

Tying Up

Tying up, also known as exertional rhabdomyolysis or ER, is one of the most common causes of poor performance in horses. It usually happens suddenly after an episode of hard work. ER occurs when there is not enough blood flow to the muscles during exercise. The muscle cells don't get enough oxygen and begin to build up toxins. The cells then become damaged and leak these toxins into the bloodstream. The toxins are harmful to the kidneys, liver and other organs and may be severe enough to cause death. Glycogen, which is the stored form of energy in the muscles, is depleted and the muscles can no longer work properly. ER is painful because the decreased blood flow and the release of toxins causes inflammation and cramping of the muscles.

There are two forms of tying up, sporadic and chronic. The sporadic form is the most common and is simply due to working a horse harder than his condition level. It is usually a one time event. Horses with chronic ER have repeated episodes of tying up. The chronic form is much more complicated as it is generally due to an underlying muscle disorder. There are three described muscle disorders in horses and they are Recurrent Exertional Rhabdomyolysis (RER) found in Thoroughbreds, Polysaccharide Storage Myopathy (PSM) described in Quarter Horses and Equine Polysaccharide Storage Myopathy (EPSM) characterized in Draft Breeds. For the purposes of this article we will be focusing on the sporadic form of this disease.

Depending on the severity of the episode, the signs of ER can be variable ranging anywhere from mild stiffness to the horse being down and unable to get up. Some horses can die from this disease. With a mild episode, the horse may be reluctant to move and have a shortened gait with muscle spasms. Often the muscles of the hindquarters are hard to the touch. Horses with ER may show signs of colic, be depressed and be off feed. If the episode is severe enough they may have brownish-red colored urine, be dehydrated and act very anxious.

Call your veterinarian immediately to initiate treatment. Treatment often consists of non-steroidal anti-inflammatory drugs which decrease the amount of inflammation and relieve pain. A tranquilizer or sedative may be given if the horse is anxious or nervous. Most importantly, fluids should be given through a catheter directly into a vein. The fluids help to dilute the toxins in the bloodstream and decrease the chance of damage to the kidneys, liver and other organs. Horses should not be moved as this will only increase the amount of cell death and toxin release. Stall rest is indicated for several days and you should keep the horse warm and dry. Horses usually return to normal within 12-36 hours after the attack.

Here are some recommendations to decrease/minimize the risks of your horse tying-up:

1. Proper conditioning is very important in preventing ER. Maintain a regular exercise program for your horse and any increase in exercise level should be done gradually. A 10 minute warm-up before exercise and a 10 minute cool-down after exercise are recommended. Allow turnout as often as possible.
2. Feed a proper balanced diet. Decrease carbohydrates and add fat to the diet. Feed good quality hay. Avoid alfalfa as it can contain higher carbohydrate levels than grass hay.
3. Add electrolytes to the feed or water to prevent dehydration. Electrolytes are especially helpful during strenuous workouts in warm, humid weather.