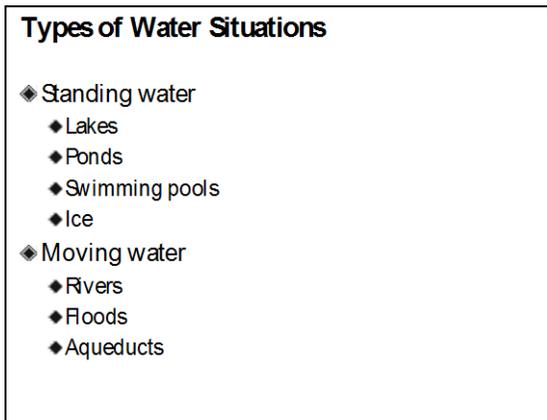
Topic 2-12: Water Operations

Slide Index

Slide 1



Slide 2



Slide 3

Mechanism of Accident

- ◆ Over-the-side into the water
- ◆ Trail collapse into the water
- ◆ Bridge collapse into the water
- ◆ Injury while riding through the water
- ◆ Fall into a swimming pool
- ◆ Fall through the ice
- ◆ Fall into swift water
- ◆ Flooding water

Slide 4

Animal Behavior in Water

- ◆ In general, horses and other large animals can swim
- ◆ Will keep their heads above water as much as possible
- ◆ Legs and hooves will be especially dangerous
 - ◆ Paddling in deep water
 - ◆ Scrambling for sure footing
- ◆ Horses are susceptible to hypothermia

Slide 5

Animal Behavior in Water

- ◆ Attitude may reflect
 - ◆ Determination
 - ◆ Confusion
 - ◆ Panic
 - ❖ Unsure footing causes panic
 - ❖ Movement may be unpredictable
 - ◆ Pain
 - ◆ Exhaustion, resignation
 - ❖ Remember prey animals conserve their energy for when they really need it

Slide 6

Safety

- ◆ Read the attitude of the animal
- ◆ Only approach if attitude suggests cooperation
- ◆ Only approach at neutral zones
- ◆ Only enter neutral zones to apply necessary rescue equipment
- ◆ Carefully plan approach and working positions
- ◆ Assist and direct the horse or animal from a distance
- ◆ The rescuer will have slower reactions in water

Slide 7

Scene Management and Operations

- ◆ Time is a major factor
 - ◆ Not efficient swimmers nor comfortable in water
 - ◆ Expend more energy and lose more body heat
 - ◆ Can become hypothermic and go into shock
- ◆ Safety officer needs to be aware of the problems associated with water operations
- ◆ Water conditions may impede or prevent application of rescue equipment

Slide 8

Scene Management and Operations

- ◆ In slow moving and swift water situations, the operations may need to move down stream, systems may need to be mobile
- ◆ Establish both animal and personnel safety zones
- ◆ Establish contingency plans, allow time to move personnel and equipment

Slide 9

Standing Water

- ◆ Get to the head and attach a long lead line
 - ◆ Keep the animal's head above water
- ◆ Direct animal to shore
- ◆ Throw a loop around the animal's head
 - ◆ This is a last resort
 - ❖ Moving water could choke animal
 - ❖ Doesn't allow the animal free use of head
 - Head is important for movement, balance, and momentum

Slide 10

Apply a Rescue Strap

- ◆ Attach an empty plastic bottle to a light line or heavy cord
- ◆ Using a pole, from the side, push the bottle under the animal's center
- ◆ Release the bottle and let it float up on the opposite side of the animal
- ◆ Attach the rescue strap to the end of the line
- ◆ Feed the rescue strap under the animal and up the opposite side

Slide 11

Apply a Rescue Strap

- ◆ Bring the end of the rescue strap over the animal and form a larksfoot to the side of the animal
- ◆ Again, feed the bottle under mid section of the animal, forward between the front legs and let it float up
- ◆ Feed the rescue strap down and forward, between the front legs positioning the larksfoot between the front legs
- ◆ Cinch the strap in place

Slide 12

Apply a Rescue Strap

- ◆ Attach a haul system to the strap
- ◆ Assist the animal out of the water
 - ◆ Avoid tangling in front legs
 - ◆ Direct animal from a distance
 - ◆ Allow free movement of the head and neck
 - ◆ Keep head above water
 - ◆ The pull will help lift the body up

Slide 13

Tie an empty plastic bottle to a heavy cord or light rope. Using a pole, push the bottle under the animal and let the bottle float up on the other side.

plastic bottle

Tie one end of the rescue strap to the rope or cord and feed it under and around the animal.

