

Antibiotics – How do they affect digestion?

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The Assure System - Used with Permission
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Doctors, whether DVMs or MDs, are often faced with a case that includes some type of infection, and when we do the word antibiotics immediately comes to mind. So, of course we reach for the bottle or the prescription pad and get the therapy "rolling", right? Well, many times it's not quite that simple. There are many considerations in this decision when it comes to the horse as a patient. As veterinarians, we consider the implications of antibiotic resistance, the overall health status of the horse, and the effects that antibiotics will have on the digestive system.

The horse has a fermentation process that occurs in its cecum and large colon. This process relies on normal microflora or bacteria to digest fiber, the main foodstuff in the equine diet. As a hindgut fermentor, the horse is especially susceptible to the effects of antibiotics on its digestive system. To efficiently and properly digest, these bacteria must be in "balance", which means that proper bacteria in the proper percentages must be populating the hindgut, and they must be healthy. The bacterial health of the colon is dependent upon many factors including pH, growing medium (foodstuffs for the bacteria), and colonic motility or movement. When this environment for the bacteria is not correct, the normal bacteria may be low in numbers, have depressed activity, or be dead. Once any of these upsets to the bacteria occur, the environment may become preferential or conducive to the growth of unwanted and even toxic strains of bacteria.

One of the problems with antibiotics is that they are not very specific or targeted, which means they cannot just affect one strain of bacteria, and they do not just go to work at the site of infection. When a horse is placed on antibiotics, some change in the balance of the hindgut microflora is inevitable, due to the death of bacteria in the "fermentation vat." Many times, although a change is occurring in this bacterial population and digestive efficiency is reduced, the effects are not seen by the owner or the veterinarian attending the case. Occasionally, the effects can be

significant enough that profound changes are seen, including diarrhea, colic, and in severe cases, there can be toxicity to the bloodstream caused by the overpopulation of "bad bugs".

Many times veterinarians will recommend a probiotic to be fed orally, either while a horse is on antibiotics, or especially if a patient is exhibiting any signs of hindgut disturbance due to antibiotic therapy. Probiotics come in many forms and new developments in digestive health are proving that a combination of pre and probiotics including high quality yeasts are the most effective at maintaining or re-establishing colonic health. So, the next time your horse requires antibiotic therapy, you might consider discussing the effects to your horse's digestive system with your veterinarian, and what precautions you can take while your horse is undergoing an antibiotic treatment.

Upon first discovering our products, many people ask what the differences are between Assure and Assure Plus, when they should be used together, and when it's appropriate to only use one or the other. Assure and Assure Plus are both digestive aids which contain a unique blend of probiotics, prebiotics, and yeast culture. Although they were designed to be used in combination with one another, there are reasons and benefits behind both patent pending products.

Assure is a granular formula which is meant to be fed on a daily basis to reduce the risk of colic and help ensure that your horse's digestive system is working at maximum efficiency. Assure helps to stabilize the gastro intestinal system, improves colonic motility, and reinforces nutrient absorption. It also increases beneficial bacteria while reducing "bad" bacteria. Assure can be used alone when you want your horse to receive these benefits on a daily basis, and you are not concerned about any amount of sand, dirt, or silt accumulation. Assure is intended for use in all horses, but it is especially beneficial to horses in performance training, horses on grain diets, horses being treated with antibiotics, horses being treated with non steroidal anti-inflammatory drugs, horses suffering with diarrhea, horses that are pregnant or nursing, and also foals. One 4.6 pound bucket of Assure will last one horse for four months when fed at the regular recommended dose of one scoop per day.

Assure Plus is a pelleted substance which contains all of the same benefits as Assure. The difference is that it also has the patent pending formula with psyllium, which has gained recognition as the most effective method for removing sand and silt from the colon of horses. The Assure Plus was designed to help the most with sand and silt removal, by increasing motility while providing enough psyllium to mechanically aid sand clearance. The normal feeding recommendations for Assure Plus is to feed eight ounces per day for five weeks straight to clear out any sand, silt, and dirt accumulation that horses by nature pick up while eating their hay and grazing in pasture environments. After the initial five week period, you then move into a maintenance routine of feeding Assure Plus for only one week out of every month, to facilitate sand clearance on a regular basis. Assure Plus may be fed alone as a superior sand clearance formula.

So, with that being said, when do you use both products together? Both products should be used when treating sand, colitis, or diarrhea. Even in cases where you do not suspect that your horse is susceptible to picking up any sand, there is always the risk of silt and dirt accumulation, so it is best to use both products if you want to ensure that your horse's digestive system is functioning at maximum efficiency. The most recent clinical research trial, by Dr. Allen Landes, has shown that using Assure and Assure Plus in a systematic program, increased sand removal from the colon by as much as 600% (p=0.01) (published February 2008 in the *Journal of Equine Veterinary Science*).

Many horses are being successfully treated with the Assure and Assure Plus products to eliminate sand, reduce colonic ulcers, increase colonic motility, and to provide all of the additional benefits of improved colonic, hind gut, and digestive health. Many horses have now avoided surgery for sand enteropathy due to the powerful combination of Assure and Assure Plus. Additionally, practitioners and owners alike are reporting lowered incidence of colic, improved coat condition, better feed utilization, and more energetic horses. With hundreds of horses being maintained on these products, and more and more veterinarians using them for both treatment and prophylaxis their health benefits are clear.