

Atlantic Canada Trail Riding Association

Tales and Trails
August/September

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www.ac-tra.ca

Hi Everyone,

I hope you've all been having a great summer and getting out and enjoying your horses on the beautiful trails that our fellow riders have been sharing with us!

A big thank you goes out to Gary and Bertha Harrison for opening up their trails once again in Parrsboro for ACTRA's 30th Anniversary. It truly was a family and friend affair with their sons and daughter-in-laws lending their hands in just about everything, Diane Skidmore with her wonderful baking, Carl Skidmore for his great sense of humour and bringing back lots of memories!

Boy, walk away without finishing the front page and you get hit with a heat wave and a hurricane. I heard there were seven riders at the Amigo's Do Ride that braved the elements, so I am sending out a big hearty congratulation to them! I remember riding through Hurricane Bertha (no relation to the above Bertha!) in Rawdon and it was an experience that I don't want to repeat!

I would like to send out a BIG thank you to all the people who volunteer at our rides over the course of the spring, summer and fall. These individuals are out in all the elements making our ride experience go as smoothly as possible. Unfortunately when there is a hiccup, it is the poor volunteer that gets the wrath from the dirty tired rider. That is why we came up with the Rider Rep, which has been used at some rides and not at others. When attending a ride, please ask who the Rider Rep is for the day and if there is a problem then address it to them and not the volunteers! We need our volunteers to be happy so we can sucker them into the job for the following year!

There are a few NS Riders that have been attending "fun rides" throughout the province and enjoying new trails without the hassle of being judged. We are calling them Tailgate Rides, in which everyone brings something to eat after the ride and we spread it out and it becomes a Tailgate Potluck. I feel that mentally it is great for Izzy's mind, he is learning that he can walk along with a group of horses and not lose it! He doesn't have the nickname of "Izzy he going to kill me or Izzy he not" for nothing!!

Well I must end this and go pack for a different type of trail ride. I am heading over to Newfoundland and Labrador to do some sightseeing on the back of a four wheeler. You can be assured that every trail we take I am thinking what a great ride this would be with the horses!

I hope everybody has a great September and we will see you again at the Maple Ridge Ride in October!

Happy Trails!

2010 Ride Results

Mud Run LD – 30 Miles – Order of Finish – May 22, 2010

1. MDA Japros Sultan – Gwenn Dexter
2. Call M Lauren – Russlyn Patriquin-Dyke
3. PD Cat-a-Hoolah – Betty Dwyer
4. JDA Azrael The Canadian – Deanna Johnston
5. Ronya – Irmgard Lipp
6. Guysborough Grey – Jean Bridges
7. MDA Billy Four – Donna Munn
8. Deuces Wild – Sylvia Gillies
9. Summer Breeze – Pam Rustige
10. Kindred Spirit – Lynn Beazley
11. Caruso – Lucy Rudge
12. Aazzaan – Bev Elliott
13. Elastic – April Haliburton
14. Woody – Jim Burns
15. Glen – Pat Rideout
16. Buddy – Lori Singer

Mud Run IDR – 15 Miles – May 23, 2010

Conditioning

1. Thunder – Pam Thornton
2. Pitshko – Shannon Robbins
3. Arabian Styles – Elwood Munroe
4. MDA Billy Four – Donna Munn
5. PD Cat-a-Hoolah – Betty Dwyer
6. Prairie Shadowfax – Chester Gillan

Trail Horse

1. Amiri Tai – Deanna Johnston
2. Prairie Shadowfax – Chester Gillan
3. Sam – Marcia Miller

We would like to thank everyone for coming and hope everybody had a great weekend. Many thanks go to our vet Lianne Nelson and judge Christie Riddell, volunteers and everybody else that pitched in to help put on the ride.

Lucy Rudge & Elwood Munroe

Glooscap Trail Ride 30th Anniversary Reunion JP – 16 Miles – June 19, 2010

Horsemanship – Sr

1. Sylvia Gillies – Deuces Wild
2. Irmgard Lipp - Hoofprint
3. Leslie Wade – Jalna Justacat
4. Donna Munn – MDA Billy Four
5. Deanna Johnston – Amiri Tai
6. Pitshko – Shannon Robbins

Trail Horse - Sr

1. Jalna Justacat – Leslie Wade
2. Sir Ruby – Pat Ritcey
3. Amiri Tai – Deanna Johnston
4. MDA Billy Four – Donna Munn
5. Caruso – Lucy Rudge
6. Pitshko – Shannon Robbins

Horsemanship – Jr

1. Taylor Richard – Vanity Faire
2. Julianna Woodward – Drama Queen
3. Lauren Carter – Sky Spots

Trail Horse – Jr

1. Vanity Faire – Taylor Richard
2. Julianna Woodward – Drama Queen
3. Sky Spots – Lauren Carter

Glooscap Trail Ride 30th Anniversary Reunion JP – 16 Miles – June 20, 2010

Horsemanship – Sr

1. Leslie Wade – Jalna Justacat
2. Donna Munn – MDA Billy Four
3. Sylvia Gillies – Deuces Wild
4. Pat Ritcey – Sir Ruby
5. April Haliburton – Elastic
6. Lucy Rudge – Caruso

Trail Horse – Sr

1. Sir Ruby – Pat Ritcey
2. Jalna Justacat – Leslie Wade
3. Wind – Troy Beazley
4. Jazera – Susan Hovey
5. Elastic – April Haliburton
6. Caruso – Lucy Rudge

McDonald's Run CTR – 30 Miles – July 31, 2010

Conditioning

1. JDA Japros Sulton – Gwenn Dexter
2. PD Cat-a-Hoolah – Betty Dwyer
3. MDA Billy Four – Donna Munn
4. Jazera – Susan Hovey
5. Aazzaan – Bev Elliott
6. Elastic – April Haliburton