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Slide 14

Catch the strap with the pole and feed the end through the eyeset.

With the pole, catch the bottle and direct it forward between the horse's front legs. The bottle will surface.

Catch the bottle with the pole and pull the strap end through the horse's front legs. Work the eyeset under the animal's sternum. Attach to a rope system to assist the horse out of the water.

pole

The pull will help lift the body up and keep the head above water

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Slide 15

Swimming Pool Strategies

- ◆ Drain pool if possible
 - ◆ Facilitates operations; Helps prevent hypothermia
- ◆ Direct the animal to shallow end
 - ◆ Assist up steps; Wrap hooves with duct tape for more traction
- ◆ Create a ramp
 - ◆ Plywood improves footing; Support with cribbing
- ◆ Create steps with tight bales of hay
- ◆ Apply vertical lift tie
 - ◆ Use tractor, crane, or tow truck to lift out of pool

Slide 16

Ice

- ◆ Time is critical
- ◆ Establish a hauling system
- ◆ Keep a large area on shore clear for the animal
- ◆ Establish safety zones for personnel
- ◆ Attach a long lead to the animal
- ◆ Direct and assist the animal to shore

Slide 17

Moving Water

- ◆ Establish a tension diagonal system or zip line
 - ◆ Set-up at a greater angle to lessen the impact on the victim
 - ◆ Construct a zip line out of inflated fire hose to lessen impact on victim

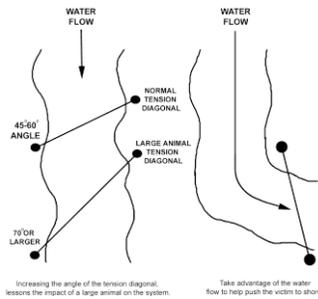
Slide 18

Moving Water

- ◆ Considerations when setting up the system
 - ◆ Need solid anchors due to animal's weight/size
 - ◆ Establish angle on the rope as steep as possible
 - ◆ Use a bend in the water flow if possible
 - ◆ No floating objects caught on the rope
 - ◆ Recovery area
 - ❖ Lots of room for capture/recovery
 - ❖ Easy access to an exit trail or path
- ◆ Establish second rescue point and recovery area

Slide 19

Use the natural flow to help push the animal to shore



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Mechanisms such as rider error, trail collapse, or bridge failure can land a horse into water. Horses or other large animals will occasionally find themselves trapped in swimming pools or will venture out onto frozen water only to fall through. The animal's ability to extricate itself depends on the mechanism of the accident and the water conditions.

Large Animals Can Swim

Most large animals are capable in water. In deep water, a horse swims effectively by thrusting its legs in a pumping action. The legs extend forwards and backwards with little lateral movement. Avoid entering the water with an animal victim. Under normal conditions, a horse's strength and survival instinct will drive it out of the water to high ground.

Water Compounds the Problems

The challenges of a large animal rescue compound when it occurs in water. Water puts the rescuers at a disadvantage with unknown footing, slowed reactions, variable water conditions, and less predictable reactions from the victim. More so than a human victim, the animal may be confused and uncooperative. In the case of a swift water rescue, rescuers must lower their expectations of success. Factors such as injuries, confinement (fall into a swimming pool, septic tank, ice, mine shaft), water temperature, water movement, and water depth will determine the degree of intervention necessary or possible to help the victim. Extended exposure may lead to shock or hypothermia. Because of that, time is of the essence in a water rescue.

The Rescue

Rescuers should help the animal to help itself. The rescue of a large animal in water employs many of the same techniques as human water rescues. These techniques, based on rescuer safety, allow rescuers carry out operations at a distance from the victim. Rope systems need to withstand size, weight, and movement of the victim as well as the added pressure of moving water. The additional stress on the rescue systems makes it imperative to follow proper rope safety procedures.

