Emergency Services at Steeplechase and Cross-Country Hunter Events

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Veterinary services at steeplechase and cross-country hunter events present many challenges to the attending veterinary practitioner. The veterinarian must be familiar with the requirements of the event, the obstacles encountered, and the expectations of the participants and the event organizers. Each location dictates different approaches to care of the horses, and the layout of facilities is critical to the proper approach.

Steeplechase racing is concentrated in the Mid-Atlantic and southeastern states. Hunter paces and cross-country competitions occur throughout the country. Steeplechase racing is regulated by the National Steeplechase Association (NSA) at licensed meets and at flat tracks. Point-to-point racing is largely unregulated except by the hunt clubs that organize them. They are usually loosely affiliated in regional groups and usually have presiding officials. The average licensed hunt meet under rules will have 70–75 horses competing. Point-to-points will vary greatly but may have similar numbers. These races will be on the flat, over brush or artificial hurdles, or over solid timber fences. Some races are mixed hurdles and timber. The “national fences” are an artificial hurdle made of a metal frame and the “brush” is plastic branches with a foam roll in front. These hurdles are 4 to 4.5 ft high, but the brush is soft and horses jump through the top. Natural hurdles vary from soft cedar to firm brush oxers. Timber fences vary from 3 to 4.5 ft and may be very solid to very open post and rail and may be vertical or slanted. Most poles on timber fences are notched at the post to allow the pole to break away when hit with force. Timber races are usually the longer, slower races, and fatigue is often a major factor. Horses hitting solid fences may be a major factor in injuries. The shorter hurdle races are run at a faster pace, and speed may be a factor in injury.

The average horse starting in jump racing is 6.4 yr of age and starts three times a year. In one study of starts in 2000, hurdle starts resulted in falls 2.6% of the time, and timber racing resulted in 7.3% of falls. Falls are not common in hunter pace events. Courses vary greatly from irrigated well-maintained turf to point-to-points run over pastures and hunter paces competing over “fair hunting country.” The NSA conducts course inspections on their licensed meets. Flat tracks that conduct steeplechase racing run these over the turf course that, in most cases, is a well-maintained surface. Common wisdom states that course conditions are a major factor in injuries seen at these competitions. Hard surfaces in drought conditions seemingly lead to
more soft tissue injuries, but no data are available to support that statement. There is an effort to correlate course inspections with injury data that the NSA is accumulating under support of the National Steeplechase Foundation. These data are compiled by epidemiologists at the Marion DuPont Scott Equine Medical Center of the Virginia-Maryland Regional College of Veterinary Medicine.

Providing veterinary care for such events is much more than showing up with a practice vehicle. Preplanning is essential to affect timely and appropriate care. The veterinarians should meet with course officials and management before race day. This meeting should cover the number of veterinarians needed, the ambulance service to be on course, the position of veterinarians during races, how communications will be handled—radios, cell phones, etc., who is responsible for handling communications with the press regarding any veterinary situation, and how the on course security people will integrate with veterinarians. A minimum of two veterinarians should be on course at all times, and the layout of many courses requires more. Most of this goes well but requires much discussion. The NSA has suggested protocols to handle these situations, and they can be adapted to local needs.

The nearest referral hospital should be identified and contacted before race day to facilitate any needed referrals. An on-site veterinary treatment stall or area should be provided to facilitate treatment in the barn or van area. Adequate electricity should be available to operate imaging equipment. At cross-country events, this may not be practical, and a portable generator may be useful.

As an attending veterinarian, you may be asked to conduct a pre-race examination on horses competing, particularly at licensed hunt meets. This exam will consist of proper identification of the animal, observation of the horse trotting, and visual exam of the limbs and the horse’s condition. Palpation of obvious abnormalities is advised. Any findings that may significantly affect the safety of the animal are reported to the presiding stewards. These examinations should be conducted in a quiet area away from other participants and should include at least two practitioners that have no conflicts of interest with the participants. A horse may be prevented from competing based on your examination. This will often be disputed by the trainer and calls for strict adherence to ethical principles and what is best for the horse under the conditions.