Trail Horse

1. Call Me Lauren – Russlyn Patriquin-Dyke
2. MDA Billy Four – Donna Munn
3. PD Cat-a-Hoolah – Betty Dwyer

McDonald's Run JP – 15 Miles – August 1, 2010

Horsemanship

1. Karen Jonah Brown – Rocco
2. Sylvia Gillies – Quincy
3. Betty Dwyer – Hooley
Ashley Baskin – Nova
4. Eiry Spence – Tarshish
Elizabeth Peverill – Molly
Susan Hovey – Jazera
Russlyn Patriquin Dyke – Mura
5. Lucy Rudge – Caruso
6. Elwood Munroe – Styles

Novice Horsemanship

1. Naomi Martin – Ginger
2. Ginney Sherwood – Tuff
3. Mary Crowely – Em
4. Pat Totton – Cashol
5. Amy Schneider – Krummi
6. Laurie Marr – Missy

Novice Junior Horsemanship

1. Matilda Giggy – Honey
2. Christina Marr – Leroy
3. Mattie Geddes – Elmer
4. Danielle Smith – Barney

Trail Horse

1. Jazera – Susan Hovey
2. Brazeau – Ben Poltorak
3. Billy – Donna Munn
4. Rocco – Karen Jonah Brown
5. Styles – Elwood Munroe
6. Quincy – Sylvia Gillies

Novice Trail Horse

1. Tumble – Jocelyne Noel
2. Krummi – Amy Schneider
3. Tuff – Ginney Sherwood
4. Em – Mary Crowely
5. Dude – ?
6. Missy – Laurie Marr

Novice Junior Trail Horse

1. Barney – Danielle Smith
2. Elmer – Mattie Geddes
3. Honey – Matilda Giggy
4. Leroy – Christina Marr

Girth galls & soreness: an introduction



AT SOME POINT in his or her career every endurance rider has to deal with galling or soreness in the area of the girth. The causes are numerous, but with the help of some of AERC's most experienced competitors you can increase your chances of keeping your horse pain-free.

Girthing 101 teaches us that we should brush the area under the girth well, use a clean, high-quality girth, tighten the girth slowly in stages, slide the hand down behind the girth to smooth hair and skin, and stretch out the forelegs to clear the skin in the vicinity of the girth. If one has done all the above and the horse still develops a rub, what next?

First consider girth placement. In endurance riding the girth needs to be set back from the elbows, allowing more room for the sweeping action of an extended stride. The center-fire rigging of most Western-style endurance saddles allows this extra room. If you are riding a Western saddle you can mimic this effect by running the latigo down through the girth, then tying off to the attachment for the rear cinch. On an English saddle use the rear billet to help position the cinch farther back and be careful not to position the saddle too far forward on the horse.

When Steve Rojek, who has completed more than 100 one-day 100s, was asked what he would do for a horse with girth galls his immediate response was, "Crupper!" By attaching a crupper to your saddle you can prevent it from riding forward and allowing the cinch to come in contact with the elbow area. A crupper can also allow a looser girth which can help horses who have pressure sensitivity.

Karen Chaton, whose forté is multi-day competitions, points out that rearranging the buckles on the horse's side is a good idea to avoid soreness. Using a longer girth one day, or simply raising the buckles on one side and lowering them on the other one can rearrange pressure points.

The Arabian Saddle Company has made this easier by incorporating interchangeable billets into their saddles. By having billets suspended from an easily removable hook, the rider may switch from dressage length billets one day to a shorter jumping type arrangement the next. An added bonus is that

this allows a desperate rider to borrow from a much wider pool of girths when a girthing crisis arises.

Next consider the different types of girths. Among the most popular padded models are sheepskin and felt. These natural fibers are preferable over synthetic fleece. The positive qualities of these padded girths are that they are soft against sensitive skin. Negatives: they are fairly thick and can be difficult to clean during a competition when mud, sand or skin lubricants applied to the horse may accumulate in the fibers.

Some riders prefer the ease of cleaning associated with a synthetic girth, which is often low-profile. Hundred-mile competitor Suzanne Solis has high praise for the Wintec Chafeless girth which is shaped at the elbows and has elastic throughout, which she feels provides greater comfort for her horse. Some horses, however, do not tolerate synthetics well. The material may be more prone to heat build-up underneath than natural fibers.

Finally, a popular girth for problem-prone horses is the mohair string girth. Mohair is a natural fiber which tends to be nonabrasive, scores high for dissipating heat, and has a very low profile. When riding in the Florida heat, Valerie Kanavy prefers a mohair string girth which she cleans every few days with a fungicide. For pressure-sensitive horses she prefers elastic at both ends.

With all girths care should be taken to see that there is ample padding between the buckles and the horse. For mohair girths this will require an additional pad, but for other types the rider should check to see that the built-in backing is thick enough to protect the horse's sides.

Different horses tolerate different tension levels on their girths and riders must experiment to balance safety and comfort. Using a mounting block to minimize twisting force or having someone hold the off-stirrup down during mounting can minimize twisting forces on sensitive skin.

The thickness of an endurance girth is important since many girth galls are not under the girth itself, but are actually on the skin in front of the girth or in the elbow area. The extended stride of the endurance horse calls for a girth which will not come in contact with the elbows or the skin behind them at


full stride. For some this may require mohair or low-profile synthetic.

The next area for action is that of skin lube products. The first product out of the box for many riders is Desitin®, but Desitin can ruin an \$80 sheepskin girth in short order and should not be applied where it can spread onto the girth. A less gooey alternative is BodyGlide®, a product which looks like stick deodorant and works well, though it is expensive and doesn't always go on smoothly in cold weather.