Appendix A: Glossary

- Alpha Mare**..... The most socially dominant mare in the herd. When alerted by the stallion, she mobilizes the herd and controls herd movement through timing and athletic ability.
- Anchor Plate**..... A large metal plate with holes to hold various components of a rope system.
- Anderson Sling** A manufactured vertical lift harness designed to safely lift a large animal for a sustained period of time at a high angle.
- Animal Handler** The person responsible for supporting and directing the animal victim; the handler takes the place of the alpha mare or passive leader.
- Artificial Anchor** An artificial anchor such as a vehicle, building, telephone pole, or picket system.
- Backward Drag** Rear application of the rescue strap to a large animal for extrication, i.e., out of a trailer, confined space, etc.
- Brigade**..... A group of people organized for a special activity, in this case, a squad of British fire fighters.
- Blindfold** A length of cloth used to cover the horse's eyes for protection or to help calm it.
- "Bomb Proof"** A single anchor point that is capable of sustaining the potential forces exerted on a haul system without possible failure.
- Bowline**..... A knot used to form a loop that neither slips nor jams.
- Bumper Pull Trailer** A trailer that attaches to the pull vehicle with a hitch located at the bumper.
- Butt Chain** A chain that fastens behind the horse in a straight load trailer, serves as a means of containment until the doors are latched.
- Carabiner**..... An oblong metal ring that snaps in place to hold a freely running rope or other rope system devices.
- Cowboy Halter** A halter constructed out of a single length of rope, usually includes knots that are calculated to position at pressure points on the horse's nose.

Dividers	Panels or rails that are fixed or swing into place to separate horses in a trailer.
Ear plugs	Small soft objects sized to fit in a horse's ear i.e. nylon stockings stuffed with cotton.
Eight-plate	Hardware specifically designed as a friction device for rappelling and lowering evolutions; can also be used to gather equipment.
Euthanasia	A gentle death free of pain and suffering.
Extended Anchor Rope	A rope that allows the haul system to be placed at a greater distance from the anchor.
Extended Haul Rope	A rope used when the distance to the load exceeds the working length of the haul system.
Extrication Officer	The officer in charge of a large animal extrication operation.
Field of Vision	Indicates the extent of a horse's monocular and binocular vision.
Figure 8 on a Bight	A knot in the shape of a figure eight that forms a loop at the end of the rope.
Fire Services Charter	Provides for the protection of life, property, and the environment.
Fixed Anchor	An anchor that is not movable.
Flight or Fight	Survival mechanisms for large animals of prey; a horse will normally choose flight before fight.
Forward Assist	Forward application of the rescue strap to a large animal in order to assist with walking, dragging, or lifting.
Gelding	A castrated male horse.
Glide	A sled-like device constructed of high-density polymer that is used to transport a recumbent horse, equipped with a slip-sheet to go over ground obstructions.
Gooseneck Trailer	A type of 5th wheel trailer that hitches to a mechanism in the bed of the truck; this type of hitch offers more stability for the trailer than a bumper hitch.
Halter	A headstall with noseband and throat lash, constructed of leather, nylon web, or rope that is used to lead a horse.
Haunches	The hindquarters of the animal.

- Herd Animals** Prey animals that live together in groups for protection against predators.
- ICS**..... Incident Command System - a basic organizational structure that can be used on all types of emergencies.
- Ladder Rig**..... A simple 2:1 or 4:1 pulley system.
- Large Animal Rescue (LAR)** The technical rescue of large animals that involves use of other technical rescue skills applied with an understanding of prey behavior and characteristics.
- Large Animal Veterinarian** A veterinarian qualified to treat large animals such as horses, cows, llamas, etc.
- Lead Line or Rope** A length of synthetic or cotton rope that attaches to a halter in order to lead a horse.
- Line of Fire** The nonstatic zone around a horse where a rescuer could be bit or kicked.
- Load Release Device** When used with a brake in a system acts as a shock absorber and allows a set brake to be released under a load.
- Mare** A mature female horse.
- Mariner's Hitch**..... A load release device constructed of small diameter rope or web.
- Movable Haul System**..... A method of load transfer that allows a rope system to be reset.
- Natural Anchor** A naturally occurring anchor such as a tree, large rock, brush, or root systems.
- Neutral Zone**..... The zone near the shoulder of a horse.
- One-In/One-Out**..... A system where a rescuer in a compromised situation is backed up by another rescuer who can assist with escape.
- Passive Leaders** Calm, confident horses in the herd that lead other horses by example, not dominance; horses congregate around the passive leader and willingly follow.
- Peripheral** The outer part of the field of vision.
- Picket Anchor System**..... A series of pickets or stakes driven into the ground at an angle, lashed together.

