

## **Equine First Aid & Medication Safety**

Although we had snow in late April, the summer months should be fast approaching. There are more horse activities during these months and people are showing, pleasure riding, trail riding and travelling more with their horses. This is also breeding and foaling season. With all this activity, travel, and commingling of horses, there is more risk of illness, injury and other health related problems. Consequently, it is a good time to review the basics of first aid and what is included in a first aid kit.

Description

### **Know the signs of illness and injury and be prepared to treat them**

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### **Know Your Horse**

The first step in first aid happens before a problem develops. Knowing your horse and getting familiar with what is normal will make it easier to recognize when something is abnormal. Whoever has the job of feeding the horses and cleaning their stalls has some of the best information on how they are doing. Horses are eating machines. Like other herbivores, they are capable--with the help of fermenting microorganisms--of digesting parts of plants we cannot. But they need a lot of the raw material and can spend up to 16 hours a day eating. The remaining hours are spent playing, socializing, sleeping, looking around, performing people-related activities and such. When horses are not eating, there is a problem: with this entire food intake, there is understandably quite a lot coming out the other end. Horses defecate around a dozen times a day. With this much production, it doesn't take long for a problem in the plumbing to escalate into something serious.

Horses are creatures of habit; routine and predictability help prey animals like horses feel more secure. Whoever cares for the horses often becomes familiar with their routines and habits and can notice when something deviates from the normal pattern. Subtle changes can be an indication that the horse is ADR. ADR is an abbreviation for the technical medical term, "Ain't Doin' Right." As a prey animal, it is to the advantage of the horse to conceal when there is a problem and it is more vulnerable, so subtle changes may be clues of an underlying serious problem. An ADR horse needs further observation, monitoring and investigation.

### **Know What to Look For**

Of course, many signs of problems are more obvious. For instance, a horse with colic is experiencing visceral pain. With milder forms of colic, it might be off feed, stoic, or distant with a stressed look in its eyes. The horse might have a tight abdomen, occasionally paw at the ground or kick at its belly, curl its upper lip, and may lie down excessively. More severe visceral pain can lead to more violent symptoms, such as frequently lying down and getting up, more violent rolling and kicking at the belly, sweating, and more difficulty keeping the horse up and moving. Other things to look for include painful conditions of the eye, which result in squinting, excessive tearing, and sometimes swelling of the eyelids.

With any problem, make an initial appraisal of the horse's condition from a distance. This allows observation of the horse's general appearance and behaviour gives you a chance to assess the horse's safety as well as your own and will help determine what supplies, if any, you will need.

For instance, if there is severe bleeding, some type of pressure will be necessary to apply to the wound. Often it is very helpful to get the vital signs of the horse, which include the temperature, heart rate and respiratory rate. Normal temperature is 99.0 to 101.0 degrees Fahrenheit. The normal heart rate is 30 to 44 beats per minute, and the respiratory rate is 8 to 16 breaths per minute.

Look at the gums by lifting up the upper lip. The gums should be moist, and normal color is pink. Abnormal color can be pale, dark pink, red or bluish. Check capillary refill time (CRT) by pressing on the gums with a finger, releasing, and counting how long it takes for the color to come back. Normal CRT is less than one second.

Skin turgidity is checked by tenting the skin up near the base of the shoulder, releasing it, and watching how fast it bounces back - it should bounce back very rapidly. If it doesn't, this could be a sign of more serious problems.

## The First Aid Kit

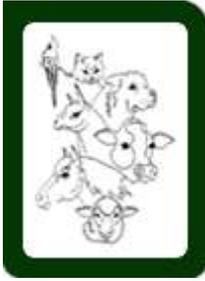
There are many items that could be included in the list of useful supplies. Here is a list of essentials:

- • Bandage materials are necessary to apply pressure to control bleeding; to cover, protect and stabilize a wound; and to support an injured leg. Duct tape is useful as an outer, more resilient layer for foot bandages. A word of caution about bandaging horses: a lot of damage can be done by bandaging a horse improperly. The longer a bandage is going to be in place, the more important it is that it be applied properly and monitored regularly.
- • Thermometer
- • Stethoscope (for getting the heart rate and listening to gut sounds)
- • Antiseptic ointment
- • Antiseptic spray
- • Pen light
- • Flashlight
- • Watch with second hand
- • Mild surgical scrub (for cleaning wounds--must be rinsed off!)
- • Sterile saline (can be purchased at your veterinarian's office or homemade by adding a heaping teaspoon of table salt to a quart of deionised water)
- • Iodine solution (useful for foot baths)
- • Epsom salts (useful for foot baths)
- • Knife (for cutting rope, twine, etc.)
- • Bandage scissors (blunt tip)
- • Latex gloves (to protect you from contaminating your horse's wound and vice versa)
- • Fly spray
- • Cell phone
- • Veterinarian's phone number(s)

Supplies need to be stored in a clean, dry, safe area in an organized, accessible location so necessary items can be readily found when needed. Tote trays can be helpful to organize smaller items that can be easily carried to the stall, paddock, field, or wherever required. For trail conditions, liquids or ointments can be transferred into properly labelled smaller-sized plastic containers with screw top lids. Watertight containers or Ziploc bags can be used for other supplies. Some type of soft carrying case can be employed to store everything. For those going on more extended rides or trips, talk to your veterinarian about other items to include when you are further from veterinary assistance (e.g., eye medication, anti-inflammatory medication).

We all hope our horses stay strong, healthy and happy. Unfortunately, accidents do happen, as do illnesses and other health problems. Knowing your horse, having basic first aid skills and keeping necessary first aid supplies available will help you be prepared.