A handy bit of advice from Jody Rogers-Buttram, a competitor with over 12,000 AERC miles, is to apply BodyGlide to the girth rather than the horse's skin. This way you don't have to press on the sore side, making him even more uncomfortable. Along with products like BodyGlide, Valerie Kanavy uses a shot of ShowSheen® to keep the skin moving with as little friction as possible.

Though technically not in contact with the girth, another related malady is galling in the "armpit" area of the horse. While riders and vets carefully check the area of the girth for abrasions, the folds of skin where foreleg meets chest are often an area of soreness and rubbing that are overlooked. For some horses, loosening the girth can help relieve rubbing in this area. Generous application of Vaseline®, Desitin, BodyGlide or ShowSheen is also helpful.

Finally, what if you're in a competition at an away check and you see that your only girth is rubbing your horse? Steve Rojek shared his secret weapon: "Silipos®." Silipos sleeves are medical products made for humans that protect sensitive skin from prosthetics, among other things. The inside of the tube has a soft "skin-like" rubbery gel consistency, soothing to the touch, that releases mineral oil. The outside resembles an Ace™ bandage. By turning the tube inside out and sliding it over the girth, the horse's skin is protected from the offending materials. Rojek also recommends this product highly to riders who experience rubbing at the knees or even the heels of boots. Heat may be an issue.

Though the most experienced competitors still struggle with girth soreness in competition, diligence on the part of the rider can minimize the problem, making for happier horses and riders. 

It was a dark and stormy ride . . .

FEW OF US really enjoy riding when the weather is wet, cold, and windy; nobody likes camping with horses in these conditions. But more important than the unpleasantness of the situation is the detrimental effect this type of weather can have on the performance of our equine partners.

It is not uncommon to see horses performing well below their normal abilities in rides held in bad weather. Unfortunately there can also be a significant rise in metabolic problems and even "crashes" requiring treatment. Frequently, riders are flummoxed—they did everything they normally do, their horse was working well within its abilities, and yet their best friend ended up in some sort of trouble.

Wet weather or storms the day (or days) before a ride present extra challenges to our horses that we have to be aware of. As uncomfortable as we may be in wet boots and earmuffs, we usually have some kind of shelter from the elements, even if it's only a tent. The horses generally do not.

Frequently, they don't eat well. They may devour their grain, but the more important part of their diet—hay and fiber—is often wet and unpalatable, perhaps even spoiled. It may be difficult for the rider to assess how much hay is consumed under these conditions.

It is crucial for endurance horses to start the day with a full GI tract—when they don't eat well, they are set up for failure. Add to this the general "depression" they often exhibit in poor weather—heads low, listless attitude—and it's easy to understand how appetite can be affected.

They may not drink well, especially if they are cool or even chilly. They won't feel thirsty, with Mother Nature sponging them off constantly! So it is possibly they are starting the ride the next day not as hydrated as we would wish.

Horses probably aren't going to sleep well if it rains. They most likely can't lie down in the mud, and it's hard to relax while being pelted with rain or alarmed by wind. (Often they will opt to spend the night in the rain instead of in their dry trailer.) They may begin the ride mentally stressed as well as physically uncomfortable.

What to do? Nobody can do much about the weather! All we can do is try our best to

compensate for its effects.

Encourage drinking.

Include extra salt in the food the day before the ride to encourage drinking. Keep the horse as warm as possible; if you're wondering whether you've put on enough blankets, you haven't! Not only do we want to encourage drinking, we want all those muscles toasty warm, soft, and full of blood; no clamped tails or tight hind ends. Keep the butt covered while saddling, and re-blanket as much of the horse as you can between saddling and getting on. Warm-up is even more important than usual in these conditions.

Promote hay consumption. Do whatever you can to encourage hay or fiber consumption. Give apples and carrots in the beet pulp, plus frequent feedings of small amounts of hay so that it can be eaten before it gets too soggy. (Wet hay is actually a good thing—if they'll eat it!) Swap hay with a neighbor, since everybody knows horses always like somebody else's hay better. Even if you don't normally feed alfalfa, this occasion may be the necessary exception if your horse won't eat anything else.

Eating undercover. Try to provide



After the deluge at the March 20 Spur of the Moment in Oklahoma. Photo © John Nowell, www.remuda.smugmug.com.

some kind of cover to eat under if possible—maybe even the floor of the horse trailer. Be very aware though—wind can wreak havoc with tarps, making them more of a problem than a solution, and if you use your trailer for a feeder be absolutely sure the door is firmly and implacably secured! Consider using that spoiled hay as "bedding" to get their feet out of the mud.

Take a walk. Take your equine for walks, as much to provide some mental stimula-

tion and company as to get them out of their churned-up living space. Let them eat as much grass as possible during these walks—it both helps with the feeding issue and makes them a little less miserable!

Ride cautiously. On ride day, bear in mind that your partner may have spent an uncomfortable night, and that this might not be his best day ever. Muddy footing may make for hard slogging. Also—should the sun choose to come out be aware that the resulting humidity is going to be off the charts, and cooling may become a major issue.

In this sport, you have to deal with what you're given. And just think—if it rains, there likely are no bugs! ■

Contribute to an endurance cookbook!

The Education Committee is looking into publishing a horse and human book of recipes, and is seeking members' input for this fun and educational publication which will benefit the committee's educational activities. Watch *EN* for further cookbook news.

Please send Scott Godwin (aggiendurancerider@gmail.com) by October 1 your recipes for:

Human:

- What is good for the day before and the night before a ride?
- Ride day breakfast—what do you eat at 4:00 a.m. as you're tacking up for a ride?
- Snacks you carry with you that are edible on the trail.
- Favorite drink mixes, human electrolytes, protein drinks.
- Food to eat at holds when (a) it's 94° and you've got 32 minutes and you eat what you've packed in the cooler or (b) it's 19° and you have 32 minutes to pop that perfect something in the living quarters' microwave.
- Post-ride eats that are beneficial to the tired body and help you avoid those dreaded post-ride leg and lower back cramps.

