



General meeting - August  
3rd, Chris Enrico - treats

No September general meeting!!!

August 20 BBQ potluck/pool party at Steve and Emma Russell's, directions and more information on page 4.

## Plain Facts on Heat Stroke

Story by Eleanor Kellon, VMD

**When you understand conduction, convection, and evaporation, cooling your horse makes sense.**

Summer's heat and humidity can be much more than just uncomfortable. They can be deadly. Horses lose their lives every year to heat stroke.

Countless others struggle through anything from weakness to colic as a result of inadequate care in hot weather. Don't let this happen to your horse!

## How Your Horse's Body Cools Itself

The business of simply being alive, breathing, digesting, producing manure, processing foods, etc., keeps your horse's body temperature in a range between 98.5 and 101 degrees Fahrenheit. When your horse begins to work, an inevitable consequence of increased energy generation and movement is for the body temperature to increase. To avoid reaching temperatures that can damage the brain and organs by interfering with enzymes, your horse must have a way to get rid of that heat.



Beating the heat involves water; both on the inside of your horse via drinking and on the outside of your horse via hosing down.

Some of the heat is transferred to air exiting the lungs, but this is not enough for efficient cooling in an animal this size. The remainder of the extra heat is carried from the interior of the horse to the skin surface by the blood stream. Blood vessels very close to the surface of the skin dilate and heat is lost from the skin's surface by several mechanisms:

- **Conduction** is the transfer of heat from the body to the cooler air. The larger the difference between the air temperature and the body temperature, the more efficiently conduction removes heat.
- **Convection** is the movement of hot air away from the surface of the body, replacing it with cooler air. Since hot air rises and cool air falls, this will occur naturally but the addition of a breeze makes it much more efficient.
- **Evaporation** of sweat is the final method of removing heat and is absolutely necessary for efficient heat removal. Even in subzero temperatures, a hard working horse will still sweat.

## Methods for Cooling Your Horse

When you understand conduction, convection, and evaporation, all the commonly used cooling methods make sense.

Slow walking creates a bit of a breeze over your horse's body surface, increasing convection. A fan works even better! Conduction increases when your horse is in the shade, where air temperatures are cooler. In extreme cases, air conditioning is used for conduction. Sweat (and hot fluid losses off the lungs) is nature's way of cooling by evaporation. You take advantage of the same principle of evaporation by hosing off your horse. During hosing, heat is also efficiently lost by conduction as long as the temperature of the water is cooler than the surface of the horse's body. The most efficient method of all-which has been adopted for Olympic horses performing under dangerous summer conditions-is to use misting fans. The water from the fans causes cooling by conduction and evaporation, while the breeze from the fans improves both evaporation and convection.

Allowing your hot horse to drink also has cooling effects. What happens when you add milk or an ice cube to your hot coffee? It cools off, of course. The temperatures of the two liquids equalize. The same thing happens inside your horse when he drinks. The temperature of the consumed water and the interior temperature of your horse will equalize. Allowing him to drink also serves another very important function. Sweat loss means water loss. Even at low levels of sweating, a horse can lose up to 4 liters of water (over a gallon) an hour. As exercise intensity increases, it can climb to 3 or even 4 times as much. This can result in sweat losses in only one hour that are equal to half a day's total water consumption. That's a lot of water, and losing it quickly causes dehydration.

Dehydration severely cripples your horse's ability to reduce his own body temperature by moving hot blood to the skin surface. If the circulating blood volume is not normal because of dehydration, blood will be diverted away from the skin and preserved for the organs.

Last, but far from least, is the fact that an exercising horse loses electrolytes along with water in his sweat. The cells in your horse's body function like small batteries with different concentrations of electrolytes inside versus outside the cell-there are even differences in concentrations between the structures inside the cells themselves. Another important function of electrolytes, especially sodium, is to "hold" water in the body. Sodium is so important to maintaining enough water in the body that the brain reads the concentration of sodium constantly, with thirst being triggered if the concentration of sodium gets too high and salt hunger triggered if sodium gets too low.

### **Replacing Electrolytes**

Electrolyte losses in sweat cause dehydration, overheating, muscle problems, and poor intestinal tract movement. Replacing water is easy, but to keep it in the body, the electrolytes also have to be replaced.

To figure out what your horse needs, you have to know what is already in his diet. Except for a small amount that may be added to commercial grains, there is basically no sodium in the diet. Sodium and chloride are what make up plain white table salt. An average-size horse needs 10 grams of sodium a day, not counting sweat losses. That amounts to just under an ounce (2 tablespoons) of table salt. Hay does contain chloride, although not quite enough to meet requirements. When you add in the chloride that comes from the plain salt, the horse will then have enough with even a bit left over. Potassium is plentiful in hay. Just five pounds of most hays will give the horse around twice as much potassium as is his baseline need.



Electrolyte supplements are meant to replace sweat losses, and good ones will provide close to the amounts listed in Table I in the low sweating column, per dose. However, as noted above, you don't need that potassium. There is a place for electrolyte supplements, but they have to be used correctly.

### **Checklist for Proper Use of Electrolytes**

- Start by meeting your horse's baseline sodium and chloride needs with plain salt at 1 ounce/day in winter, 2 ounces/day in summer.
- If your horse is working two hours or less at low sweating rates, or one hour or less at moderate sweating rates, add 1 extra ounce of salt for each hour of low sweating work, 2 ounces for each hour of moderate sweating.
- If working longer than the times above, feed the extra salt only to meet the needs of the first two hours (or the one hour of moderate sweating), then use an electrolyte replacement for any additional work above that level.

Last but not least-and this is crucial while also being easy to do-give all horses as much water as they want, as often as they want it!

This and other articles may be found on [www.myhorse.com](http://www.myhorse.com).

