Horse Care

Fever In Horses

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The definition of 'fever' is body temperature higher than normal. Normal temperature in a horse can vary from 99 to 101.5 degrees Fahrenheit with 100.5 being the average. Just as in humans, normal temperature can vary about two and a half degrees. A newborn foal may have a normal temperature as high as 102. A horse must generally have a temperature higher than 101.5 before it is considered a fever.

Some things that can raise body temperature in a horse are pain (tensing of muscles during moderate to severe pain can produce heat—as much as one to two degrees of elevated temperature), estrus, or exercise on a warm day when a foal has not yet shed his woolly hair coat. These natural conditions are not considered fever.

Body temperature in mammals is maintained at a certain set point by the brain. In horses, this can vary as much as two and a half degrees within the same individual, depending upon the time of year (normal may be as high as 101.5 on a hot summer day), time of day (morning temperatures are lower than evening temperatures), whether the horse has been exercising, etc. Body temperature can increase several degrees (and might go as high as 105) with strenuous and sustained exertion, but returns to normal when the horse is allowed to rest. Since the body's set point has not changed, the increase in temperature is temporary.

When temperature increase is due to a change in the body's set point, however, the result is a fever. Fever can be caused by many factors, but the most common is invasion by bacteria or viruses. Rise in body temperature is one of the first and most easily recognized signs of illness—part of the body's defense against infection. The hypothalmus at the base of the brain is responsible for controlling an animal's body temperature. When it perceives a danger signal from the immune system, the hypothalmus sends out prostaglandins. These chemical messengers trigger the speed-up of several body functions, including higher set point for temperature.

Once the set point has risen because of infection, the body strives to maintain this higher temperature. The horse may shiver, even though he is not cold, since shivering is one of the body's ways to increase circulation and produce more heat. The body uses up fuel and water to maintain the fever, and this is why a long-lasting or high fever can cause weight loss and dehydration.

You can usually suspect a horse has a fever if he shows any of the signs that often accompany a rise in temperature, such as chills and shivering, sweating, increased respiration rate, higher pulse rate, listlessness and lack of appetite, fluctuations in skin temperature, or reddening of the gums. Generally when the horse's body temperature begins to get too high, the brain signals the start of cooling processes—the second stage of fever involves sweating and panting, and dilation of blood vessels at the skin surface, routing the blood to the skin for cooling (making the skin feel hot). The temperature starts to drop as the horse's condition enters the recovery phase.

Fever is probably an important part of the body's defense against infection, since most bacteria and viruses thrive best at lower temperatures. The fever helps slow down the multiplication

rate of certain bacteria or viruses and can thus decrease the severity of the disease or infection. Studies have shown that in many cases of severe or potentially fatal infections, the animals that develop a fever often have a better chance of survival than those that don't. The production of antibodies and other defenses against disease are increased when the horse has a fever, since the same chemicals that cause the fever are also activating the body's disease fighting mechanisms. Thus it is not always wise to try to immediately reduce a horse's fever (unless it's so high that it is life threatening), since treatments to reduce fever may also inhibit the horse's ability to fight the disease.

There are times, however, when fever should be relieved. A horse with fever is dull and uncomfortable and may not eat or drink enough. The same mechanisms that cause the increase in temperature also cause muscle and joint discomfort, and the horse is reluctant to move or eat. Reducing the fever can make a horse feel better enough to consume the food and fluid he so badly needs.

A high fever should always be cause for concern, since temperature over 105 degrees starts to produce adverse effects within the body. The critical temperature for a horse is about 106 degrees, since anything higher than this will make the horse's defenses less efficient or inhibit them entirely. The horse starts to lose weight—high fever causes severe destruction of muscle tissue, along with serious dehydration from sweating. Fever above 105 degrees for more than a few hours can eventually cause tissue damage and may affect the brain. A foal with a fever above 108 may suffer from seizures, convulsions and muscle spasms. There are times when your veterinarian will try to control a horse's fever by chemical means or cold applied to the body surface. Most of the non-steroidal anti-inflammatory drugs (such as aspirin, Banamine, or phenylbutazone) are effective fever reducers.

Mild fever (102 to 104 degrees) needs no treatment in itself, since increased temperature is one of the body's ways of fighting illness. Because of the increased availability of drugs that reduce fever, many veterinarians and doctors began, some years ago, to treat fever as a condition to be reversed, but now most of them recognize it as a beneficial symptom of the body's fight and do not worry about the fever itself, unless it becomes too high. Elevated temperature is something you should discuss with your veterinarian, however, as part of the body's clues for diagnosing the horse's problem. Any time that a horse has a fever, the most important thing—at first—is to determine the cause, rather than to reduce the fever.

Fever in Stallions

Fevers of 104 or higher in a stallion, for more than 12 hours, will kill the sperm-producing cells in his reproductive tract. This can make him sterile for a short period (usually occurring 60 to 90 days later, since he still has viable sperm in the tract that were not affected) until new sperm cells mature. Some stallion owners thus try to reduce any high fever.

It should be kept in mind, however, that some fever-reducing drugs are just as harmful to fertility as the fever itself, so it is better to rely upon topical means (cooling baths, ice packs, etc.) to reduce fever in a breeding stallion. An alcohol bath cools the body's surface faster than cold water, since it evaporates more quickly.

METHODS FOR REDUCING A HIGH FEVER

Some illnesses such as Potomac Horse Fever can produce such high fever as to be life threatening. Exercise in hot weather can produce critical rise in temperature (anything above 106 to 107 degrees is classified as heat stroke). In these instances, steps should be taken to cool the horse, if that is what your veterinarian advises.

Cool water hosing of the horse's neck and legs (where blood vessels close to the surface are bringing overheated blood) and ice packs under the tail and around his head, can lower his temperature fairly quickly. Cold-water enemas are also helpful. Make sure the horse has water and let him drink as much as he wants.

In fevers lower than 106 degrees, however, there is usually no need to try to immediately reduce a horse's temperature. The fever is merely an indication that the horse is fighting the disease. Cold water baths are more effective in reducing high temperature caused by excercise in hot weather (since the horse's set point has not changed and the temperature will quickly return to normal) than in reducing a true fever. With the horse's set point increased due to illness, the cold water merely makes the horse's body work harder to produce more heat to keep its temperature at the higher level. For instance, if a horse has pneumonia and fever, the increased body temperature may be an important part of his defenses for thwarting the bacterial invaders. The important thing, in this instance, is to help him fight the bacteria and not lower his fever.

An acute fever usually rises rapidly to a high peak, then 'breaks' and the temperature starts back down. A persistent high fever is less common, but more serious. A chronic low-grade fever may persist if the horse has an infection that does not clear up. Some chronic fevers come and go, as in horses with EIA (equine infectious anemia). A horse with pleuritis or a peritoneal abscess may have a lingering fever. Your veterinarian can often gain a clue as to the horse's problem by tracking his fever, so it is often best to have the veterinarian examine the horse before you attempt to deal with the fever. The fever's severity, its duration, its patterns of highs and lows, can all help in determining what might be wrong with the horse.