- Piggyback**..... A compound pulley system created by pulling on one simple pulley system with another simple pulley system.
- Piggyback Haul System**..... A haul system employing a load transfer that utilizes either an extended anchor rope or an extended haul rope.
- Posture** The physical stance or bearing that reflects a mental state.
- Predators** Animals that hunt prey animals.
- Prey** Animals that are hunted by predators.
- Prusik Loop** A short length of small diameter rope that uses double overhand knots at each end to form a loop with another length of rope; can be attached to a running line to be used as a brake.
- RPM** Rack Pulley Mariner's Hitch - a device used to manage the main line of a rope system.
- Ramp**..... A panel that drops down from a trailer mainframe to allow an animal to walk into the trailer; usually spring loaded.
- Recumbent**..... Lying down.
- Rescue** Prompt or vigorous action to free a victim from eminent danger or distress.
- Rescue Strap**..... A 3-4 inch nylon web strap, 14-18 feet long, with loops at each end.
- Rope or "Cowboy" Halter** A halter constructed of a continuous length of rope with knots that correspond with pressure points on the horse's nose.
- Santa Barbara Surcingle**..... Modification of a standard surcingle, which is a training device that consists of a belt 3-5 inches wide that is buckled around the girth area at the withers. Normally the device is put on and lines attached to drive the horse.
- The "Santa Barbara Surcingle" is a belt 4-5 inches wide, but built much heavier. It has several loops or attachment points on it for hauling ropes or lifting ropes. Because it is fastened at a fixed location along the girth, lifting and hauling operations do not cause it to tighten around the animal like a rescue strap in the larks foot or forward application.
- Scruff Reflex**..... A reflex that causes a lifted animal to go limp, such as when a mother cat carries her kitten by the scruff of the neck.

Sedative	A chemical restraint that alters the animal's perception of pain or anxiety; in high doses, may cause loss of consciousness.
Side-by-Side Load	A trailer with a center divider that is parallel to the sides, the horses are loaded from the back and positioned side-by-side.
Slant Load	A trailer with dividers diagonal to the sides.
Stallion	An uncastrated male horse.
Stand-Alone	A trailer that is one unit with the vehicle, similar to a RV.
Static	Stationary.
Step-Up	A trailer without a ramp.
Stock Trailer	A trailer without dividers for hauling multiple animals.
Tension Diagonal System (or Zip Line)	A rope system, usually a 3:1 (z-rig), used in swift water rescue operations, set up at an angle across the river, the rope is used to assist the victim to a recovery point down stream.
Tractor Trailer	A truck with a short chassis and no body used in conjunction with a trailer.
Tranquilizer	A chemical restraint that alters the animal's reaction to pain and anxiety.
Unified Command	Where representatives from two or more agencies share in the decision making process, or the command of an incident.
Validation	Official sanction.
Vertical Lifting Harness	A harness designed to safely lift a large animal at a high angle.
Veterinarian	One qualified to treat diseases and injuries of animals, an essential member of a large animal rescue team.
Withers	The high point where the horse's shoulders come together at the backbone.
Zip Line	See "Tension Diagonal System."
Z-rig	A 3:1 system where a single rope is configured through a carabiner, pulley, and prusik to gain a mechanical advantage.

Manipulative Performance Test #1

TITLE:	MPT #1: Applying An Emergency Rope Halter
OBJECTIVE:	The objective is to have the student apply an emergency rope halter on a horse.
TIME FRAME:	0:01 per student
STUDENT DIRECTIONS:	<ol style="list-style-type: none"> 1. Indicate verbally when ready to begin the test. 2. The time will begin on the command "GO." 3. The time will end when the operation is complete. 4. Call out to verify visual inspection of items used in the testing process when required. 5. The rater(s) will time the evolution and keep score. 6. You have one (1) minute to complete the evolution.
SCORING:	<p>100 points possible80% passing</p> <ol style="list-style-type: none"> 1. Each Operation has a point value. 2. Basic Operations have a point value of five (5). 3. Essential Operations have a point value of ten (10). 4. Critical Operations or Safety Violations are pass/fail and are marked with an asterisk (*). 5. The student will receive all the assigned points for each Operation completed correctly. 6. The student will receive zero (0) points for each Operation omitted or completed incorrectly. 7. The student will fail if he or she omits a Critical Operation or a Safety Violation occurs. 8. The student will fail if he or she fails to complete the evolution in the time allotted.