Horse:

- What do you feed (or not feed) before the ride?
- Recipes for special gruels or slurries, favorite cookies or treats.
- What pre-mixed e-lyte do you use, or what is the recipe for your own special concoction?
- Special post-ride meals for your 100-mile pony (or 50- or 25-miler).

Preventing treatment: know your horse

This checklist is a tool for the rider in the proper care of the horse before, during and after the ride. Riders should seek more information about each idea. See the AERC rider and vet handbook, volunteer to help at a ride, etc.

Pre-ride

1. Know your horse. As part of training and conditioning learn to do your own "vet check exams": End workouts with a quick exam including trot out, check for dehydration, pulse, etc. The best riders learn ADR, Ain't Doin' Right, a very important parameter although difficult to define. Monitor the horse's weight. It should be neither too heavy nor too lean. Keep a log book.
2. Maintain a regular de-worming program. Endurance riding can exacerbate underlying parasite damage.
3. Bring a healthy horse to ride. Check rectal temp, do a mini-exam before leaving home and after arriving. Longe in circle to check for lameness.
4. Bring the horse into the ride well hydrated. Electrolyte to encourage drinking upon arrival, feed slurries, or even bring water from home for finicky drinkers. For horses accustomed to green grass, hand grazing on grass is excellent.
5. Minimize trailer stress. Provide water regularly. Use fly masks to protect eyes. Horses trailered more than three hours need 12 hours to recover; more than five hours requires a full day. Loosen up muscles after trailering through easy exercise.
6. Minimize feed changes. Make changes long before ride when possible. Make sure horse has plenty of forage.
7. Watch EDPP-MF: eating, drinking, peeing, pooping and moving freely. Know what is normal and observe your horse.
8. Plan your ride carefully; plan a ride time based on past ride times, weather, trail conditions and state of conditioning your horse. Ride to your plan, not to what other horses are doing.
9. Electrolyte starting well before the ride (as long as the horse drinks properly)—at least the day before and the morning of a ride.

10. Maintain proper hoof care. Shoe appropriately for ride to minimize chances of injury and extra stress.
11. Secure horses at ride site. Make sure your horses are trained to respect your stabling arrangement.
12. Select rides and ride strategy carefully. Base how you ride on vet controls, the number of and distance between holds, etc.

The ride (Remember the ride vets are there to help you!)

1. Watch EDPP-MF. All normal, fine. If not, slow down or stop. Consult a vet.
2. Try nothing new on ride day. Keep to what is tried and true unless you hit really unusual circumstances.
3. Hydrate, feed, and rest early (ideally by about 15 miles). Critical electrolyte and water losses in horses occur in the first 10 to 20 miles. Monitor progressive pulse recovery during check. The pulse should continue to drop during the hold period and be 8-20 beats lower than the criteria by departure. If not slow down or check with a vet. Watch weight loss if scales are available.
4. Know your horse and watch for ADR (Ain't Doing Right). If ADR on trail do a mini exam and CRI. Consult with vet at check.
5. Watch out for over-excitement. This can cause early tie-ups, dehydration, etc. Warm you horse up thoroughly and/or wait a couple minutes after the start and use the first couple of miles as warm-up.
6. Be willing to let early leaders go. Separate into a small group going at your pace.
7. Adjust pace for temperature and footing. Humidity even if cool necessitates slowing down as does heat. Muddy, sandy footing, single track twisty, side hill, and even slippery grass require far more work as horse cannot use natural suspension system.
8. Give horse every opportunity to drink. Wait at water stops, loosen the girth if necessary. Train your horse to drink.
9. Electrolyte regularly and often. Adjust for conditions and your horse's needs. As much as once per hour if hot, humid or difficult footing while

less is necessary in non-humid climates or a slower pace. Electrolyting is an art you need to learn.

10. Feed appropriately. Ensure the horse is getting enough energy (food) for pace of ride.
11. Use a heart monitor. If readings are higher than expected for terrain, etc. slow down. Or let horse rest and graze.
12. Learn your horse's needs and adjust. If in doubt at vet check, discuss with vet your concerns.
13. Slow down coming to vet check. Start out slow from check or warm up before leaving vet check. Abrupt changes are hard.
14. Cover your horses on cool or wet/windy days to prevent cramping or tying up at holds. Consider a rump rug.
15. Use body work. TTEAM work and massage at holds can really help.
16. Use the vet as your partner and friend. Discuss any concerns with them. The only stupid question is the one not asked.

Post ride (These are steps to avoid treatment and do not include leg care, massage, etc.)

1. Watch PPED-MF. Peeing, pooping, eating, and drinking/moving freely. All normal, fine; if not, check with vet.
2. Rehydrate. Provide free access to water, offer slurries, etc.
3. Postpone concentrated feed, particularly if pulse stays up. Feed small amounts often. Free access to (wet) hay or grass is key.
4. Monitor post ride pulse recovery, dehydration level, and gut sounds.
5. Cover if appropriate. Blanket if necessary if weather is cool; use rain sheets to keep dry if necessary.
6. See a vet immediately if ADR or any question of hydration or colic. Do not hesitate to stomach tube or aggressively get hydration to normal through IV if necessary.
7. Do not trailer horse home until adequately recovered and hydrated. Ideally trailer home the next day so the horse has overnight to recover. Electrolyte for trailering. Stop about every four hours to offer water and allow rest of tired muscles.

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BEAT the HEAT

A long-time endurance veterinarian's look at the limiting factors in equine locomotion



BY JAMES H. STEERE, DVM, SMHYG

First light. Riders tacking their horses: nervous and excited, checking on last-minute items. The horses, sensitive to their riders' excitement, whinny, throw their heads, resist biting—acting like Arabians. By 6:30, the horses were at the starting line and the race was on.

