

# Recognition, Prevention and Treatment of Heat Stress in Horses

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**Article By Dr. Steve Fisch, DVM**

Summer is officially here and in most parts of the country it gets pretty hot during the day. The heat is especially brutal in the southern part of the country. It is not unusual to have heat indexes past the 100 degree mark. All this added heat in comparison to the winter, spring and fall give our equine athletes, broodmares and pleasure horses more opportunities to have heat related problems. Summer also happens to be a time when racing, horse shows and other equine events are going full throttle. Broodmares are hopefully getting heavy in foal by this time so they have another source of heat growing in their bodies. Make sure these ladies have plenty of shade. Treating hyperthermia or overheating is much more difficult than preventing it so we will start off discussing prevention then go to recognition and lastly discuss treatment.

Most of us think that our horses become dehydrated after a show, trail ride, or long work session, but did you know that many of them start out dehydrated before the saddle hits their back. Living in hot climates is not just tough on us; it's tough on our horses. High heat indexes can cause your horse to sweat excessively. Through sweat they lose water and electrolytes, mainly sodium, potassium, and chloride. Now you may be giving your horse some wonderfully flavored electrolyte with their feed, but be careful. Unlike other animals (humans, dogs, cats) sugar does not enhance the uptake of electrolytes in equines and unless you read the label, sugar may be the majority of what you are feeding. So what is the best electrolyte mixture for your horse? 1 Tbs Table Salt (Sodium chloride) combined with \*1Tbs Light Salt (Potassium chloride) per day, in the feed, for the average horse will supply the electrolytes he needs to replace what he loses in his sweat. Horses primarily cool themselves with evaporation, convection, conduction and avoidance of radiation. Since evaporation is the most important route of cooling for the horse, we need to make sure they have plenty of cool fresh water to drink so they can replace all the water that they lose by sweating. A horse standing in a pasture can easily drink twenty gallons or more of water per day. This is especially



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true of a horse being hauled in a trailer load of several horses. All the horses cumulative body heat can really heat up a trailer so make sure the air flow is very good especially if you are hauling during the day. If at all possible haul your horses at night after the sun goes down. Have enough drivers that you can switch drivers and keep all the drivers fully awake and refreshed. Try to haul in trailers

with insulated roofs. Make sure your trailers are well ventilated, ventilated, ventilated! Make sure each horse is offered water on a regular basis every few hours during the trip. As you can see, horses standing in a pasture or riding in a trailer can have a high demand for water but a horse can lose as much as 10-15 liters of water per hour in humid conditions with only moderate exercise. If fluids are



Picture provided by AVS Equine Hospital

Picture shows horse undergoing treatment for dehydration. Fluids are being given intravenously.

not replaced it can lead to cardiovascular and thermoregulatory instability. Sweat must evaporate to be effective in regulating body temperature. When relative humidity is high, sweat evaporation is severely limited and your horse's body temperature will not be regulated properly. So what do you do?

Always provide fresh water. If trail riding, consider a bucket of fresh water and a bucket of electrolyte water. You can use the same mixture listed above for a 5 gallon bucket. If you and your horse are competing, consider hyper-hydrating your horse before you leave and during competition. Hyper-hydration

acceptable range with cold water baths to the legs and or body during rest periods or after intense exercise. The cold water allows the heat of the horse's body to be absorbed into the water as it runs off his body.

Recognizing a horse in heat distress is fairly easy. Since his cardiovascular system will be in distress due to his blood being in his skin trying to cool his body then

is simply giving your horses fluids before they need them. Studies have proven that being hyper-hydrated before you trailer and/ or compete will enhance performance and cause less stress on your horse's body.

If you know your horse is as well hydrated as you can get him then take advantage of convection. Set up fans around the stall, barn or riding arena or put him in front of a fan after he comes off the race track or out of the barrel arena. If you are through riding or exercising him then use conduction to help the cooling process. Hosing cool water on a horse's body and legs will help cool the core body temperature. Even if you are not through competing or working him you can put cold water on his legs. The blood vessels are closer to the skin in the legs and therefore the blood is easier to cool. Some trainers believe that cold water put on a horse's hot body will shut down the blood flow to the skin. This is incorrect. It is well proven that a horse's core body temperature is easier to maintain within an

his blood pressure will be low. This will result in pale mucous membranes and the gums will have a capillary refill time of greater than two seconds. If you pull up his skin into a tent it will stay in the tent position for 2 seconds or more. His rectal temperature could be 104 or higher. He will probably act depressed and very lethargic. If he shows these signs then get an equine veterinarian to check him out very quickly. In the mean time get him in the shade and have a fan blowing on him and hose him all over his body with cold water. Offer cool water to him to drink. When the veterinarian examines the horse he may need intravenous fluids depending on how dehydrated he is.

When the veterinarian gets to your horse he will probably pull some blood and do a few tests to quantify the amount of dehydration so he can calculate the amount of fluids to give. There will also probably be a test performed that checks his electrolyte levels and acid/base levels. Electrolytes will be added and medications to correct his acid/base balance as dictated by the blood tests. Your veterinarian will probably start IV fluids immediately upon arrival. Depending on the severity of the situation, the horse could be feeling pretty good within the hour or if treatment was started too late the outcome may not be too good. Upsets to a horse's system like this many times set off the cascade of events that cause laminitis and colic. Those two are another story for a different day. Preventing heat distress is truly a time when an ounce of prevention is worth a pound of cure.

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