LARGE ANIMAL RESCUE

Operational



Appendix B: Manipulative Performance Test #1

Manipulative Performance Test #1 Applying An Emergency Rope Halter

STUDENT: _____

DATE: _____

	OPERATION	Points Possible	Points Received
1.	Check over all scene activity and safety, put on gloves.	5*	
2.	Zigzag the rope in one hand	5	
3.	Do not allow rope to drop to the ground.	10*	
4.	Do not hide the equipment.	5	
5.	Approach from the front to the horse's shoulder.	5	
6.	Gain contact with the horse.	5	
7.	Stay in the neutral zone.	10*	
8.	Slowly work the small loop end of the rope over the withers and down the opposite side of the horse.	5	
9.	Take the loop end of the rope and gain control.	5	
10.	Work the loop up the horse's neck, maintaining control.	5	
11.	Feed the midsection of the rope through the small loop, forming a new loop.	10	
12.	Hold the running portion of the rope and the new loop and gain control.	5	
13.	Slowly move the new loop up and over the horse's nose.	10	
14.	Tighten the loop in a slow downward and forward motion.	10	
15.	Gain control of the horse.	5	
	TOTAL POINTS POSSIBLE:	100	
	PASSING SCORE:	80	
	STUDENT'S SCORE:		
	MAXIMUM ALLOTTED TIME:	1:00	
	STUDENT'S TIME:		
Rater's Name:		Pass/Fail:	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retest
Signature:			

Manipulative Performance Test #2

TITLE:	MPT #2: Applying A Forward Rescue Strap
OBJECTIVE:	The objective is to have the student apply a forward rescue strap on a horse.
TIME FRAME:	0:02 per student
STUDENT DIRECTIONS:	<ol style="list-style-type: none"> 1. Indicate verbally when ready to begin the test. 2. The time will begin on the command "GO." 3. The time will end when the operation is complete. 4. Call out to verify visual inspection of items used in the testing process when required. 5. The rater(s) will time the evolution and keep score. 6. You have two (2) minutes to complete the evolution.
SCORING:	<p>100 points possible80% passing</p> <ol style="list-style-type: none"> 1. Each Operation has a point value. 2. Basic Operations have a point value of five (5). 3. Essential Operations have a point value of ten (10). 4. Critical Operations or Safety Violations are pass/fail and are marked with an asterisk (*). 5. The student will receive all the assigned points for each Operation completed correctly. 6. The student will receive zero (0) points for each Operation omitted or completed incorrectly. 7. The student will fail if he or she omits a Critical Operation or a Safety Violation occurs. 8. The student will fail if he or she fails to complete the evolution in the time allotted.



LARGE ANIMAL RESCUE

Operational



Appendix B: Manipulative Performance Test #2

Manipulative Performance Test #2 Applying A Forward Rescue Strap

STUDENT: _____

DATE: _____

	OPERATION	Points Possible	Points Received
	Given that a halter and long lead line are in place and the animal handler has control of the animal.		
1.	Check over all scene activity and safety, put on gloves.	10*	
2.	At the animal handler's command, approach from the front to the shoulder.	10	
3.	Do not hide the equipment.	5	
4.	Do not allow equipment to drop to the ground	10*	
5.	Gain contact with the horse.	5	
6.	Stay in the neutral zone.	10*	
7.	Work one end of the strap over the withers.	5	
8.	Reach under the horse, maintaining contact, and grasp the end of the rescue strap.	10	
9.	Work the end of the strap under the horse and feed the opposite end of the strap through the loop, forming a "larksfoot."	10	
10.	Slowly position the larksfoot under the horse and feed the running end of the strap forward between the horse's front legs.	10	
11.	Bring the end of the strap forward to the animal handler.	10	
12.	At the animal handler's command, move away from the animal.	5	
	TOTAL POINTS POSSIBLE:	100	
	PASSING SCORE:	80	
	STUDENT'S SCORE:		
	MAXIMUM ALLOTTED TIME:	0:02	
	STUDENT'S TIME:		
Rater's Name:		Pass/Fail:	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retest
Signature:			

