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Veterinary Considerations — Because of the potential for extreme stress that distance riding entails, it is vital that competitions be monitored by veterinarians experienced in this particular athletic pursuit. Their word is final in all matters pertaining to the safety and welfare of the horses. However, while their primary responsibility is to keep risks within reasonable boundaries, they function as much more than policemen or emergency room doctors. They also serve as counselors and coaches for the riders, helping them to get the best performance from their horses on any given day, and at the same time educating them on how to improve future efforts.



PRE-RIDE EXAM—The rider's first experience with the veterinarian will be at the pre-ride exam. This exam is usually performed on the Friday afternoon prior to the Saturday competition. The veterinarian's responsibility at this point is very simply to judge which horses are in satisfactory condition to start and which ones are not. The pre-ride exam is also the time when the vet familiarizes himself with each horse, noting on the rider card any peculiarities in gait or pre-existing conditions that he feels might become more significant as the ride progresses. From the rider's point of view, the pre-ride exam provides the first impression of the vet's expertise. Ideally it is a time for the establishment of mutual respect and good will.

Because it is so important for the rider to understand the significance of all the various tests that the vet can perform to determine the horse's condition, this chapter will attempt to explain it all in some detail. Once you understand how things work, it will be possible for you to make sound evaluations of your own when there is no vet around to help you. At the beginning of the exam, a temperature may be taken. Normal temperatures range from 99 degrees F to 101.5 degrees F, with most horses at 100 degrees F to 100.5 degrees F. Any horse with a significantly elevated temperature will be closely evaluated to determine if that temperature is due to possible illness, or if it is more likely due to recent exercise or some other innocent factor.



The vet will next listen to the heart and lungs with a stethoscope. Most horses have a heart rate of 32 to 44 beats per minute. Anything over 44 would probably be viewed with concern unless the elevated rate could readily be attributed to excitement and "nerves." Many horses have some slight irregularities in their heartbeat, and these usually are not significant. Typically, the vet would simply make a note of it on the rider's card, and monitor it for adverse changes during the ride. If the vet detects any congestion in the lungs when he listens to the horse's breathing, he would doubtlessly inform the rider and disqualify the horse.

The hydration of the horse is checked by looking at the mucous membranes, capillary refill time, and skin elasticity. Sometimes horses arrive at camp already significantly dehydrated, and this can give the vet cause for concern. In these cases the rider would probably be given an opportunity to encourage the horse to drink over the next several hours and then have him checked again. During the course of an endurance ride, even a fit, healthy and fully hydrated horse is bound to undergo a great deal of fluid loss.



Taking Pulse

Starting with one that is already in a deficit would not be safe, particularly if the dehydration were accompanied by other signs of metabolic incompetence. For your part, in order to avoid having the horse arrive in camp in this condition, be sure he always has fresh water at home. Many riders like to give a dose of electrolytes before leaving home to encourage the horse to drink the water you should offer at least every four hours. Finally, don't make the mistake of overriding your horse the week before a competition. Always give him two or three days of very light exercise before a ride so that he will arrive at camp rested and at his fighting best - not exhausted from eleventh hour conditioning efforts.

The skin pinch is one method of determining hydration. It is performed by pinching the horse's skin with the thumb and forefinger over the point of the shoulder (not over the neck). In a fully hydrated horse, the skin will pop back immediately. As the horse becomes progressively more dehydrated, the skin will stay puckered up for progressively longer periods.



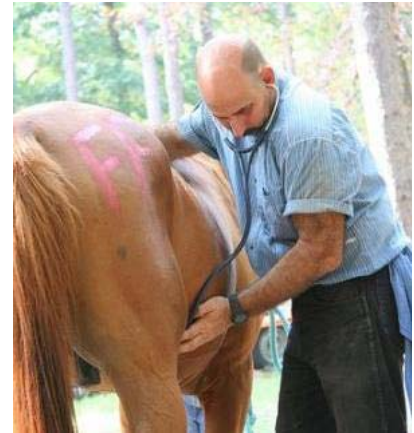
Checking Capillary Refill

A capillary refill test is performed by applying thumb pressure to the gums, removing the thumb, and then observing the time it takes for the blanched area to return to the same color as the surrounding membrane. This test indicates the ability of the heart to replenish its capillary system, and is a very important tool in assessing metabolic condition. Recovery normally takes less than two seconds at the pre-ride exam.

The mucous membranes that are observable are those of the inner eyelids and gums. Pink moist gums indicate proper blood perfusion of the tissue.

