

Daniel P. Keenan, DVM
Ron McAlister, DVM
Lynsey D. Makkreel, DVM



DIARRHEA

What is diarrhea?

Diarrhea means the production of feces that are softer than normal. Normal equine feces are produced in formed, non-offensive smelling, greenish-brown, semi-solid portions that will break up in the hand, revealing varying degrees of fibrous content, depending upon diet. The softness of diarrhea varies from non-formed ('cow-patty') to liquid and there may be an offensive smell. Liquid diarrhea may be produced apparently involuntarily in a projectile manner ('pipe stream') or may involuntarily run down the hind legs (incontinence), resulting in skin scalding.

What is the significance of diarrhea?

Diarrhea is a relatively common condition in the horse and in most instances is transient. Due to the anatomy of the adult gastro-intestinal tract, it is normally only conditions that affect the large bowel and cecum that result in diarrhea. In foals, before their large bowels are fully competent at around 3 months of age, small intestinal conditions can be involved and foals can quickly become very ill.

Diarrhea may represent a simple digestive upset following a sudden change in diet. It often is very common in the spring, when the rich grass begins to grow rapidly. In these cases, it causes no other significant illness and does not need treatment. When caused by infection, intestinal parasitism or other significant gastrointestinal or metabolic abnormality, the horse may be clinically ill and need veterinary attention. Horses that are ill with diarrhea may show a variety of other symptoms which may include colic, inappetence, increased thirst, depression, weight loss, dehydration, pot belly, poor coat and dull eyes. Other causes include parasitism, cancer or metabolic disease.

What causes diarrhea in adult horses?

In many cases of adult equine diarrhea, the horse recovers before the cause is known. The horse's intestines, especially the large intestines and cecum, contain large numbers of normal bacteria, which are an essential part of the normal digestive processes. If the normal balance of these bacteria is upset by a sudden change in diet or antibiotic treatment, digestion is upset and diarrhea may follow. When the normal bacterial population reorganizes and returns to normal, digestion and fecal consistency also return to normal. Treatment with probiotics may help in mild cases, but more severe cases require intense treatment. Because of the great water loss in adult diarrhea, treatment must be begun as quickly as possible. Once an adult horse has become dehydrated and toxic, it is very difficult to correct the situation.



Foal with diarrhea

There are specific conditions that require diagnosis and specific treatment.

Infections, such as salmonellosis, can cause symptoms ranging from acute, severe diarrhea to chronic, more insidious diarrhea, weight loss and death. Some symptomless carriers of *Salmonella* only develop signs of diarrhea following treatment with antibiotics or hospitalization. Some species of *Salmonella* bacteria can infect susceptible (especially young and aged) humans and animals and positive cases should be put into isolation. Other bacteria such as *Clostridium* species, can cause acute enteritis and rapid death, sometimes even before any diarrhea is evident. Less acute cases develop a foul smelling watery diarrhea.

Parasites are an important cause of diarrhea in both young and debilitated older horses. The most severe illnesses are associated with small strongyles. They can result in profuse watery diarrhea and marked loss of water and protein, causing serious illness.

Stress associated with long transportation in hot conditions, general anesthesia and surgery, or chronic pain may cause colitis (inflammation of the large intestine). Horses with acute colitis are severely ill and require intensive care. Some cases are fatal. In some individuals, lower-grade stress (pre-performance nervousness) may cause loose stool or even diarrhea

Less common causes of diarrhea include intestinal cancer and granulomatous enteritis. Both may result in damage to and malfunction of the intestines. This results in the production of fluid feces and progressive weight loss in affected horses, which may become life threatening.

How are the causes of diarrhea diagnosed?

In most cases it is obvious when a horse has diarrhea, but often the difficulty is in diagnosing the cause. A veterinarian will perform a clinical examination and take a history, which will include medical and worming history. Blood and fecal samples may be collected for laboratory analysis. The fecal sample will be examined for parasitic worm eggs and cultured for bacteria. It may be necessary to perform a rectal biopsy.

How is diarrhea treated?

Many cases of diarrhea in adult horses are associated with transient digestive disturbances, do not require treatment and resolve quickly in a day or two. If the diarrhea is severe or symptoms persist, then treatment is required. It may be necessary to commence treatment prior to a diagnosis of cause being made. Symptomatic treatment includes removing any obvious cause or exacerbating problems such as green grass, rich feed and antibiotic treatment. Water and electrolytes should be administered by allowing and encouraging access to drinking water to which electrolytes have been added. Always supply an alternative supply of drinking water without electrolytes in case the horse does not like the flavor. If the horse is not drinking or is dehydrated, fluids can be administered by stomach tube or by intravenous drip. Intestinal absorbents and anti-diarrheals may be administered by stomach tube as necessary. If there is pain (colic) associated with the diarrhea, then analgesics may be used. Once the cause of the diarrhea is known, specific treatment should be introduced.

Severe cases of diarrhea and colitis are life threatening and require aggressive intensive care. Fluid and electrolytes are lost in large amounts and a combination of reduced digestion and



Mare with diarrhea

absorption and increased loss of protein due to intestinal inflammation can result in profound weight loss and debility in a very short period of time. If the lining of the gut is severely damaged, the horse can become toxemic (toxins produced by bacteria in the gut are absorbed into the blood stream). The toxins can damage large intestinal blood supply irreparably, the gut wall dies and these horses develop shock and die or require euthanasia quite quickly despite treatment.

How is diarrhea prevented?

Diarrhea is best prevented by good management, with provision of good quality pasture and feed and any changes in diet made gradually. A strategic parasitic worm control program appropriate to the management is essential. Contact with known *Salmonella* carriers should be avoided.

Some horses tolerate stress less well than others and it is difficult to predict which horses may develop diarrhea or colitis following stressful conditions or situations such as competitions or surgery but one must always be aware of the possibility.