The horse ambulance is a vital component in emergency care at an event. “Ambulances” vary from standard horse trailers to well-equipped professionally operated vehicles. The horse ambulance may be regionally available at a cost to the meets. The ones in use in the Mid-Atlantic and southeast are very good vehicles and are highly recommended. These ambulances should be equipped with the means to load a down horse—power sleds, tarps, winches, and appropriate ropes. Ice or cold water should be on board. Misting fans are desirable. Bandage material and splints may be on board or at the ready. Experienced personnel are probably the number one requirement. A down or struggling horse can be dangerous to attendants, and their safety is paramount. The ability to quickly and safely move an injured animal off course is in the best interest of the animal and minimizes public reaction. Pre-planning as to the handling of such incidents is critical and should be well communicated to all personnel.

The attending veterinarian must be equipped to handle the range of emergencies that arise. In addition to the equipment listed in the ambulance, the practitioner should have good portable radiographic and ultrasonographic equipment, adequate equipment to handle lacerations and musculoskeletal injuries, IV fluids, Kimzey splints or other PVC type splints, material for Robert Jones splints, extra bandage material, casting materials, endoscopic equipment, and of course, euthanasia solution.

In the hunt meet or cross-country situation, access to the animal often becomes problematic to providing care. The veterinarian must await instruction from race officials to move on to the racing course. This is coordinated with security personnel and with the action of animals still competing. Vehicles that can get over rough ground are needed. In a true cross-country race, access must be planned ahead.

The common injuries that occur in these events include but are not limited to the following: falls; fractures; soft tissue trauma; soft tissue breakdowns; overheating and exhaustion; lacerations; metabolic conditions; and exercise-induced pulmonary hemorrhage. These conditions will often dictate varied methods of care but all must be incorporated with accurate observation and diagnosis, careful management of attending people as well as the horse, and common sense approaches to the care of the horse.

The most common scenario in steeplechase racing is the down horse after a fall. In most cases, the animal will rise in a short time after lying for a few minutes. These are tense minutes because the assessment of the down animal is difficult. The horse is respiring rapidly, it may be exhausted or have suffered neurologic trauma, and may have a fracture that is not readily evident. In addition, the animal may be struggling and presents an unsafe situation for those trying to assist. When the animal is not struggling excessively and can be examined, it is best to free the girth as quickly as possible, either by unbuckling or cutting the over and under girth. This is often all that is needed for these horses to take a deeper breath and rise.

Evident fractures call for decision making in consultation with the owner or trainer as to how to proceed. In many cases, it is obvious that euthanasia is required at the time. In other less severe or less obvious fractures, sedation, stabilization, and removal to an area for further examination is re-
quired. When dealing with an exhausted, painful horse, the animal should be adequately sedated before applying splinting. Some horses will accept a splint readily, whereas others may become excited and over-react. Care should be taken not to rush the application of a splint until the anxious animal is sedated. Xylazine (0.2–1.0 mg/kg, IV)⁷ and detomidine (0.005–0.02 mg/kg, IV)⁴ are the preferred sedatives and may be combined with butorphanol (0.005–0.01 mg/kg, IV).⁴ Stabilization on course is often accomplished with the use of a Kimzey or clam shell–type splint, especially for lower limb fractures.⁴ Adequate soft tissue protection is essential, using soft bandages and support under the splint. Robert Jones bandages may be applied for hind limb fractures if appropriate. At all times, safety of the attendants is paramount. Loading a supported horse requires adequate manpower and good horsemanship. With a down horse that is to be moved off course, very deep sedation or short-term anesthesia should be used. The use of a power sled or tarp is the easiest way to load such an animal.

