

Anhidrosis in Horses

Joan Gariboldi, DVM

Hagyard Equine Medical Institute

Summer was slow coming in central Kentucky, but now it is here in full force. Along with these extreme temperatures comes the increased occurrence of anhidrosis. Anhidrosis in horses is defined as the absence of an adequate amount of sweat which will result in several clinical signs. A horse with anhidrosis is often called a “non-sweater”. This condition is frequently performance limiting and may put a horse at risk for hyperthermia or heat stroke. The cause of anhidrosis is not well defined, but is believed to involve over-stimulation of the horse’s sweat glands by stress hormones, typically occurring in the heat of summer. The degree a horse suffers from anhidrosis varies. A horse may only have minor decreases in sweat production, resulting in subtle clinical signs; or the horse may have a total loss of sweat production and severe signs of hyperthermia. It is most commonly diagnosed in performance horses being exercised, but it also affects non-performance horses and seems to be more prevalent in dark-colored horses.

Incomplete or partial anhidrosis is the most common form of anhidrosis; a horse owner should consider that his or her horse may have this problem if the horse’s performance declines as the ambient temperature increases during summer months. Other clinical signs of partial anhidrosis include an elevated respiratory rate and an elevated rectal temperature that requires an extended period of time (greater than 30 minutes) to return to the normal range after exercise ceases. The normal body temperature of a horse ranges from 99.5 to 101 degrees F. Exercise may elevate a horse’s body temperature significantly, but it should return to normal within 30 minutes after exercise has stopped. Horses with chronic cases of anhidrosis will typically have a poor or dry looking hair coat and have a history that includes the complaint of lethargy during the hotter times of the year. One should note that any horse may suffer from anhidrosis in the summer months, including brood mares and retired performance horses with more sedentary lifestyles. If your horse has an elevated respiratory rate and will leave herd mates to seek shade – consider asking your veterinarian to examine your horse for anhidrosis.

The diagnosis of anhidrosis can be made by your veterinarian using a series of injections of dilutions of terbutaline. This stimulates the horse’s sweat glands and will identify those that have problems sweating, and determine the severity of the condition. In addition, blood work, including an electrolyte analysis may also be helpful in formulating a treatment plan. As a last resort, a skin biopsy may be performed to facilitate microscopic examination of the sweat glands, but it is rarely necessary to do this to make a diagnosis.

Ideally, measures should be taken at this time of year in order to minimize heat stress, and consequently decreasing the chance for development of anhidrosis. At a minimum, all horses should have access to shade and cool water throughout the day. Any exercise should occur early or late while ambient temperatures are lower. Additionally, turnout can be limited to the night or cooler portions of the day while fans are provided indoors during the extreme heat.

The successful treatment of anhidrosis can be relatively easy, but it is often challenging to cure. There are many different treatment options for anhidrosis, and what works on one horse might not work on another. First and foremost, until the horse with anhidrosis is successfully medicated, it should have limited intense exercise during the heat of the day and should have accommodations that minimize an increase in body temperature by providing shade, movement of air, misters, or even cold water hosing. The simplest of treatments is the supplementation of electrolytes, based on abnormalities identified by the blood chemistry, may allow the horse to begin sweating. Another easy and affordable treatment for minor anhidrosis is providing the horse with a can of beer a day. Unfortunately, most cases require more significant management and include treatment with one of many commercial products available (One AC®, True Sweat®, or Platinum Refresh®) combined with environmental management. If successful, a horse can continue to perform in hot, humid environments. As a last resort, for cases that do not respond to conventional therapy, moving the horse North into a less hot and humid environment will eventually restore its ability to sweat. In any case, work with your veterinarian to formulate a plan to expedite your horse's return to normal sweating and therefore, normal thermoregulation for good health and peak performance through the summer months.