This was 1976, and 50-mile endurance rides were booming in California and Nevada, offsprings of the now-famous 100-mile Tevis Cup ride from Lake Tahoe to Auburn, California. This day's ride was in the East Bay hills and, because its proximity to the San Francisco Bay, the weather is usually pleasant with on-shore breezes coming in off the Pacific. A local television station sent a crew to film this new kind of plebeian horse race where, if one took the time to condition his trail horse, any backyard horseman could become a horse owner/jockey.

But this day was to be different. The breeze came from the east and, mixed with the humid ocean air, the atmosphere felt warm and heavy. It carried the portent of trouble. Unfortunately, we knew nothing of the Heat Index or how to use it. The day heated and, by late morning, we were getting radio reports that some riders were off their horses—horses that were exhausted and had no energy to go on.

There was a report from the first vet check, 20 miles out on the top of a hill, that an older rider, who had left the vet check on the downhill trail, got disoriented, turned around and came back up the hill and his horse refused to go farther. A trailer was dispatched to bring the horse in.

When the trailer arrived at camp I was prepared to treat an exhausted horse; the television crew was prepared to film the therapy—good PR for our fledgling sport. The trailer door was opened. The horse, still on his feet, fell out of the trailer and died. Chaos! I knelt down, put a thermometer in the rectum and put my stethoscope over the heart. No heart beat, but the horse's temperature was 108°: heat stroke.

I put on my PR hat (public relations, not pulse and respiration) and explained to the TV folks, "This was an old horse. It is a warm day, and the poor old fellow died of a painless heart attack. I'll do an autopsy as soon as the ride is over." The horse was pulled out of sight behind some brush and covered with a tarp. (At midnight, after treating the last horse, we opened the corpse and found nothing of significance except for a core temperature still at 108°.)

The remainder of the afternoon and well into the night we treated horses for heat exhaustion and its ramifications—dehydration, colic, secondary "tie-up" and cramps. Our tools were crude by today's standards, but many of the equine vets of that time came out of a farm practice and were adept at innovation.

We used gallon jugs of distilled water to which we added "milk fever" medicine (for potassium, magnesium and calcium) and saline and dextrose, delivered intravenously through a large-bore steel catheter at a rapid rate. When the patient showed interest in life and urinated yellow, we figured we had reached the renal threshold of needed electrolytes, and went on to the next patient.

Our only loss was the heat stroke patient. But the day was a striking lesson about the dangers of racing horses on hot, humid days. Now, 30 years later, we have refined our treatments and are saving horses that we would have lost in the "good old days."

Horses 'weather-adaptable'

Horses are probably the most weather-adaptable mammals in the world. They evolved on the rock-ribbed back of our continent's high desert, wandered 18 to 20 miles a day in search of forage, water, play, sex and shelter from the biting winds of winter and the scorching heat of summer sun. Their migrations took them from this range of their beginning to the farthest reaches of the globe.

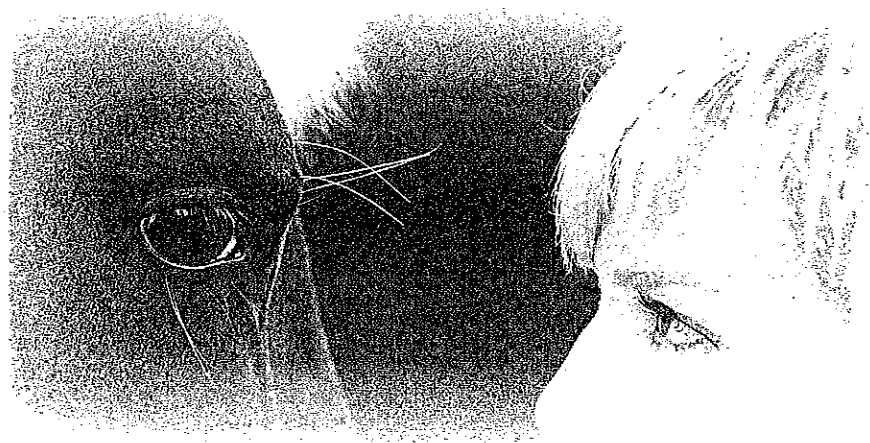
Horses subsist now from the permafrost of the arctic tundra to the hot sands of the Sahara. Where the human has a comfort zone of temperature from about 60° to 75°, the horse's is about 35° to 90°. The horse has a much wider temperature range in which he can survive: they can survive in subzero temperatures; frost-bitten ears are common, but their feet, due to their extensive hoof circulation, are all but impervious to frostbite.

Yet, even with the ability to survive in a 100° temperature range, the horse's weakest link is his susceptibility to heat.

What the Heat Index means

One of the latest formularies to help humans to deal with heat is the Heat Index, or apparent temperature. This index was

continued on next page



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Beat the Heat...

developed by the National Oceanic and Atmospheric Administration (NOAA) for assessing the dangers of working in high heat. This index is not new but is new for use in horses.

These NOAA indices are for humans, so we need to extrapolate for the horse. I don't know of any valid comparisons, but it is thought that in exercising in the sun, the naked human can outlast the hair-coated horse. It is postulated that our ancient ancestors chased horses on hot days until the animals dropped with heat stroke; the horses were half-cooked by the time they hit the ground.

The most dangerous enemy of the horse in the 20th century is still our most dangerous enemy in the 21st—heat.

Here is a story of how important the use of the Heat Index, or apparent temperature, can be: Some years ago on the Castle Rock Ride near Santa Cruz, California, the day started hot and humid—a day where you already felt the air pressing down on your head like a heavy weight. By 9:00 a.m., the temp was 100° and the relative humidity was 50%, an apparent temperature of 120°, which is in the "danger" range of causing "heat exhaustion and heat stroke with continued exposure." (An inexpensive temperature/humidity gauge can be found at Radio Shack for \$20.)