When on-site euthanasia is required, the public should be screened off from the animal with screens on the ambulance, and security should maintain crowd control. The attending veterinarian must take control of the situation under the protocols established before the race. As in any euthanasia situation, the safety of those in attendance should be considered. Euthanasia of an excited animal is sometimes difficult, and sedation may be required before the euthanasia solution is administered. The pressure to remove an animal from a race course should not supersede the needs of the horse. It is advisable to pre-load large volume syringes with euthanasia solution to facilitate quick action when needed. Large-bore 14-g catheters are used to administer the euthanasia solution.

Central nervous system trauma is not uncommon. Fractures of the poll or cervical vertebrae do occur. Cranial head trauma will require careful assessment and often considerable time at the site to stabilize before sedation and moving the animal off course. Cervical fractures at the atlanto-occipital junction or distal cervical vertebrae are not uncommon.⁴ These types of injuries are challenging to deal with. Obvious spinal fractures generally require on-site euthanasia but may be very difficult to assess and to differentiate from concussions, which often carry a decent prognosis. Seizure activity may be controlled with diazepam (0.03–0.5 mg/kg, IV).⁵ If general anesthesia is needed to move such an animal, short-acting barbiturates are generally the choice to not increase seizure activity.⁵ If these barbiturates are not available, a combination of diazepam (0.05–0.44 mg/kg, IV) and detomidine (0.5–40 μg/kg, IV)⁵ is often the choice to sedate these cases, and ketamine (1.0–2.2 mg/kg, IV)⁵ can be used after good sedation is established. Ketamine may increase intracranial pressure and can increase seizure activity.⁴ Using the power-operated sled to load such a horse is often the only recourse.²

Lacerations occur from interference at fences, hitting fences at speed, falls, and common over-reach injuries. The most common lacerations are of the lower limb and are managed with routine wound care techniques. Severe degloving wounds are not uncommon but seem to have been reduced with the elimination of toe grabs on the shoes of competing horses. Soft tissue injuries vary from simple bowed tendons to complete soft tissue catastrophic breakdowns. Bowed tendons are common,⁴ and many horsemen are reluctant to transport these horses off course in the ambulance. This should be encouraged, and the ambulance should be used in the best interest of the horse. Support bandages may be applied on site, and a splint should be used if complete rupture has occurred. These injuries are best addressed in the stable area and should be stabilized before the horse is shipped back to the home stable. Because increasing soft tissue swelling is common, rigid support is to be avoided in favor of firm support bandages.

At events conducted in warm weather, overheating is common.¹ Ice and cold water should be available at the finish line at all such meets and plentiful in the barn areas. If misting fans are available, they are preferred. At races in conditions of high temperature and high humidity, mandatory cold water hosing after pulling up at the finish is advised. This has prevented many of these horses from suffering exhaustion while walking back to the stable area. Such horses will stagger when pulling up and even go down repeatedly while struggling to stay on their feet. This is another dangerous situation for the handler, and if these animals can be cooled down and sedated quickly, they recover quickly. Struggling, overheated horses should not be loaded on an ambulance until they are quiet. Repeated cold water or ice water application and sweat scraping is used to facilitate evaporation.⁷ Flunixin meglumine (1.0 mg/kg, IV)⁸ is indicated, and sedation with xylazine (0.2–1.1 mg/kg, IV)⁹ or detomidine (0.5–40 μg/kg)⁹ will manage the anxiety of these cases.

Most other metabolic conditions such as exercise-induced pulmonary hemorrhage or exertional rhabdomyolysis are handled in the stable area. In severe cases of “tying up syndrome,” IV fluids may be needed, but this is uncommon in most cases because sedation and anti-inflammatory drugs often manage the acute case. Electrolyte depletion may occur, and asynchronous diaphragmatic flutter is seen uncommonly. Adequate rehydration after the race is usually managed orally, and all horses should have access to clean drinking water in plentiful amounts managed carefully over the hours after the race.

Although veterinary services at these events can be stressful and require a lot of effort, with proper planning, personnel, and equipment, the results can
be very positive in the care of the horse and satisfying for the equine practitioner.

References and Footnotes

*Whitcomb MB. Unpublished data, 2000.*
*Kimzey Legsaver Splint, Kimzey, Woodland, CA 95695.*