Emergency Preparedness for Eventing

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Preparation for emergencies at an eventing competition is an exercise in advance planning and seamless cooperation to make it seem smooth and effortless. This only happens if there is a concerted effort between veterinarians and the event administration. The second thing to remember in preparing for an eventing competition is the unique nature of the cross country phase of eventing. Running horses at speed at large fixed objects results in a unique set of sports-related injuries.

The first step that the event organizer faces in preparing for emergencies is selecting a veterinary staff. The veterinarian is selected as the veterinary delegate (VD) for a Federation Equestrian Internationale (FEI) event or a treating veterinarian at a national level horse trial. The VD acts as a veterinary judge in cooperation with the competition’s Ground Jury. The treating veterinarian is to provide emergency care on the days of the competition. The cross country phase is the one that the majority of emergencies will occur at and should always have precedence but you must be prepared to respond to multiple phases of the competition at the same time. Will the emergency veterinarian be available when competitors start arriving as well as after hours? The veterinarians providing the emergency services should be posted in the Omnibus along with their phone numbers.

A national level horse trial will often be governed by the rules of the U.S. Eventing Association (USEA), and the technical delegate can often provide invaluable information to the less experienced veterinarians involved in this level of competition. The questions that should be asked to prepare for emergencies are as follows:

- Who is the veterinarian that will be covering emergencies on the dressage and/or show jumping days? Some events will be conducted so that one or more of the three phases of the competition will be ongoing at the same time. The cross country phase is the one that the majority of emergencies will occur at and should always have precedence but you must be prepared to respond to multiple phases of the competition at the same time. Will the emergency veterinarian be available when competitors start arriving as well as after hours? The veterinarians providing the emergency services should be posted in the Omnibus along with their phone numbers.

- What arrangements have been made to cover the cross country course? Many organizers have been doing this for years and have an excellent emergency plan that can be adopted completely or with little modification. Most organizers have broken the rather large dis-
tances of the cross country course into zones based on accessible geography. Each zone usually contains a cross country repair crew, a human ambulance, a horse ambulance or transportation vehicle, and a veterinary ambulatory vehicle. Sometimes, at small competitions, there may be only one zone crew. At larger competitions, there may be several zones with a veterinarian crew in radio contact at each one. The veterinarian should consult with the TD and organizer as to how many zones and therefore how many veterinarians are needed and if they have been contracted. The veterinarian should confirm each veterinarian’s willingness to attend and have them reminded 1 wk before the competition and agree when to meet to review their zone assignment and what time to arrive at the competition. If they need passes, these should be issued at the time they come to the competition ground to review their routes to move within their zone, usually the night before the cross country day. It is imperative that veterinary ambulatory units not move unless instructed by cross country control or veterinary control because of horses still in the competition coming up rapidly on the vet units and the risk of these horses being injured. Numerous near misses and actual injuries have happened in the past. Also, unless the vet units have familiarized themselves with the course, it is easy to get lost. Responding with the cross country repair crew is a wise strategy because they know the course quite well.

- How will communication among veterinary staff and administrative staff be conducted? Radios for the competition should be arranged ahead of time. The solution may be as simple as a single radio (provided by the event) by which the treating veterinarian may communicate. Or the organizer may have multiple radios that carry multiple networks that provide the veterinarians and the administrative a network to talk. This will allow all the veterinarians to communicate together and yet know when to respond to the sector response teams or the veterinary control. This veterinarian is usually called the veterinary control officer in larger FEI competitions and sits near the cross country control to coordinate veterinary emergencies. At smaller or larger national competitions, the veterinarians may be directed by cross country control. If they are at a smaller national competition and treating in the barn as well as the cross country course, they should listen closely to the radio because cross country emergencies must be responded to as rapidly as possible.

- Who will make arrangements for emergency transport of horses off the course? This may be as simple as a trailer with a ramp to transport an injured horse off the course. The larger challenge is how to transport the recumbent horse. This can be done with an emergency equine ambulance. Many large practices, local equine rescue societies, veterinary schools, or nearby racetracks have vehicles with these capabilities. The less desirable but effective approach is to have a flatbed car transport and nylon pastern slings on site to safely move a recumbent horse. Although some organizers may not want to incur the cost this may involve, if a horse is dead or unable to rise on course there is no other aesthetic way to remove the horse. The cross country jump repair crew or the equine ambulance itself should carry screens to quarter off the situation from the public while emergency treatment or removal is effected.

