



## ***Antibiotics and Antibiotic Resistance***

By Gale Duncan, DVM

With all the different types and forms of antibiotics available, it can be hard to know what is best for your horse. The first step when you think your horse may have an infection is, of course, to know what to look for. Here are some common signs of infections in horses: Fever, depression, appetite loss, sudden lameness, nasal discharge, coughing, difficulty breathing, swelling associated with heat and/or pain. If any of these symptoms are noted, the first step is to call your veterinarian.

**But what about those old antibiotics you have sitting in the cupboard? Why not give your horse a dose to see if it helps before calling the vet?** There are several reasons that using old antibiotics may not be the best choice for you or your horse. First, the antibiotics you have on hand may not be appropriate for that infection. Not all antibiotics are created the same, and giving antibiotics that are ineffective against your horse's infections can be a waste of money at the least and at worst can even be harmful. Antibiotics can have a negative effect on the normal flora (bacteria) of a horse's gastrointestinal tract and can also contribute to antibiotic resistance, making it harder to treat your horse and other horses, now and in the future. Second, the antibiotics you have may be out of date and therefore allow the bacteria to thrive rather than be destroyed. In this situation, the bacteria can actually develop a resistance to the antibiotic which would ordinarily be effective if it were at full strength. Lastly, the dose on the label may not be appropriate for this horse or this infection. This can lead to your horse getting an inadequate amount of an effective drug which could lead to your horse becoming more sick and possibly requiring prolonged and more intensive care and monitoring.

### **Why all the fuss regarding antibiotic resistance you may ask?**

Antibiotic resistance has been getting a lot of press in recent years. This is because there are a limited number of antibiotics available for use in horses that are safe and legal. Overuse of these antibiotics can lead to dangerously resistant bacteria such as the well-known MRSA and the less well known vancomycin resistant enterococcus. There are very few antibiotics that are available to treat resistant infections, and many of those available can only be given intravenously and at greatly increased cost. You may be familiar with antibiotic resistance in food animals, which has become so severe that there are now only two antibiotics that can be given to food animals. This is because certain antibiotics that are still effective in human infections have been deemed unsuitable in food animals so that these animals do not develop resistant bacteria that can then be passed to humans and other animals.

### **Which antibiotic?**

All antibiotics are not created equal and not all antibiotics work for every type of infection. This is one of the primary reasons you should consult with your veterinarian before ever deciding to start your horse on antibiotics. After your veterinarian evaluates your horse, she may want to take samples of nasal discharge, fluid from a swelling, or other samples to send to a lab before deciding which antibiotics to use. Depending on the severity of the infection and whether the horse is hospitalized, there are three forms of antibiotics: Oral, injectable, and intravenous (IV). Not all antibiotics come in all forms, and as discussed above not all antibiotics are appropriate for all infections.

In short, each infection must be approached and treated separately, and although there are many types of antibiotics available on the market not all will be suitable in every situation. If you have any questions about appropriate antibiotic use in your horse, you should contact your veterinarian.

Contact Brandon Equine Medical Center at 813-643-7177 or email [info@brandonequine.com](mailto:info@brandonequine.com) with any questions regarding this topic.

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