LEAST RESISTANCE TRAINING CONCEPTS

PROCEDURE GUIDE No. 23-02

HYOTHERMIA INCIDENTS INVOLVING LIVESTOCK

Issue Date: 2-24-2023

This Procedure Guide supersedes all previous guides in order to comply with the latest Lyon County training standards.

Discussion:

Occasionally a large animal (typically a horse) will break through an ice-covered body of water or be exposed to prolonged cold and require intervention. This Procedure Guide outlines general best practices.

Responder Qualifications:

IS-100.c, IS-700.b, National Traffic Incident Management (TIM) Certificate, TLAR Emergency Horse Handling Module, TLAR Technical Large Animal Rescue Operational Level

1. **Safety Policy:**

1.1 Safety is the overarching priority in all responses. No procedure or protocol provided in this Procedure Guide shall supersede the use of sound judgment as may be appropriate to maximize incident safety.

1.2 All responders shall wear appropriate helmets at all times, and wear ANSI Class-II or Class-III vests or jackets whenever operating on or near any active traffic lanes.

1.3 A qualified Safety Officer shall be designated for all technical rescue responses.

1.4 In circumstances where responders cannot reliably communicate by direct voice, portable radios shall be utilized.

2 **Response Matrix:**

2.1 Minimum responses to technical large animal rescue incidents involving potential hypothermia shall include:

- Closest available TLAR Rescue Unit
- Special Operations Support-1
- Incident Support Unit-1
- Transport trailer with loading panels

2.2 An additional TLAR Rescue Unit may respond if the need for additional equipment is anticipated.

3 Incident Organization / Chain of Command:

3.1 Each response shall have an Incident Commander (IC) who will direct the activities being undertaken.

4 Incident Assessment:

4.1 Upon arrival a complete and comprehensive size-up shall be undertaken, risks and probable rescue activities shall be determined, and information shall be relayed to incoming units.

5 Unified Command:

5.1 When public safety, veterinary or facility personnel are present, operations should be conducted with the lead personnel from all stakeholder entities functioning by agreement in an ICS Unified Command structure.

5.2 The Commander of Technical Large Animal Rescue operations may be part of the Unified Command structure or be designated as Technical Rescue Group Supervisor in a module that is subordinate to Incident Command, as incident conditions may warrant.

6 Incident Briefing / Incident Action Plan:

6.1 Subsequent to securing the scene and before initiating definitive technical operations, an Incident briefing shall be conducted including all responders present.

6.2 The Incident Briefing shall include at minimum:

6.2.1 The Incident Safety Plan, including identifying the Incident Safety Officer

6.2.2 Identified hazards and risks (compliance with NRS 41.519)

6.2.3 The Incident Action Plan (IAP)

6.2.4 Functional assignments and designation of Functional Unit Leads

6.2.5 Success measurements, including benchmarks warranting a change in the IAP

6.2.6 All material changes to the IAP shall be conveyed to all responders before changes take place.

7 General Safety Orders:

7.1 Incidents involving potential hypothermia can also pose risks to responders. Appropriate protocols for monitoring members and providing rehab shall be a priority.

7.2 Footing may be compromised. Everyone shall exercise due care.

7.3 All personnel working in hazardous positions shall wear safety harnesses with tag lines.

7.4 All activities in or near exposed water shall be in accordance with Water Rescue Practices.

7.5 All activities requiring rope rescue shall be in accordance with Rope Rescue Practices.

8 Clinical Findings:

8.1 Any core temperature below 99.5 degrees F is indicative of potential hypothermia.
8.2 Any core temperature below 90 degrees F is indicative of moderate hypothermia.
8.3 Any core temperature below 84 degrees F is indicative of severe hypothermia.
8.4 If a temperature cannot be taken, hypothermia should be presumed following cold exposure or immersion if the horse displays a lack of coordination, diminished energy level and/or an inability to focus and respond appropriately to stimuli.

9 Protocols and Best Practices:

9.1 Immediate recovery of core temperature can be critical to long-term survival.
9.2 Rubbing of the skin or unnecessary handling is contraindicated as doing so can cause cold peripheral blood to further impact the core.
9.3 Prevention of further heat loss (blanketing, moving to a less extreme environment, etc.) is usually warranted.
9.4 Veterinary administration of warm IV (104^{o}) and/or warm nasogastric liquids are recommended.
9.5 Warm enemas (104^{o}) can be beneficial prior to more definitive interventions.
9.6 Warm feed (feed soaked in warm water) can be beneficial if the horse will eat.
9.7 Warm water can be beneficial if the horse will drink (similar to temperature of formula.)
9.8 Warm (not hot) air that the horse can take in while breathing can be beneficial.
9.9 In cases of water immersion, warm air sufficient to help dry the haircoat can be beneficial.
9.9.1 It is critical not to rapidly rewarm surface areas until after the core has recovered. Be careful!

10 Moving the Horse:

10.1 Hypothermia is a true “load and go” emergency.
10.2 If the horse can walk, it should be moved slowly and deliberately.
10.3 If the horse is down, it should be moved on a Rescue Glide or other suitable surface, not be dragged directly over the ground.
10.4 The horse should be blanketed until it can receive definitive care.

11 Normal Mature Equine Vital Signs:

11.1 Normal Core Temperature: 99.5-11.4^{o}
11.2 Normal Pulse Rate: 28-40 BPM
11.3 Normal Respirations: 8-16 BPM
11.4 A hypothermic horse may not show detectable vital signs until the core is rewarmed. A lack of vital signs is not necessarily indicative of death.

12 Other Large Animals:

12.1 Any animal can suffer from hypothermia. The mechanism of the event and outward signs can help determine the potential for hypothermia in incidents where core temperatures cannot be read and/or baseline vitals for that species are unknown. In such instances it would be appropriate to follow the guidelines for horses to the greatest extent practicable.