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### **Meeting Minutes**

7/6/2010

Little Rock Fire hall

Capitol Riders Chapter, BCHW

Meeting called to order at 7:07 pm by Steve Russell, President.

Guest Kelsy Shawe was introduced by her mother Denise.

June minutes were read, approved with changes, seconded and passed.

Treasurer Report - Traci Koch, Treasurer, handed out handouts. Traci, Dean, Jeff and Chris had met on June 8. Traci will get books in order and the group will meet again. Traci will work on getting the chapter books into Quickbooks. Chapter is solvent.

Newsletter/Web Site - Chris said he'll start using articles found on the web. Minimal use and no monetary gain as well as crediting the source should alleviate copyright issues. Chris has also made changes and updates to the web site.

Club Rides - Dean - Westport is July 17. Tom Crowson is working on driving directions. The group will caravan from Summit Lake Grocery. It is a 3 mile beach ride and includes the Westport Lighthouse.

Work Parties - Dean - Judy Francis described the June 5th work party.

Steve mentioned that so far as club rides, the Russell computer was off line.

Ways and Means - Dean - Working on another garage sale. Need to convince Joyce to host again with the Little Rock sale. Steve recognized Sandra who asked what else the chapter did for Ways and Means. Dean said we do garage sales. A discussion of the chapters budget ensued. There are directors expenses; gas at \$50 a quarter for the BCHW meeting. Traci will coordinate a budget committee.

Social - Connie and Nina - There is nothing. Steve suggested a August or September meeting potluck/pool party. August 20th, 6 to 6:30 pm.

Chuck Corbit asked about a Kalama ride. It was mentioned that a ride at Keenes was planned for August 6-8.

Membership - Sandra - The chapter has 40 members. The latest to join are Chuck and Grace Corbit, Loretta and Wayne Watkins and Denise Shawe.

Correspondence - The letter to DNR per previous minutes still needs to be written by Steve and Jeff.

The August 20 potluck was raised again. Burgers will be supplied. A motion for the chapter to pay for meat was made, seconded and passed.

Director - Jeff not present. Critical Areas Ordinance applies to public and private lands. Tom mentioned it includes a 600 foot buffer. It addresses Oregon White Oak, pocket gofers, and butterflies. It was said that this will make developing property more complex if not impossible.

Old Business - Legislative chair - Dean mentioned a special session in August. Judy said 20 states are about to go bankrupt and Washington has a 3 billion dollar shortfall.

New Business -

Good of the order - Steve said that he is amazed at how well people are working together. Steve commended all and thanked them.

Tom asked members to call Comcast and ask they add RFDTV and the horse channel.

Angelle asked if there was a meeting next month (August). It was decided to hold the August meeting but skip the September meeting as it's too close to the Mount Adams camp out and the holiday weekend. A motion was made to skip the September general meeting, seconded and passed.

Tom asked for a show of hands on the Westport beach ride. Eight people raised their hand.

A motion was made to adjourn, seconded and passed.

Meeting adjourned at 8:15 pm.

Respectfully submitted,

Chris Enrico  
Secretary, Capitol Riders

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Directions for the August 20 BBQ potluck / pool party

Time will be 6 to 6:30 pm showup

Interstate 5 southbound -  
Take exit 99 for 93rd Ave/WA-121 S turning left onto 93rd Ave  
Follow 93rd Ave SW for 2.0 miles  
Turn right at Hart Rd SE and go 0.7 miles  
Take the 2nd left onto 101st Ave SE  
Destination will be on the right in approx 322 ft

Steve and Emma Russell  
937 101st Ave SE  
Olympia, WA 98501  
360-951-8927  
Google map link - <http://preview.tinyurl.com/2cpw795>

Or -  
From 93rd Ave  
Turn at Tilly Road / SR 121 (which if coming off I-5 is before Hart Road)  
Turn left at 100th Ave SE (just before the South Union Grange Hall)  
which turns into Reese Road  
Turn right onto Hart Road  
Take the 2nd left onto 101st Ave SE  
Destination will be on the right in approx 322 ft

Burgers will be provided so bring something fit for a summer BBQ.

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An impromptu early evening summer ride was enjoyed by Steve Russell, Martha Kesting and Sandra White at Mima Trail Head. As anyone knows who has ridden with Martha, the ride offered some schooling moments for all! Sandra and Nichi benefited from Steve and Martha as seasoned riders. Steve's Puzzle hadn't been on a trail in a few months and Sandra's Nichi was on a trail ride for the first time without her BFF's, Sugar and Holly (owned by Tom and Tootie Crowson). Being a small group each horse spent some time as the lead horse as well as taking middle and end positions. It was a great evening for a ride and we encountered horseback and bike riders and hikers on the trail. We were the most fortunate ones as we were with our special riding partners and good friends from Capitol Riders! The long-eared critter in the picture is what the Rider/Owner called a "giant donkey" (cross between a donkey and a draft horse). As my grandmother used to say, "In all my born days I've never seen such a thing!" He was friendly as was his owner. . . .and yes, I gave her a Capitol Riders business card! As we loaded up and left for home, there was a full moon coming up and we were three content riders! Sandra White

## Calendar (partial) of Events for 2010 -

Aug 3 General Meeting Littlerock firehall 7 pm  
Aug 5-8 Keenes, Tootie Crowson 360-349-5224  
Aug 14 Mima day ride  
Aug 14 Mt Muller, See Traci Koch  
Aug 20 Potluck BBQ, Russell's 6-6:30 pm 360-951-8927  
Aug 27-30 Mt Adams camp and ride, Tootie Crowson 360-349-5224  
Sep 4-6 Mt Adams camp and ride, cancelled ?  
Sep 6 NO Meeting  
Sep 25 National Public Lands Day



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