After conferring with ride management, we had our ham radio people call all the vet checks and we were able to shut the ride down. We did lose one horse because the rider, overheated and lightheaded, kept walking the horse until it dropped with heat stroke. When the heat index dropped to the "cautionary" level of 90°, about 4:00 p.m., the ride resumed.

Some horses needed treatment along the way; some at the end of the ride, but over 90% of the 250 horses completed the ride. Fortunately it was a long-established ride, well-run by Barbara and Lud McCrary, ridden by many veteran riders, and vetted by 10 experienced veterinarians.

What changed? We got educated. Veterinarians stopped being cops and became teachers. Riders became eager students. We formed the American Endurance Ride Conference and shared our growing knowledge through its magazine, *Endurance News*. Experts wrote books. Endurance became an international sport. Yet, with all this growth

Heat Index (Apparent Temperature) Chart. The Heat Index (HI) is the temperature the body feels when heat and humidity are combined. The chart below shows the HI that corresponds to the actual air temperature and relative humidity. (Note: This chart is based upon shady, light wind conditions. Exposure to direct sunlight can increase the HI by up to 15°F.)

Heat Index		General Effect of Heat Index on People in Higher Risk Groups	
80 to 89° - Caution		Fatigue possible with prolonged exposure and/or physical activity.	
90 to 104° - Extreme Caution		Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.	
105 to 129° - Danger		Sunstroke, heat cramps or heat exhaustion likely and heatstroke possible with prolonged exposure and/or physical activity.	
130 or higher - Very Dangerous		Heatstroke and heat exhaustion common and can be fatal.	

		Relative Humidity (in percent)																				
Air Temp (in F)		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
	140	125																				
	135	120	118																			
	130	115	112	110																		
	125	110	107	104	102																	
	120	105	102	99	96	94																
	115	100	97	94	91	88	86															
	110	95	92	89	86	83	80	78														
	105	90	87	84	81	78	75	72	70													
	100	85	82	79	76	73	70	67	64	62												
	95	80	77	74	71	68	65	62	59	56	54											
	90	75	72	69	66	63	60	57	54	51	49	47										
	85	70	67	64	61	58	55	52	49	46	43	41	39									
	80	65	62	59	56	53	50	47	44	41	38	35	33	31								
	75	60	57	54	51	48	45	42	39	36	33	30	27	25	23							
	70	55	52	49	46	43	40	37	34	31	28	25	22	20	18	16	14	12	10	9	8	7

in knowledge, the most dangerous enemy of the horse in the 20th century is still our most dangerous enemy in the 21st—heat.

This article will cover what I consider to be the four most important factors in equine locomotion, the failure of any one of them could cause the failure of your horse: vital signs, electrolyte loss, dehydration, and the importance of the cardiac recovery index.



Veterinarian Jim Edwards checks out a competitor's horse at a 1970s-era endurance ride. Photo © Charles Barleau.

Vital signs and how to use them

Heart rate. I encourage riders to ride with an onboard heart rate monitor. (With experience we've learned to ride by the seat of our pants, but our butt won't tell us what the heart monitor will.) Attempt to ride with a heart rate of 140 bpm or below. This is in the aerobic range, meaning that your horse's oxygen uptake is even with his oxygen burn,

and that he is using more fat than carbohydrates for fuel, as opposed to anaerobic exercise where the pulse rate will be 150 up to the maximum, which in the horse is close to 250, and he burns mostly carbohydrates for fuel.

Anaerobic exercise is part of the conditioning process, but it tires your horse rapidly. This heart

rate break between aerobic and anaerobic may be anywhere from 140 to 180 bpm, depending on the condition of the horse, with the higher number indicating a higher degree of condition.

If you are moving at or near the aerobic limit and stop your horse, if he is well-conditioned and in the zone, his heart rate after one minute should be half his working heart rate (HR), e.g., from 140 to 70 bpm.

Ideally, you want to see the HR down to 60 bpm after five minutes' rest. If it takes 30 minutes to recover to a reasonable heart rate—compulsory in AERC—your horse is getting near the edge of fatigue or is still overheated, or both.

Respiration rate. At rest, respiration—unless the day is hot and your horse is in the sun—is very irregular and ranges from four to 12 per minute (rpm). With exercise it rises to meet the need for oxygen.

At the trot the aerobic rate is in rhythm with the gait: if you are posting on your left diagonal (rising as your horse's left leg is extended) your horse will inspire, and he will expire as you come down in the saddle and your weight blows the air out of his lungs when his right leg is extended. When you switch diagonals, which I recommend you do about every 10 minutes, your horse will switch his breathing to accommodate for the changed pressure of your butt on his back.


As your horse goes anaerobic he cannot maintain this rhythmic respiration and will need to breathe faster than his gait. This is very inefficient. Slow him down or rest him until he can stay aerobic.

At the gallop the bellows effect of the leg movement—stretch and squeeze—will force the respiration to be synchronous with the speed of his gait.

At work, the respiration will usually be a little slower than the heart rate. When you slow down the respiration will come down faster than the heart and, with rest, will be about half that of the heart.

When the heart rate comes down and the respiration stays high, this is an inversion, and it indicates that the temperature of the horse is above normal and he is trying to get his temperature down by blowing off hot air.