Variations in normal include paler membranes, or membranes with a yellowish or grayish cast. Frequently the gums and membranes around the eyes do not coincide in color, with the gums being paler. Changes from the base line are usually significant.

Gut sounds are heard in the flank and abdominal areas. These sounds are perceived as slight, gurgling or rumbling. They will be recorded in the vet book as normal, hyperactive, slight, diminished, or nonexistent.



Checking Gut Sounds



Checking Tack Areas

During the pre-ride exam the horse will be observed for tack related sores and palpated for excessive tenderness. Legs should be checked for overt problems, such as filling in the joints or tendons, interference marks, or other swellings suggesting that the horse might suffer harm from competing. Any minor problems will be noted in the vet book and observed through the ride for signs of degeneration. Progressive deterioration could be cause for elimination from the ride.

In evaluating soundness, the vet will want to see the horse trot in a straight line and perhaps in a circle to both the left and right. Grossly lame horses are not permitted to start a ride, but horses with slight irregularities of movement may be allowed to go. In the latter case, the veterinarian would try to determine whether competition would be likely to make matters worse. Horses with tendon, ligament or joint problems would be poor risks; horses slightly "off" because of muscle soreness or a cut would probably perform adequately.



Trot Out

In examining horses before the ride, obviously lame or sick ones are readily eliminated. In borderline cases, the vet is likely to let the horse start but keep a close watch on him during the ride. Most distance horses show some degree of wear and tear, and they are able to safely compete in spite of their accumulated liabilities. Endurance vets are aware of this and tend to make allowances.

VET CONTROL DURING THE RIDE - Metabolic Factors - During the ride the vet will rely heavily on pulse recovery to assess fitness to continue, using the [CRI as a valuable tool](#). . As a rule, a fit horse that is being ridden comfortably within its ability to perform will recover very quickly, often within a few minutes, to a heart rate of 64 or below. All horses not being overridden should recover to 64 or less within ten minutes. After a 30 minute rest, if the horse has not recovered to whatever pulse that particular ride requires, he will be eliminated. A more subtle indication of a horse's condition is the quality of the heartbeat. The pulse should be regular and strong, not wandering, faint or erratic.



During Ride Vet-In

**During Ride –
Checking Wither/Tack Areas**

Respiration rates vary widely depending to some extent on weather conditions. Some horses are “panthers,” and will show elevated breathing rates even at rest when the weather is hot and humid. Panting is not necessarily an indicator of trouble, but temperature should usually be taken on such horses to make sure they are not overheating, and the lungs should be auscultated (listened to with a stethoscope). As long as the temperature is below 103 degrees F, and as long as pulse and other signs of recovery are prompt and progressive, elevated respiration rates are generally not considered a problem. All horses at work develop elevated temperatures: 102 degrees F to 103 degrees F is common and expected. However, once the temperature exceeds 105 degrees F there is cause for concern, especially if it fails to drop after the horse has had a chance to rest.



Water can be effectively used to help the horse cool. In extreme cases ice water might be employed with good effect. Ice water, however, should be applied only to the large vessels of the neck and legs, as it is likely to cause cramping if used over the croup or back. Most rides require the horse to be no higher than 103 degrees F before he goes back out on the trail.



Some fit and otherwise competent endurance horses do not regulate heat very well; you will find out very quickly whether yours is one of these. Poor heat tolerance can manifest itself in many unpleasant ways, from cramping to colic or worse. It is a condition inherent in the individual and will probably become more pronounced as he ages. Horses that compete in hot climates, particularly if high humidity is also likely, are especially subject to risk.

The vet will check all the horse's hydration factors at each stop during the ride. You will find that when one of these metabolic indicators is poor, then the others will likely also be poor. Of all the hydration factors, capillary refill is probably the most significant.



Capillary refill time prior to the ride is typically one to two seconds. During the ride, refill time of two seconds or less is ideal, but 2-1/2 to 3-1/2 seconds is usual and expected. A refill time of 5 seconds or more is alarming.

Mucous membranes in the fresh horse will usually be pink and moist, although slightly yellow or grayish gums are also sometimes noted. Variations from normal would be a paler, whitish color indicating inadequate perfusion; a bluish, cyanotic color suggesting inadequate oxygenation of the blood; or a dark brick red color suggestive of severe congestion of the membranes, with inadequate movement and oxygenation of the blood within these tissues. The brick red membranes associated with an extremely prolonged capillary refill is cause for great concern, because at this point the body's circulatory system is greatly compromised.