Manipulative Performance Test #3

TITLE:	MPT #3: Applying A Vertical Lift Tie
OBJECTIVE:	The objective is to have the student apply a vertical lift tie on a horse.
TIME FRAME:	0:05 per student
STUDENT DIRECTIONS:	<ol style="list-style-type: none"> 1. Indicate verbally when ready to begin the test. 2. The time will begin on the command "GO." 3. The time will end when the operation is complete. 4. Call out to verify visual inspection of items used in the testing process when required. 5. The rater(s) will time the evolution and keep score. 6. You have five (5) minutes to complete the evolution.
SCORING:	<p>100 points possible80% passing</p> <ol style="list-style-type: none"> 1. Each Operation has a point value. 2. Basic Operations have a point value of five (5). 3. Essential Operations have a point value of ten (10). 4. Critical Operations or Safety Violations are pass/fail and are marked with an asterisk (*). 5. The student will receive all the assigned points for each Operation completed correctly. 6. The student will receive zero (0) points for each Operation omitted or completed incorrectly. 7. The student will fail if he or she omits a Critical Operation or a Safety Violation occurs. 8. The student will fail if he or she fails to complete the evolution in the time allotted.

Manipulative Performance Test #3 Applying A Vertical Lift Tie

STUDENT: _____

DATE: _____

	OPERATION	Points Possible	Points Received
	Given that there is a halter and long lead line on the horse and the animal handler has control of the animal.		
1.	Check over all scene activity and safety, put on gloves.	5*	
3.	At the handler's command, both rescuers approach from the front to the shoulder.	5	
4.	Do not hide the equipment; do not allow equipment to drop to ground.	5	
5.	Gain contact with the horse.	5	
6.	Stay in the neutral zone.	10*	
7.	With the center of the rope, measure from the withers to the sternum and tie an overhand knot, forming a loop.	5	
8.	Go to the handler, feed the end of the lead line through the loop, place the loop over the horse's neck. Adjust the knot so that it falls below the thoracic inlet.	10	
	Run the ends of the rope, one at a time, down and back through the front legs.	5	
9.	Bring the ends of the rope up and over the back, exchange ropes, forming an "X."	5	
10.	Slowly, one at a time, run the ends of the rope, down and back through the horse's rear legs, and then up along the dock of the tail.	10*	
11.	Holding both sections of the rope together, tie an overhand knot just above the tail.	10	
12.	Run both ends of the rope forward under the "X" and through the neck loop, keeping the ropes as tight as possible.	5	
13.	Run the rope ends back over rear part of the "X" between the forward running lines, turn and continue under the rear part of the "X" towards the neck.	5	
14.	Run the rope ends forward under the neck loop a second time.	5	
15.	Wrap the rope ends in opposite directions around the parallel set of ropes between the withers and the middle of the back, forming a "handle."	5	
16.	Tie the ends of the rope together, keeping the knot off-center.	5	



LARGE ANIMAL RESCUE

Operational



Appendix B: Manipulative Performance Test #3

Manipulative Performance Test #3 Applying A Vertical Lift Tie

STUDENT: _____ DATE: _____

	TOTAL POINTS POSSIBLE:	100	
	PASSING SCORE:	80	
	STUDENT'S SCORE:		
	MAXIMUM ALLOTTED TIME:	0:10	
	STUDENT'S TIME:		
Rater's Name:			Pass/Fail: <input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retest
Signature:			

LARGE ANIMAL RESCUE

Operational

Appendix B: Manipulative Performance Test #4

Manipulative Performance Test #4

MPT #5, Applying A Rescue Strap On A Horse In A Trailer, may be substituted for this test.

TITLE:	MPT #4: Applying A Rescue Strap On A Recumbent Horse
OBJECTIVE:	The objective is to have the student apply a rescue strap on a recumbent horse.
TIME FRAME:	0:05 per student
STUDENT DIRECTIONS:	<ol style="list-style-type: none"> 1. Indicate verbally when ready to begin the test. 2. The time will begin on the command "GO." 3. The time will end when the operation is complete. 4. Call out to verify visual inspection of items used in the testing process when required. 5. The rater(s) will time the evolution and keep score. 6. You have five (5) minutes to complete the evolution.
SCORING:	<p>100 points possible80% passing</p> <ol style="list-style-type: none"> 1. Each Operation has a point value. 2. Basic Operations have a point value of five (5). 3. Essential Operations have a point value of ten (10). 4. Critical Operations or Safety Violations are pass/fail and are marked with an asterisk (*). 5. The student will receive all the assigned points for each Operation completed correctly. 6. The student will receive zero (0) points for each Operation omitted or completed incorrectly. 7. The student will fail if he or she omits a Critical Operation or a Safety Violation occurs. 8. The student will fail if he or she fails to complete the evolution in the time allotted.