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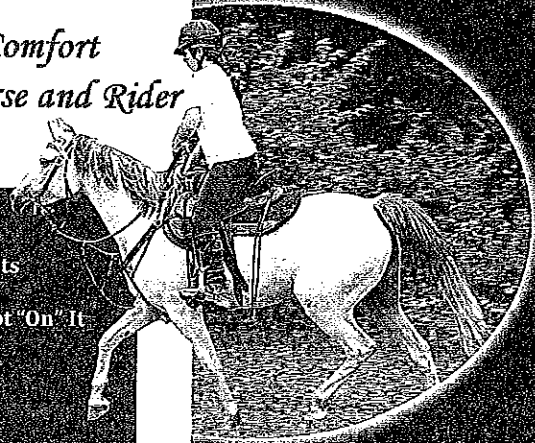


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Beat the Heat

(If this happens in the first 10 miles of a ride, all bets are off. The high-energy, nervous Arabian can have a high pulse and respiration from nerves alone.)

Train your horse to love water—drink, wade or swim in every available stream, river, lake or mud puddle.

Temperature. The resting temperature of the horse is, on average, 101.5°. A quick rule of thumb:

- Below 103°—OK to go on.
- Above 103°—stay where you are.

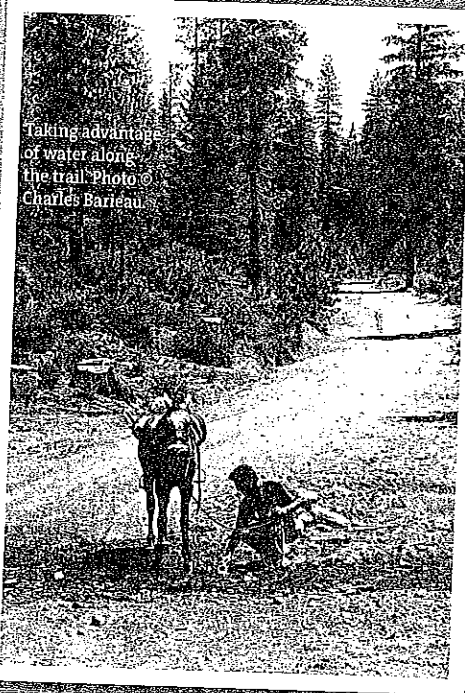
And the best guide to the temperature of your horse is his respiratory rate.

For three years we took the temperatures on all horses coming into the Devil's Thumb vet check on the Tevis Cup ride. This monolithic outcropping that gives the stop its name is atop a 4000-foot ridge halfway through the 100-mile ride, and is reached by an almost-2000-foot steep switchback climb out of one of the furnace-hot canyons of the American River gorge.

What we found was that almost all arriving horses had core temperatures running from 103° to 105°. But within the 20-minute hold, the temperatures and the respiration rates of fit horses came down to near normal. But if the respiration was still up so was the temperature.

If the horse arrived with a pulse of 140 and respiration of 120, or higher, we figured he was anaerobic and breathing very deeply to pay back his oxygen debt. As he repaid this debt, he returned to aerobic metabolism, and the depth of his breathing subsided, but the rate would remain high until his temperature fell below 103°. This makes ultimate sense

Taking advantage of water along the trail. Photo © Charles Barieau.



since a hot horse keeps panting as a secondary way of blowing off hot air to get his core temperature down. This is a good example of homeostasis—the self-regulation of the body.

The importance of electrolytes

Electrolytes—sodium, chloride, potassium and, to a lesser extent, calcium and magnesium, escape from the body in the sweat that pours out through the pores of the skin. We know that our horses can't function without them, they are lost in sweat pouring out of their bodies, and we have no easy way to measure their loss—so their replacement is a guess at best. Proof of this is the mass of empty white plastic syringes, once filled with electrolytes, found in the waste bins at any endurance ride.

The horse may not drink even though he is dehydrated. When he sweats profusely he will lose so much sodium in the sweat that he develops a low blood sodium, but it is a high sodium that triggers the thirst "button" and the desire to drink.

Paradoxically, your horse will not be "thirsty" even though he desperately needs water. If this is occurring giving him concentrated oral electrolytes could compound the dehydration by osmotically drawing already low body fluids into the gut.

So, do not give electrolytes to your horse if he is not drinking well.

At vet checks offer your horse water with electrolytes. The sodium will help trigger the thirst button. Offer him as much as he will drink. Then offer him water alone. Add electrolytes to a sloppy bran, grain and carrot mash. Give him wet hay. (Pre-train your horse for these delicacies: offering a tired horse a new taste treat may fail).

I admit to total confusion on this issue and I am not alone. I would like to see a dialog in *EN* from riders, veterinarians and teachers so we can gain the practical, scientific knowledge of how to best to deal with electrolytes during competition.

Dehydration: always a worry

The loss of body fluids is measured by a number of simple tests: the skin, normally soft and supple, gets flat and dry. Dehydration is measure by taking a fold of skin at the point of the shoulder and pinching it to make a little "tent" and letting go. If the skin is normally hydrated, the skin unfolds and goes back to normal within a second or two. The eye of the dehydrated horse appears flat and dry. In extreme cases the skin shuts down, dries up and sweats no more.

A measure of fluid loss in the blood can be measured roughly by blanching the mucous membranes gums above the upper incisors. If normal, the pink color reappears in a second or two. If it takes five seconds you are in deep trouble. If it's 10 seconds, start digging a deep hole.

Train your horse to love water—drink, wade or swim in every available stream, river, lake or mud puddle. If he thinks that water comes only from buckets, hoses or fountains, he will not fare well on the trail.

In a strange environment and in water that may have a new taste and smell, it may take your horse a while to check it out and feel secure about this water before he drinks. And never leave water until your horse has his fill.

