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**Equine Medical**  
Center

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## **Water. Plain and Simple.**

By Jenna Bayne, DVM

As the mercury starts to rise with the approach of spring and summer, many riders look forward to an opportunity to take their trusted mounts out on the trails, into the arenas, and possibly even pursuing new avenues of fun and adventure such as riding on the beach. Regardless of whether it is out at pasture or surfing the waves, the most basic of husbandry practices should not be overlooked. This includes the utmost importance of providing free access to clean, potable water for your horse. Most of a horse's water intake is through drinking (85%). Feed sources (5%) and water generated through metabolic pathways (10%) make up the remainder of total water intake. Water can be lost by three routes: in urine, in feces, and as insensible losses (evaporation) across the skin and respiratory tract. The maintenance water requirement for a 1000lb horse is approximately 27-30 liters per day or roughly 7-9 gallons per day. This water requirement is further increased by exercise as well as with an increase in ambient temperature and humidity. If you plan to find yourself out on the trail or at the beach, ensure that sources of fresh, potable water are available. Plan ahead and haul in your own water. At home, ensure that automatic waters are working properly; water troughs are full and cleaned out regularly. If water is from a natural source, it may be advisable to have it tested for its quality and total dissolved solids. Provide alternative sources of water in addition to natural sources. Have multiple sources available because accidents happen. Gates get closed, troughs accumulate debris, and automatic waters can malfunction. Providing limitless, fresh water sounds simple and it is. Its importance should not be overlooked.

Though most commonly described in cattle, water deprivation and salt toxicosis is a serious health condition that potentially can occur in the horse. The condition occurs following over-consumption of sodium chloride in rations or supplements and can be complicated by limited availability of drinking water resulting in severe dehydration. A similar sequence of events can also occur with simple water restriction of sufficient duration allowing the brain to adapt to the body's state of hypernatremia (high sodium levels in the blood) and hyperosmolarity. Adaptive responses of the brain include the production of organic osmolytes that counteract the osmotic imbalance and a new osmotic equilibrium is established. Signs of toxicity are seen when rapid rehydration occurs. When given free access to fresh water, water enters the brain cells due to the increased osmolytes within the cells and the brain swells. Clinical signs include reduced appetite and dehydration early followed by head pressing, ataxia, blindness, and seizures. Colic and diarrhea may also be present. Animals are often found dead. The acute toxic dose of oral sodium chloride for cattle and horses has been reported to be approximately 2.2g/kg of body weight. With water restriction, the toxic dose of salt is considerably less, and poisonings have resulted from ingestion of 0.9% NaCl in water-restricted cattle. Animals are most susceptible to salt poisoning during the summer because of the increased insensible loss of water (ex. sweating) that occurs at that time. If you encounter an animal that has been deprived of water for a significant amount of time, please consult a veterinarian as it may require professional management to rehydrate it safely.

As you head out to the many adventures that await this summer, reflect on the five freedoms that are due to our four legged friends: freedom from thirst, hunger and malnutrition; freedom from discomfort; freedom from pain, injury and disease; freedom to express normal behavior; and, freedom from fear and distress. Not every horse is made for multiple day excursions on the trail or may not find it relaxing to bask in the sun at the beach. Common sense and knowing your animal goes a long way. And always ensure that you are prepared including plenty of water for you both.

Contact Brandon Equine Medical Center at 813-643-7177 or email [info@brandonequine.com](mailto:info@brandonequine.com) with any questions regarding this topic.