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Kulshan Veterinary Hospital is a full-service, mixed animal hospital offering a wide range of services to a wide range of clients and patients. Doctors Dave Sauter and R. Paul Schwab write the monthly Doctor's Corner column offering clinical information and equine health advice to Northwest Horse Source Readers.

[www.kulshanvet.com](http://www.kulshanvet.com)

## Doctors Corner: Medication Safety

Handle and store your horse's medications safely

Previous articles have discussed how to administer medications to horses, whether injectable, oral or topical. This month, I'd like to focus on proper handling of medications to ensure the stability, safety and effectiveness of the products.

Description **Handle and store your horse's medications safely**

### Temperature

Many medications need to be stored within specific temperature ranges. Temperatures outside these ranges can alter the chemical nature and stability of the components. For example, vaccines are very sensitive to storage temperatures. Freezing can cause some vaccines to lose their effectiveness and become much more reactive--in other words, much more likely to cause heat, swelling and pain at the injection site.

Another example is penicillin. The most common type of penicillin used in horses is Procaine Penicillin G, which is supposed to be refrigerated but not frozen. There are different types of penicillin injection reactions, and all of them are pretty scary. One of the reactions (disorientation, fear response, seizure and collapse) is thought to be related to the procaine. The procaine in Procaine Penicillin G is bound to another chemical. Storage at room temperature has been shown to result in more release of the procaine from this other chemical and to increase the chance of this reaction.

To keep medications stable, safe and effective until their expiration dates, follow label recommendations for storage temperatures. If refrigeration is required, do not store medications in the door of the fridge, where temperatures fluctuate more; keep them near the center.

### Sunlight

Many medications are sensitive to sunlight. For example, sunlight inactivates ReguMate. Medications in dark-colored bottles often are light sensitive (e.g., Acepromazine). Direct sunlight can be particularly damaging to vaccines, resulting in less immunological effect (which is the goal of vaccination in the first place) and greater injection site reaction (which we all strive to prevent).

## **Transport**

It is important to maintain proper storage conditions during the transport of medications. If you have a long drive from the veterinary clinic to the farm, putting medications on the dash where heat and sunlight can damage them is not a good plan. Use a small cooler to keep your refrigerated products cool, but do not place products like vaccines directly onto an ice block. Similar precautions should be taken when necessary to protect products from direct sunlight and extreme temperatures when they are taken out of storage for use in the horse.

## **Cleanliness**

This is particularly critical with injectable products. Products such as Procaine Penicillin G, Naxcel or Banamine are in multi-dose vials. Each time the needle enters the bottle there is the potential for contamination. Injection of a contaminated product into the horse can result in cellulitis, deep abscesses, and other serious complications like tetanus. Store these products in a clean environment. Clean the surface of the rubber injection cap, if it is dirty, with gauze soaked in 70% isopropyl alcohol (rubbing alcohol) before inserting the needle. Always use a new needle and keep the cap on it. Never touch the needle or allow it to touch anything but the medicine and the horse it is intended for.

## **Dosage**

- Follow the label directions as closely as possible.
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- Make sure to prepare and deliver the correct amount at the proper interval. Always double and triple check that the prescribed amount of medication is prepared. For instance, it is easy to overdose an oral medication in a multidose cartridge, such as Bute, if the dial is not set properly.
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- Do what is safe and necessary to administer the medication to the horse. If the medication ends up on the wall or the floor instead of in the horse, then the horse is not going to maintain therapeutic levels in its body.
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- Follow the instructions on dosing interval. Shortening the interval can result in toxicity. The medication will drop below therapeutic levels if the interval is

increased. This is especially problematic with antibiotics because it will cause drug resistance. Once a day means every 24 hours, twice a day every 12 hours, three times a day every 8 hours, four times a day every 6 hours, etc.

## **Personal Safety**

Many of the medications we use in horses are powerful drugs that can affect us. I am still amazed when I give less than one cc of sedative to a one ton draft horse and see the powerful effect that tiny little bit has on such a huge animal. During the preparation or administration of medication, small amounts can get on our hands. Rubbing one's eyes or mouth can inadvertently result in absorption of these drugs into our own bodies. Ventipulmin syrup can cause your heart to race. Atropine eye ointment can cause your pupils to dilate. ReguMate can absorb through the skin and affect the female reproductive system (and probably the male, also). Take precautions with all medications. Use gloves when so instructed and avoid rubbing your eyes or touching your face until you have washed your hands. Always wash your hands after handling any medications.

## **Proper Disposal**

Children and other animals, often dogs, are at the highest risk of getting into contact with used oral medication cartridges, tubes of topical medications, used vials, etc. Children and pets can be very curious and very fast. One example I recall is that of a border collie that licked the end of a dewormer cartridge that had been dropped on the floor after use. There was a little paste on the end, enough to cause neurotoxicity. Fortunately, the dog survived. The owner still lets the dog follow him around the barn, but he doesn't throw used cartridges on the floor anymore.

Needles deserve special mention. The EPA estimates that eight million people use more than three billion sharps (needles, syringes and lancets) per year in the United States. Leftover needles not only carry the risk of pain from accidental puncture, but also the risk of disease. In many counties and cities, it is against the law to dispose of used needles in garbage cans or recycling bins. Check with your county Department of Health for rules and guidelines for the proper disposal of used needles in your area. Here are some websites with more useful information:

- Coalition for Safety Community Needle Disposal - [www.safeneedledisposal.org](http://www.safeneedledisposal.org)
- Centers for Disease Control - [www.cdc.gov/needledisposal](http://www.cdc.gov/needledisposal)
- Whatcom County Health Department - [www.co.whatcom.wa.us/health](http://www.co.whatcom.wa.us/health)