- How will a dead horse be taken to necropsy? The VD should discuss with the organizer how the dead horse will be quickly removed from the course as well as where it will be taken and how it will be cooled until it can be transported to a suitable veterinary pathology necropsy facility. This must be determined ahead of time, and prior arrangements should be made for a rapid necropsy or at least cooled storage until the horse can be posted. The U.S. Equestrian Federation (USEF) stated that, after the June 2008 Safety Summit, it would cover costs associated with necropsy of event horses that die on course.

Each discipline has its own set of injuries associated with its competition. The unique combination of three disciplines for the eventing horse incorporates injuries from either dressage, show jumping, or cross country. I would refer the reader to the excellent sections in this in-depth session on emergency preparedness in Dressage and Show Jumping and concentrate on the injuries sustained by the event horse during the cross country jumping phase. The most common injuries reported for the eventing horse include lacerations, superficial digital flexor tendonitis, suspensory ligament desmitis, foot bruising, stifle trauma, rhabdomyolysis, and exercise-induced pulmonary hemorrhage. This list is not exhaustive. Each injury will require its own set of technical equipment. Many different injuries may be sustained by the event horse. They can be categorized by lacerations and abrasions, speed-related injuries, and jump-related injuries.

1. Lacerations of the distal limb are common because of the horse jumping over fixed fences and varied terrain. Over-reach wounds of the heel and stud-related punctures are quite common and can be quite painful to the horse. Because of the water jumps the horse is commonly going through, these wounds are often
contaminated and will require antibiotic therapy and a drawing poultice and tetanus prophylaxis if needed. Abrasions of the carpus are associated with water jump falls and a too deep or rough gravel surface. These can be significant injuries, and if several of them are seen at the same event, they should be pointed out to the TD and/or organizer, who may not be aware of the deteriorating surface under the water. If any of the wounds are suspected to be penetrating injuries of a synovial structure, they should be carefully examined and possibly sent to a referral center for a more detailed assessment than what may be available at the competition.  

2. Speed-related injuries can be many and varied. These will often be similar to injuries of the Thoroughbred race horse.

- Bleeding or exercise-induced pulmonary hemorrhage (EIPH). These are often not seen during the new short format until the end of the course. If the VD is present, they should examine the horse. If not, the veterinarian at the end of cross country should summon the VD. These can be quite mild with a trickle of blood seen that is not clinically relevant or can be more severe and require rest and a significant workup to determine the underlying cause. The worse expression of this is the extremely rare rupture of an aortic or pulmonary vessel and often presents as sudden death during exercise.

- Running at speed can result in a variety of tendon and ligament injuries. These may present with obvious swelling and pain with lameness in the affected area. They may also present as a lameness with no apparent swelling, or the swelling may develop later. Some superficial digital flexor tendon (SDFT) core injuries and origin of the suspensory ligament injuries will present in this manner. The most common injury is superficial digital flexor tendonitis, with desmitis of the suspensory ligament being the next most common. Injuries to the inferior check ligament, suspensory branches, origin of the suspensory, and collateral ligaments of the coffin joint are the next most significant injuries. These injuries almost without exception will require withdrawing the horse from the competition once they are detected. Anti-inflammatory therapy, cold therapy, and support wraps, as well as ultrasound diagnostics to determine the degree of the injury, are indicated as soon as possible. However, it is rare that it is needed to medicate the horse on the field of play, and it is safer and more prudent to transport the horse back to veterinary care in the barns to perform a more detailed assessment. Severe manifestations of SDFT and suspensory injury may require the use of a Kimzey splint or a Robert Jones type bandage to appropriately support the non–weight-bearing leg and allow the horse to be loaded in a trailer and be taken to its stall or a pre-designated surgical referral center for further evaluation.