Manipulative Performance Test #4 Applying A Rescue Strap On A Recumbent Horse

STUDENT: _____ DATE: _____

	OPERATION	Points Possible	Points Received
	Given that a halter and long lead rope are in place and the animal handler has control of the animal.		
1.	Check over all scene activity and safety, put on gloves.	10*	
2.	Rescuer #1 approaches the trailer while in the horse's line of sight.	10	
3.	Rescuer #1 positions at the trailer's opening, near the horse's back.	10	
4.	Rescuer #2 finds an opening as far forward and as low as possible in the trailer's floor and feeds the end of the webbing through it into the trailer.	5	
5.	Rescuer #1, using a pike pole, retrieves the webbing and runs it under the legs, past the hip, then attaches it to one end of the rescue strap.	5	
6.	Rescuer #1 hooks the loop of the rescue strap on the end of the pike pole and keeping it low, pushes it forward between the horse's back and side of the trailer,	10	
7.	At the command of Rescuer #1, Rescuer #2 uses the webbing to pull the rescue strap under the horse just forward of the hip. The pull continues until the center of the strap is as close to the horse's spine as possible.	10	
8.	Rescuer #2, using a pike pole, retrieves the webbing and rescue strap, feeding it over the lower leg and under the upper leg.	10	
9.	Rescuer #1 feeds the loose end of the rescue strap over the hip and back between the rear legs, with assistance from rescuer #2 using a pike pole.	10	
10.	Rescuer #1 attaches the loose end of the webbing to the loose end of the rescue strap.	10	
11.	Rescuer #2 brings the rope's midsection of the webbing back and attaches it to the hauling system when everyone is ready.	10	



LARGE ANIMAL RESCUE



Operational

Appendix B: Manipulative Performance Test #4

Manipulative Performance Test #4 Applying A Rescue Strap On A Recumbent Horse

STUDENT: _____ DATE: _____

	TOTAL POINTS POSSIBLE:	100	
	PASSING SCORE:	80	
	STUDENT'S SCORE:		
	MAXIMUM ALLOTTED TIME:	0:10	
	STUDENT'S TIME:		
Rater's Name:			Pass/Fail: <input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retest
Signature:			

LARGE ANIMAL RESCUE

Operational

Appendix B: Manipulative Performance Test #5

Manipulative Performance Test #5

MPT #4, Applying A Rescue Strap On A Recumbent Horse, may be substituted for this test.

TITLE:	MPT #5: Applying A Rescue Strap On A Recumbent Horse In A Trailer
OBJECTIVE:	The objective is to have the student apply a rescue strap on a recumbent horse In A Trailer.
TIME FRAME:	0:05 per student
STUDENT DIRECTIONS:	<ol style="list-style-type: none"> 1. Indicate verbally when ready to begin the test. 2. The time will begin on the command "GO." 3. The time will end when the operation is complete. 4. Call out to verify visual inspection of items used in the testing process when required. 5. The rater(s) will time the evolution and keep score. 6. You have five (5) minutes to complete the evolution.
SCORING:	<p>100 points possible80% passing</p> <ol style="list-style-type: none"> 1. Each Operation has a point value. 2. Basic Operations have a point value of five (5). 3. Essential Operations have a point value of ten (10). 4. Critical Operations or Safety Violations are pass/fail and are marked with an asterisk (*). 5. The student will receive all the assigned points for each Operation completed correctly. 6. The student will receive zero (0) points for each Operation omitted or completed incorrectly. 7. The student will fail if he or she omits a Critical Operation or a Safety Violation occurs. 8. The student will fail if he or she fails to complete the evolution in the time allotted.



LARGE ANIMAL RESCUE

Operational



Appendix B: Manipulative Performance Test #5

Manipulative Performance Test #5 Applying A Rescue Strap On A Recumbent Horse In A Trailer