The skin pinch test on the shoulder as an indicator of hydration is usually not considered as important as either the capillary refill time or mucous membrane color. Generally speaking, however, the skin can be expected to rebound within 3 seconds, even at the end of the ride.



During a ride, especially during a 100 miler when horses go for long periods with little to eat, gut sounds usually diminish. However, reduced or absent gut sounds, if accompanied by other obvious signs of fatigue or distress, may indicate gut paralysis caused by clinically significant fluid loss and/or electrolyte imbalance.

You must remember that the heat produced by endurance exertion elicits huge amounts of sweat. When percent of humidity and degrees of temperature together total over 150, enormous and even critical amounts of fluids and electrolytes are lost.

Hemoconcentration (decrease in the volume of plasma in relation to the number of red blood cells) reduces perfusion (oxygen and fuel delivery; waste and heat removal) and is the largest contributor to general exhaustion syndrome. Calcium depletion leads to muscle hy-



per excitability as evidenced by “thumps” (synchronous diaphragmatic flutter) and muscle cramps. Potassium depletion leads to weakness and eventually to prostration. Cramping and accompanying muscle pain generally take two forms. The first is a form still often referred to as “azoturia” and is usually the more serious. It commonly takes place early and suddenly after the onset of exercise. Its cause is multifaceted and still poorly understood. It can be related to feed program, hormone balance, mineral and electrolyte balance, or inability to remove lactic acid buildup rapidly enough from the muscles. In extreme cases, the horse will be very reluctant to move, and, if forced, will show great distress. The urine may appear port wine in color because of the release of myoglobin from damaged muscle cells. If this severe form occurs on the trail, you should send for help and wait where you are for it to arrive. Deep massage of affected muscles is helpful while you are waiting. If your horse urinates at a vet check and you notice that the urine is dark in color, you should ask a vet to take a look.

The less severe and non- life threatening form of muscle pain exhibits itself as muscle spasms or cramps and is most often noticed in the hind legs. This form usually occurs late in the ride and is commonly triggered by loss of fluid and electrolytes from heavy exertionally induced sweating. Massage, careful replacement of fluids and electrolytes, and rest, will usually take care of the problem. With early recognition and care the horse might be able to continue.



A very useful tool for determining whether or not to let borderline cases out of a vet check is the Cardiac Recovery Index, otherwise known as the CRI or the Ridgway trot. A full and detailed explanation of the CRI is given in Chapter Eleven. Aside from the various tests that can be used to evaluate the condition of the horse, the veterinarian will also use his powers of observation, just as you should. Some degree of dullness in expression and manner, some loss of spring to the gait, and some inattention to the rider’s aids, for example, are signs of general fatigue that can be expected. However, when these signs progress to the extreme, disaster can result. Obvious indications of crisis include dark red, congested gums, cold extremities, capillary refill delayed beyond 5 seconds,

gasping respiration, pulse persistently above 70, disoriented behavior, unwillingness to move, obliviousness to pain from insect bites or the rider’s aids, and loss of interest in food or water.

Mechanical Factors-Just as is the case at the pre ride exam, an obviously lame horse is readily disqualified at the vet check, while a marginally lame one will require a judgment call. There are occasions when a horse that only takes one or two questionable steps will be eliminated because the vet feels that continuing the ride could cause irreparable damage to the horse (by damaging a tendon or ligament, etc.) On the other hand, a horse that shows a consistent slight limp might be allowed to continue if the lameness is clearly due to a superficial injury, loss of a shoe, or some other temporary and relatively insignificant factor. Any lameness that increases in severity during the ride is cause for disqualification.



POST RIDE VET EXAM - All horses must pass a post finish line vet check in order to earn a completion. According to AERC rules, all horses should recover to a pulse of no greater than 68 within one hour of finishing the ride. (Some rides announce stricter rules before the start.) They must not have required veterinary treatment and they must be sound at the trot. In all AERC sanctioned limited distance rides, the horses must recover to a pulse no greater than 60 within 1/2 hour of finishing. Additionally, novice horses must be judged “fit to continue.” This means that they must have satisfactory recovery in all metabolic parameters, and they must not have “an irregularity of gait consistently observable at a walk and/or a trot....” if that “irregularity is thought to cause pain or threaten the athletic future of the horse.”

Excerpts from AERC Riders Handbook-

Revised and updated by the American Endurance Ride Conference Education Committee in 2001.