- Exertional rhabdomyolysis (ER) or tying up is common in the event horse and may be seen even at lower level events. It is less common in eventing’s new short format. It may present as a horse that shows bilateral or unilateral stiffness in the hind limbs, or it can present as a horse that is unable to walk at all. Sometimes it presents as a horse reluctant to leave the stall after competition. Stiff and hard muscle masses, most commonly in the area of the middle gluteal muscle group, can sometimes be palpated. In its extreme form, ER can present as a recumbent horse that may need fluids to rise. The significant factor is that it is recognized for what it is and that the horse is transported off the course and examined in more detail. A mild case may require nothing more than an anti-inflammatory injection and usually being withdrawn from competition. Blood work (aspartate aminotransferase [AST] or creatine phosphokinase [CPK]), although useful, is usually hours or days away from the initial treatment point. The veterinarian will likely have to make a clinical diagnosis on the site and wait for the blood work to note the severity of the case. For a moderate to severe case, the treating veterinarian should have a large-bore 14-gauge IV catheter to insert in the jugular vein and have a large-bore IV fluid administration set with the ability to run 20, 40, or more liters of a balanced electrolyte solution rapidly. Important factors to understand when treating ER at an event is that the horse or horses may require significant amounts of fluid, and the treating vet should be prepared to have access to these amounts of isotonic fluids.

3. Jump-related injuries. Impacting a solid fence is a common scenario in the cross country phase of the event horse. It may have no injury associated with it; however, the fall of horse (hip and shoulder striking the ground) would normally result in elimination of the horse and rider combination. It also can result in a wide variety of injuries, with the most common being trauma to the stifle area, as well as the shoulder, carpus, pelvis, and neck areas. The mild version of these injuries are ones that surface as abrasion, stiffness, and swelling after the cross country phase, and the horse should be examined to see if the injury is mild and if the horse can continue in the competition with icing and minor treatment. The more significant inju-
ries are those in which the horse has gone acutely lame and requires transportation off the field of play. If the horse is lame but able to be transported, only a cursory assessment should occur in the field of play, and the horse should be more completely assessed at the barn or referral clinic. The worse case scenario is that the horse has impacted the fence or fallen and is unable to rise or is stuck in the jump. This should result in immediate mobilization of the area veterinary treatment crew and jump repair crew and the horse ambulance or flat bed tow truck to transport the recumbent horse. The cross country controller should stop the other horses on the course and delay the start. If the horse is stuck in a jump, often the horse can be calmed or sedated, and the jump crew can disassemble the jump around them. The jump crew should deploy tarpaulin with wood-braced screens, and the veterinarian should do a quick but detailed assessment of the injury and determine whether the horse can rise or whether it needs to be administered short-term anesthesia and transported to a referral facility. In the worse case scenario, the veterinarian may determine that the horse has an injury that it will not recover from and must be humanely euthanized. Hopefully, the rider or family is able to give that permission, and the horse can be put down as soon as feasible to reduce suffering. The veterinarian should be sure of the manner of the injury and the prognosis because multiple parties (VD, TD, and insurance company) will be in consultation with him/her regarding the details. Currently, the FEI rules do require a necropsy, and the USEF rules will likely require it in the near future. The organizing committee must have this scenario in mind, because they will need the horse ambulance back for the remainder of the competition as soon as possible.

The overall role of veterinarians at an eventing competition is to act as advocates for the horse and to provide the care needed if a problem occurs. The VD has the primary role as advocate for the horse and should be referred to by the other veterinarians on the grounds when there is a question. Their job is to protect the horse, allow the horses to compete safely, and make sure the rules are followed. This requires experience, forethought, and prior cooperation with the organizing committee. Another critical factor to understand is that the VD in a FEI competition or the treating vet in a national competition is an advisor to the Ground Jury, who are the judges of the competition. The veterinarians never act alone in the removal or even significant treatment of a horse in the competition but only in cooperation with the Ground Jury. This close cooperation is a hallmark of the eventing competition and sets it somewhat apart from other equestrian competitions, including its similar FEI disciplines.

Reference and Footnote

*Kimzey Splint, Kimzey, Woodland, CA 95695.