STUDENT: _____ DATE: _____

	OPERATION	Points Possible	Points Received
	Given that the doors of the trailer are open, a halter and long lead rope are in place, and the animal handler has control of the animal.		
1.	Check over all scene activity and safety, put on gloves.	10	
2.	Attach the rope to one end of the rescue strap.	5	
3.	Rescuer #1 approaches in the horse's line of sight, with the equipment.	10	
4.	Rescuer #1 positions at the horse's back, forward of the hips.	10*	
5.	Rescuer #1 places one end of the strap under the horse just forward of the hip and holds it in place.	5	
6.	Rescuer #2 takes the running end of the rope out and around the horse's rear, working out of the line of fire, while Rescuer #1 works the rope under the horse's rear legs using a pike pole or boat hook.	10*	
7.	Rescuers #1 and #2 work the rope under the horse's hips until the rope is just forward of the hips. Rescuer #2 pulls the strap under the horse,	10	
8.	Rescuer #2 brings the rope and end of the rescue strap out and around the horse to Rescuer #1, pulling it under the top leg and over the lower leg.	10	
9.	Rescuer #1 feeds the loose end of the rescue strap over the hip and back between the rear legs, with assistance from rescuer #2 using a pike pole.	10	
10.	Rescuer #1 attaches the loose end of the rope to the loose end of the rescue strap.	10	
11.	Rescuer #2 brings the rope's mid-section back and attaches it to the hauling system when everyone is ready.	10*	
TOTAL POINTS POSSIBLE:		100	
PASSING SCORE:		80	
STUDENT'S SCORE:			
MAXIMUM ALLOTTED TIME:		0:10	
STUDENT'S TIME:			
Rater's Name:		Pass/Fail:	<input type="checkbox"/> Pass <input type="checkbox"/> Fail <input type="checkbox"/> Retest
Signature:			

Manipulative Performance Test #6

TITLE: MPT #6: Applying Parallel or Tandem Prusiks and Assembling A Piggyback Haul System

OBJECTIVE: The objective is to have the student apply parallel or tandem prusiks and assemble a piggyback haul system.

TIME FRAME: 0:10 per student

- STUDENT DIRECTIONS:**
1. Indicate verbally when ready to begin the test.
 2. The time will begin on the command "GO."
 3. The time will end when the operation is complete.
 4. Call out to verify visual inspection of items used in the testing process when required.
 5. The rater(s) will time the evolution and keep score.
 6. You have **ten (10) minutes** to complete the evolution.

SCORING: **100 points possible** **80% passing**

1. Each Operation has a point value.
2. **Basic Operations** have a point value of **five (5)**.
3. **Essential Operations** have a point value of **ten (10)**.
4. **Critical Operations** or Safety Violations are pass/fail and are marked with an asterisk (*).
5. The student will receive **all the assigned points** for each Operation completed correctly.
6. The student will receive **zero (0)** points for each Operation omitted or completed incorrectly.
7. The student will **fail** if he or she omits a Critical Operation or a Safety Violation occurs.
8. The student will **fail** if he or she fails to complete the evolution in the time allotted.



LARGE ANIMAL RESCUE

Operational



Appendix B: Manipulative Performance Test #6

Manipulative Performance Test #6

Applying Parallel or Tandem Prusiks, Assembling A Piggyback Haul System

STUDENT: _____

DATE: _____

	OPERATION	Points Possible	Points Received
1.	Check over all scene activity and safety, put on gloves.	5*	
2.	Determine a direction of pull and choose an appropriate haul system.	5	
3.	Establish an anchor.	5	
4.	Lay out the equipment.	5	
5.	Attach the hauling system and a load transfer device to the anchor.	5	
6.	Extend the haul system to a workable length.	5	
7.	Extend the moveable haul rope to the load.	5	
8.	Attach parallel or tandem prusiks to the haul rope at the end of the haul system and attach the haul system to the prusiks.	10	
9.	Attach a carabiner to the end of the haul rope.	5	
10.	When the animal handler and haul team are ready, attach the haul rope to the animal.	10	
11.	Start the haul at the animal handler's command.	10*	
12.	The haul stops and the load transfer are attached at the animal handler's command or as the haul system approaches the end of its working length.	10	
13.	Release tension on the haul system and transfer the load to the load release device.	5	
14.	The haul system is extended back to its working length.	5	
15.	A second set of prusiks is attached to the haul rope.	5	
16.	The haul system is reattached to the haul rope.	5	
TOTAL POINTS POSSIBLE:		100	
PASSING SCORE:		80	
STUDENT'S SCORE:			
MAXIMUM ALLOTTED TIME:		0:10	
STUDENT'S TIME:			
Rater's Name:		Pass/Fail:	<input type="checkbox"/> Pass
Signature:			<input type="checkbox"/> Fail
			<input type="checkbox"/> Retest

LARGE ANIMAL RESCUE

Operational

Appendix B: Manipulative Performance Test #6