If your horse is very thirsty, especially if the water is very cold, start with six swallows. Count them as you see and feel his epiglottis closing, and watch the bolus of water slide down the esophagus. (Six swallows is roughly one quart). Walk him around for 30 seconds or so. Repeat the drinking and walking three or four times, or until he begins to slow up a bit. Then you can let him get his fill without interruption. Reason: unlike mules, horses have no sense about limiting their food (founder) or water (colic) intake. And thirsty

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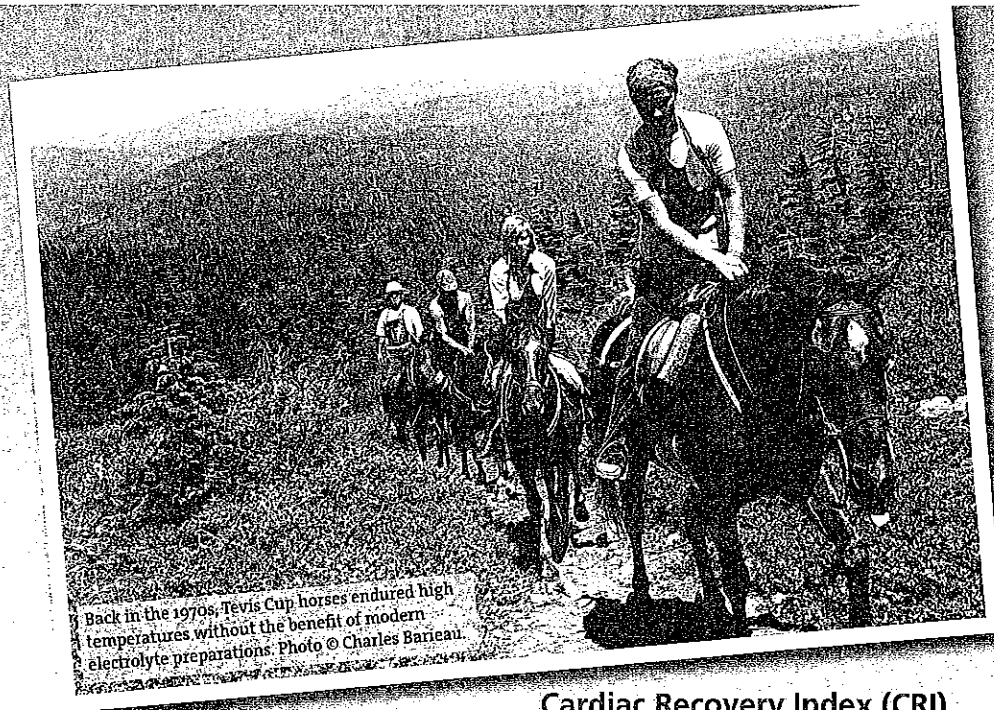
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Back in the 1970s, Tevis Cup horses endured high temperatures without the benefit of modern electrolyte preparations. Photo © Charles Barneau.

horses given cold water too fast will colic.

For years there was an endurance ride in the Sierras, the Nugget 50-miler. The afternoon vet check was at Snow Tent Spring, a splendid name for the ice-cold water it offered in the middle of the hot afternoon. We would always tell the riders about the ice water at Snow Tent Spring at our pre-ride meeting.

However, since many riders are too nervous to hear the advice given at pre-ride meetings, or absent, we posted a prominent sign about the water at Snow Tent Spring: "Do not let your thirsty horse tank up on this cold water. It causes colic. Let him have six swallows, walk him around for a minute, then bring him back for another six. Do this until he is full. Then let him have another drink before you leave the vet check. Never ride on with a thirsty horse."

For thirsty horses whose riders disregarded the advice and were allowed to tank up, the usual time between rapid thirst quenching and colic symptoms was five to 10 minutes.

Sweating is the primary method by which your horse disperses the heat generated by his energy burn, activating his muscles for locomotion. (Of 100 calories of energy burn, only about 20% is used for locomotion. The other 80% is heat which the horses must get rid of. Not a very efficient engine, the horse.)

So, take every opportunity to get cold water on your horse: sponge and bucket, ice packs, hose and, best of all, total immersion. When riding the Tevis, I spent five or 10 minutes in the body-deep, ice-cold water under Swinging Bridge. My horse came out fresh and ready for the long, steep climb to Devil's Thumb.

Cardiac Recovery Index (CRI)

Seeing a need for a test that would give us some objective substance on which to judge the actual degree of metabolic recovery, I introduced a test in 1976 that involved pulse recovery, gut sounds and pinch test for hydration. It was much too clumsy and time-consuming, and ended up in the trash bin of good but impractical ideas.

Thirteen years later in 1987 at the Levi's Ride & Tie, the vets were sitting around after dinner and the topic was resurrected. As if by inspiration, Kerry Ridgway said, "If we trot a horse out a short distance to raise his heart rate, give him a short rest, then recheck him, his heart rate should return to what it was at the beginning of the test."

Kerry experimented the next day at the vet checks and found that, after a 15-second trot-out and a 15-second trot back and a rest of 30 seconds, the final heart rate of a recovered horse was the same as the pre-test heart rate. Thus was the Ridgway Trot, or CRI, born. This test, so beautifully simple and easy to use, has become the most useful tool you can perform to test the energy level of your horse.

What else to watch for

Energy to go on? On a long, hot ride, your horse may be mechanically and metabolically sound, yet "out of gas" because of glucose depletion. Only you and your horse can answer that question. The veterinarian should always ask it: if you say "yes" and your horse says "no," the experienced vet believes your horse.

If you have trouble on the trail, and you don't know what is going on because your horse has no desire to go on, head for shade and water if they are near, take the saddle off, take his vital signs, rest your horse, and if water is present use as prescribed earlier.

Massage your horse. Be patient. If you have not taken your horse beyond the point of no return he will recover—eventually. If you force him to go on, you will kill him.

And, finally, another rule of thumb: as soon as the heart rate is 60 beats per minute, the respiration rate is below the heart rate, and your horse is sound and has energy to go on—go on. ■

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